

Check Sheet

Company Name: MID-FLORIDA MINING INDUSTRIES, INC
Permit Number: AC 42-1622910
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 Determination
- Unsigned Permit

Correspondence with:

- EPA
- Park Services
- Other

Proof of Publication

- Petitions - (Related to extensions, hearings, etc.)
- Waiver of Department Action
- Other

WITHDRAWN

Final Determination:

- Final Determination
- Signed Permit
- BACT 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. 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Cornelius A. Link, D.D.S. P. O. Box 125 Lowell, FL 32663	4. Article Number P 938 762 707
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Address X <i>M.B.C. Link</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery	

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

P 938 762 707

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
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(See Reverse)

Sent to Cornelius A. Link, D.D.S.	
Street and No. P.O. Box 125	
P.O., State and ZIP Code Lowell, FL 32663	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	
Mailed: 10-5-89	
Permit: AC 42-162296	

PS Form 3800, June 1985

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.

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3. Article Addressed to: Mr. & Mrs. James E. Roland P.O. Box 27 Lowell, FL 32663	4. Article Number P 928 762 710
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Address X <i>J.E. Roland</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery	

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

P 938 762 710

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

Sent to Mr. & Mrs. James E. Roland	
Street and No. P.O. Box 27	
P.O., State and ZIP Code Lowell, FL 32663	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	
Mailed: 10-5-89	
Permit: AC 42-162296	

PS Form 3800, June 1985

P 938 762 706

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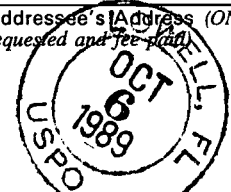
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Sent to Mr. Gregg Thompson	
Street and No. P.O. Box 266	
P.O., State and ZIP Code Lowell, FL 32663	
Postage	\$
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Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
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PS Form 3800, June 1985

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

3. Article Addressed to: Mr. Gregg Thompson P. O. Box 266 Lowell, FL 32663 <i>Gregg Thompson</i>	4. Article Number P 938 762 706 Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
5. Signature - Address X	8. Addressee's Address (ONLY if requested and fee paid) 
6. Signature - Agent X	
7. Date of Delivery	

P 938 762 708

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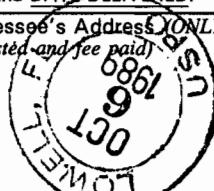
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Sent to Mr. Glen Penfield	
Street and No. P. O. Box 135	
P.O., State and ZIP Code Lowell, FL 32663	
Postage	S
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	S
Postmark or Date Mailed: 10-5-89 Permit: AC 42-162296	

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

3. Article Addressed to: Mr. Glen Penfield P. O. Box 135 Lowell, Florida 32663	4. Article Number P 938 762 708
5. Signature - Address X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
	6. Signature - Agent X
7. Date of Delivery	8. Addressee's Address ONLY if requested and fee paid 

MFM-FILG



DEPARTMENT OF PHYSIOLOGICAL SCIENCES
BUILDING 471, MOWRY ROAD
IFAS 633
GAINESVILLE zip 32611 - 0633
Tel: (904) 392-1841
Fax: (904) 392-9704

COLLEGE OF VETERINARY MEDICINE

J. HILLIS MILLER HEALTH CENTER
INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

April 12, 1990

Mr. Richard E. Hancock
Executive Vice President
Florida Thoroughbred Breeders Association
4727 NW 80th Ave.
Ocala, FL 32675

Dear Mr. Hancock:

Attached please find my report on the recent events associated with the death of a newborn foal at Green Key Farm. My findings are based on information from the Florida Veterinary Diagnostic Laboratory in Kissimmee, a report from Dr. Ott, and data produced in my laboratory on horses located at Green Key Farm and Indian Hill farm.

Please do not hesitate to contact me if you have any questions regarding the report or if you require any further information.

Sincerely,

Stephen F. Sundlof, D.V.M., Ph.D.
Diplomate, American Board of
Veterinary Toxicology

cc: Dr. Richard E. Dierks
Dr. A.C. Asbury
Dr. E.A. Ott

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Assessment of Findings Associated with the Recent Death of a Foal
at Green Key Farm

Background Information:

On 3/27/90, a thoroughbred foal born to JM's Princess died. The foal was approximately 24 hours old when it died.

Dr. R.G. Lundock sent a sample of the foal's kidney to the Veterinary Diagnostic Laboratory in Kissimmee for analysis of lead and arsenic.

On 3/28/90, the Kissimmee laboratory reported the concentration of lead in the kidneys to be 8.8 parts per million (ppm) while no arsenic was detected in the kidneys.

On 3/28/90, Dr. Lundock, Mr. Hancock and I went to Indian Hill Farm and Green Key farm to collect samples of blood and hair from horses for lead analysis.

On 3/29/90, Dr Ott went to Indian Hill Farm and Green Key Farm to collect samples of pasture grasses, hay, and soil for lead analysis.

Assessment of All Data Collected to Date:

It is considered diagnostically significant when kidney tissues contain at least 10 ppm lead on a wet weight basis. The foal which died had kidney lead concentrations of 8.8 ppm, and although this is slightly lower than the level which is generally considered to be toxic, other factors should be taken into consideration when assessing the relevance of the findings. Lead accumulates in the kidney with age and so it is usually present in low concentrations in newborn animals and is present at higher concentrations in mature animals. Finding levels which are close to toxic concentrations in a newborn foal indicates that abnormally high exposure to lead occurred either in utero, or during the short period (1 day) between

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the birth and death of the foal. Both scenarios are possible since newborn foals are able to absorb ingested metals from the gastrointestinal tract to a much greater extent than are older animals. However, in this instance it seems more likely that the foal was exposed to the lead in utero since the concentration of lead in the blood of the dam was found to be abnormally high. Furthermore, it is known that lead from the dam crosses the placenta to the extent that lead concentrations in the fetal circulation are only slightly lower than those in the blood of the dam. The results of the kidney analysis do not imply that lead poisoning was necessarily the cause of death in the foal. It is my understanding that, although the level of lead in the foal's kidney was abnormally high, the cause of death of the foal has not been established and may have been due to conditions other than lead poisoning.

The concentration of lead (0.54 ppm) in the blood of the dam (JM's Princess) exceeded the range of normal values for samples run in my laboratory (0.0 to 0.35 ppm). Horses with blood lead levels between 0.35 and 0.60 ppm are diagnosed as lead poisoned only if they are exhibiting clinical signs of lead poisoning. Nevertheless, the finding of abnormally elevated lead levels in the blood of the dam and the kidney of the foal are cause for concern and it is my opinion that efforts should be directed toward determining the source of the lead in order to prevent further exposure to the dam and other horses on Green Key Farm.

In my judgment, soil containing lead at concentrations less than 30 ppm should not pose a health hazard to horses, assuming that lead from other sources (e.g. water, air, feeds) is not abnormally high. This number (30 ppm) was determined by me following an exhaustive search of the veterinary literature pertaining to lead poisoning in horses. That search revealed that the lowest amount of lead in pasture grasses which caused clinical poisoning in horses was 80 ppm. In arriving at the 30 ppm tolerance level in soil, the following safety factors were taken into account:

FROM: INFECTIOUS DISEASES 107 304 823 0000 MAR 13, 1954

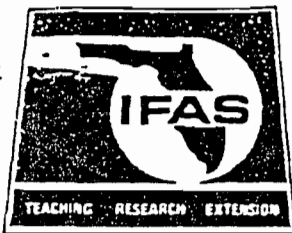
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1. Assuming that the lowest toxic dose in the feed is 80 ppm, a dose of 30 ppm (37.5% of the toxic dose) should not result in clinical manifestation of lead poisoning.
2. Even if 30 ppm of lead in the diet can cause adverse effects in horses, animals would have to eat a quantity of soil equivalent to 3% percent of their body weight every day in order to reach this level. Since horses normally eat 3% of their body weight in feed each day, this means that the entire diet of the horse would have to consist of soil in order for lead-induced problems to occur.
3. Uptake of lead from the soil by pasture grasses is a very inefficient process. Even when pasture grasses are grown in soil containing 3000 ppm of lead (100 times greater than the 30 ppm proposed tolerance) the maximum concentration of lead attained by the plants is 15 ppm (1/2 of the 30 ppm proposed tolerance). Therefore, soil lead concentrations of 30 ppm would not be expected to cause pasture grasses to accumulate toxic levels of lead. The relatively low lead levels in pasture grass samples collected from Indian Hill Farm and Green Key Farm lend support to this hypothesis.

In summary, I do not feel that soil lead concentrations listed in Dr. Ott's report are high enough to be considered as the sole source of the lead responsible for the abnormally high concentrations in the kidney of the foal or the blood of the mare, JM's Princess. I further recommend that continued efforts be made to track down the source of the lead on Green Key Farm in order to prevent any potentially adverse health effects in horses from occurring in the future.

As you indicated, Green Key Farm is situated on property on which was once located a citrus grove. I have consulted with the University of Florida Pesticide Extension Specialist, Dr. Norman Nesheim, and learned that lead arsenate is used on citrus as a herbicide. Although its present day use is very limited, in the past it may have been used extensively.

Dr. Nesheim also remembered reading of incidents in which soil in apple orchards treated with lead arsenate accumulated high concentrations of lead. Presently, I am pursuing this avenue further and will report back to you any new information.



UNIVERSITY OF FLORIDA
INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

ANIMAL SCIENCE DEPARTMENT
210 ANIMAL SCIENCE BUILDING
TELEPHONE: 904/392-2454

GAINESVILLE, FLORIDA 32611

Henry Wieneke
Green Key Farm
P.O. Box 310
Sparr, FL 32690

Hilmer Schmidt
12191 N. Magnolia Ave.
Ocala, FL 32670

Richard Hancock
Vice President, FTBA
4727 N.W. 80th Ave.
Ocala, FL 32675

Dear Sirs:

In response to your request regarding the source of lead found in the foal that died shortly after birth on Green Key Farm and the subsequent determination that the mare producing the foal had elevated blood lead concentrations, I collected soil, pasture (bahiagrass), C. Bermudagrass hay and alfalfa hay samples on Green Key Farm and soil and bahiagrass samples on the adjacent Indian Hill Farm. The results of these analyses are enclosed.

Mineral intakes of an animal is the product of the various feed sources available to the animal and the mineral concentration of those feeds. None of the feeds analyzed contained toxic concentrations of lead. Data on chronic effects of lead intake indicate that 80-85 ppm was toxic to horses and 30 ppm was not toxic but did result in an accumulation of lead in body tissues. Hay containing 21 ppm lead has been used as a control diet in some studies on lead toxicity. There is very little information on the toxicity of lead to gestating mares. We do know that the young of several species are more susceptible to lead toxicity than adults.

In my opinion the mare did not consume enough lead via the bahiagrass and hay to cause lead toxicity. Several possibilities exist:

- 1) She may have been eating soil.
- 2) She may have been eating the roots of the grass which are known to be higher than the leaves.
- 3) She may have found a concentrated source of lead such as an old storage battery or some old lead based paint.

COLLEGE OF AGRICULTURE

AGRICULTURAL EXPERIMENT STATION

COOPERATIVE EXTENSION SERVICE

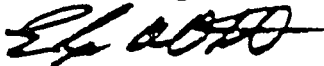
SCHOOL OF FOREST RESOURCES AND CONSERVATION

CENTER FOR TROPICAL AGRICULTURE

- 4) She may have received some other exterior source of lead.
- 5) The samples we collected were not representative of what the mare was consuming.

The soil lead content is higher than I expected, however, we have no information on the normal soil lead content in the area. I have asked the FTBA to fund a study of the soil and forage mineral content in Marion County. Until this study is complete we will not know whether the 9.7 and 14.5 ppm lead concentrations found on these two farms are normal or abnormal. Please bear with us for a few weeks until we gather more information.

Sincerely,



Edgar A. Ott
Professor

cc: S. Sundlof

C

ANALYSIS REPORT

Date of Report 4/10/90
Samples Collected 3/29/90

Lead Contact -- ppm

Green Key Farm:

Soil -- mare pasture¹ 9.7
Bahagrass -- mare pasture² 3.4
C. Bermuda hay² 0.9
Alfalfa hay (stored in Indian Hill barn)² 0.7

Indian Hill Farm:

Soil -- mare pasture no. 5¹ 14.5
Bahagrass -- mare pasture no. 5² 2.6

¹air dry

²dry matter basis

Mel Jacob
Biologist
Equine Nutrition Lab

March 16, 1990

To whom it may concern,

On Thursday, March 15, I viewed a two-hour presentation by Dr. Paul Connett, chemist and international expert on public health risks and hazards created by waste incineration. Dr. Connett's appearance was in behalf of *We The People for a Safe Environment*, a local citizen's group opposed to a permit request by Mid-Florida Mining which, as I understand it, would allow the manufacturer to use increasingly more toxic waste fuel and contaminated soil to fuel its operation.

According to material provided by We the People... MFM -- which manufactures dried clay products such as kitty litter -- received permits in 1987 that now allow it to burn waste oil and "contaminated" soil to fuel its drying kilns. MFM recently applied for another permit which would allow it to burn increased toxic levels of contaminated soils and waste fuels, including coal tar and creosote. If successful in gaining this permit, Connett said this operation would in fact be a toxic waste handling, processing and disposal facility. But because it bills itself as a kitty litter manufacturing plant, the operation would not be required to meet the more-stringent EPA and DER pollution control requirements of a declared hazardous waste disposal facility. What this means is that toxic waste from all over the state, country and even foreign countries could be trucked to the plant located on CR-329 -- about 1.5 miles from North Marion Middle School -- either to be burned as a fuel or "decontaminated" by thermal processing.

Dr. Connett cited a similar operation which began in the mid-1980s in Amelia City, La. Marine Shale Processors purported to be in the business of safely decontaminating waste for sale as construction filler. We watched the slick videotaped advertisements as such. A check of the company's records revealed that MSP made profits of \$22 million from accepting hazardous materials. The profit from the sale of construction filler totaled \$11,000. Connett posed this question: can you determine the true nature of this company's business? A footnote to this story: a rare form of cancer in children is occurring in Amelia city at a medically astronomical rate.

Connett discussed particular dangers inherent in this type of incineration operation. First, *toxic metals such as lead and mercury cannot be destroyed by burning*. What happens is that they are reduced to very minute particles or gases and either released in the air or included in ash. The process of incinerating chlorinated substances along with carbon, hydrogen and oxygen has potential to produce furans and dioxins (including a particular 2,3,7,8 tetrachlorodibenzodioxin (TCDD)) which, according to Connett is 50,000 times more toxic than arsenic and is one of the most toxic substances ever made.)

MFM's proposed afterburner is claimed to remove 99.99 percent of certain substances. Connett warned not to be lulled into a false sense of security by regulations that mandate a 99.99 percent removal of certain substances, citing an operation in El Dorado, Ark., which has an astounding tested removal rate of 99.999998 percent. Yet, scientists have reported an abnormally high incidence of respiratory diseases there.

If released in the air, he said these substances eventually return to the local plant and water ecosystem. Mercury, furans and dioxins are fat soluble, carcinogenic (cancer causing) and highly persistent meaning they accumulate in increasing levels in the food chain. Connett cited an example from Holland, where a nearby incinerator is believed responsible for causing dangerous dioxin levels in dairy milk. Other examples were cited from Wales, Scotland and Kentucky (where one licensed hazardous waste company was caught disposing waste in the local landfill.)

If trapped in the ash, there is still the problem of disposal -- proper or otherwise. Other dangers

associated with this type of operation include fugitive emissions from the plant, accidental leakages and spills, fires, explosions and traffic accidents.

During his presentation, Connert cited actions and responses from government and company officials, such as pointing to regulations and arguing micrograms or parts per million, which match rhetoric I've heard to date on the subject. After attending my first meeting on the subject at Fessenden Elementary School March 1, I was skeptical of We the People. In fact, my sympathy was toward MFM and its president, David Kibler. Today, I am personally convinced that this permit represents a clear and present danger to our health and our county's continued economic viability. Call it what you want -- a kitty litter plant or hazardous waste facility. Semantics are irrelevant. At this point, I would refer you to the attached list of 20 Questions. Are we willing to gamble our health and property investment because a company has the opportunity to make huge profits? Are we convinced of EPA and DER's abilities to monitor and enforce its regulations? Once approved, the likelihood of stopping the operation is virtually nil. I strongly urge each citizen to become as informed on this issue as quickly as possible.

Connert offered ideas pertaining to testing. As a starting point, he suggested testing human and animal blood for lead which is relatively quick, accurate and cheap. Perhaps this is something that the county health department could be brought into. A single sample test for dioxin costs approximately \$1,000.

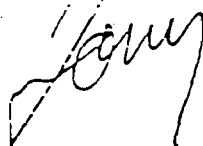
Connert summarized the situation thusly:

"You have something beautiful here. Beautiful green pastures, a unique thoroughbred horse industry, plus you have development. This is not a case of government and big business ganging up to hold down a small businessman. Rather, it's a case of a small industry truly threatening a large industry. People don't relocate here because of a kitty litter plant. If this plant applied to start operation today, it couldn't satisfy the necessary environmental impact statement. Any economic advantage gained by the continued operation or expansion of this plant will be absolutely dwarfed by losses caused by declines in property values, degradation of the thoroughbred industry and clean, desirable industries which ultimately will locate elsewhere because of it. A toxic dump is not the beginning of economic development. It's the end."

In approximately 60 days, (May 15-17) a hearing concerning Mid-Florida Mining's application for a permit allowing the company to burn increasingly toxic contaminated soils will be held at the County Administrative Complex.

I offer this information as a concerned citizen who has taken time to independently and impartially examine the issues. I have no affiliation with either We the People... or Mid-Florida Mining.

Tony Burke
Ocala



Public Relations Director

MC School Board

Submitted by A. Burke

Robert J. Murphy P.E., Ph D.

215 Bannockburn Ave.
Temple Terrace, FL 33617

Consulting Engineer
(813) 985-8417

To: John K.
From: DBK
#

April 11, 1990

Mr. Richard Hancock
Executive Director
Florida Thoroughbred Breeders
Association
4727 N.W. 80th Ave.
Ocala, FL 32675

Dear Mr. Hancock:

RE: Evaluation of Mid Florida Mining Permit

1. The Mid-Florida Mining (MFM) permit intent provides for thermal processing of non-hazardous contaminated soil. The soil contaminants are to be limited to combustible petroleum or solvent materials and creosote. The system includes: material handling of contaminated and decontaminated soil; a thermal processing facility which includes a rotary furnace kiln to combust the contaminants in the soil and an afterburner incinerator to further combust any hydrocarbons in rotary kiln gases; and a baghouse filter system to collect particulate or dusts from the process. A flow diagram of the process is attached as an enclosure.
2. In the course of reviewing Mid-Florida Minings' (MFM) air pollution intent for permit issue during the last two months, they have proposed modifications that will significantly reduce potential emissions from the process. The nature of the process merits scrutiny from two perspectives. The actual air contaminants released to the atmosphere in handling materials and processing contaminated soil, and residues accumulated in the air pollution emission control device which must be disposed. A discussion of these issues follows.

a.) Air emissions.

The air emissions from this process that may have major concern are sulfur dioxide, particulates and heavy metals, principally lead, that are components in the fuel and petroleum contaminated soil to be processed. MFM originally proposed to burn virgin fuel oil in their afterburner process and waste oil/solvents in rotary kiln. They have now proposed burning virgin fuel oil in both processes, which will reduce sulfur dioxide emissions to one-third the originally proposed levels. This was accomplished in light of our concern of burning waste oil fuels.

Likewise, the original proposal provided for concentrations of lead in the fuels and contaminated soil to levels of 500 parts per million. This was revised to 100 parts per million. It should be noted that the majority of lead will be retained on the particulate collected in baghouse filter. These particulates, with the decontaminated soil, are the residues requiring final disposal.

Therefore, the process air emissions, even though originally within regulatory limits, have been further reduced with these modifications in dealing with FTBA concerns on these matters.

b.) Material handling.

MFM anticipates that the contaminated soil to be processed may be super-saturated with liquid petroleum products. In such a case it may be necessary to blend the contaminated soil with locally available uncontaminated soil to facilitate processing and combustion of the materials. Such processing provides for the release of contaminants that are characterized as fugitive emissions. Although the emissions from such processing may be

minimal, their magnitude and provision for their control has not been specified in the permit intent. It is anticipated that some particulate, as well as volatile hydrocarbons from the petroleum products, should be assessed for this aspect of the operation.

c.) Disposal of Residues.

As previously mentioned the final disposal includes the decontaminated soil and the baghouse filter residues. The original permit intent provided for independent handling and disposal of these materials. However, lead emission particulates will accumulate to higher concentrations in the baghouse filters residues than were found in the original materials. Consequently, MFM has now proposed recycling the baghouse residues into the contaminated soil as it is processed in the rotary kiln. It is therefore blended with final decontaminated soil. This also assures that all hydrocarbons are combusted that may remain in baghouse residue. The blended baghouse residue and decontaminated soil are then loaded through a ventilated hopper in to trucks which transport the material to MFM's mining site. The decontaminated material is wetted as it is loaded in truck and the trucks are covered during transport to mining site to control fugitive emissions. These measures all appear adequate.

The outstanding issue in disposal of residues is the manner of sampling the mixture of decontaminated soil and baghouse residues to assure it has been thoroughly decontaminated and does not itself represent a hazardous waste. Currently a composite sample is to be taken over an entire day's processing and analyzed. A more reliable method for sampling would be to take at least five grab samples per

day and evaluate each independently. This would provide a statistical basis to evaluate results. Further, the final product testing should include a USEPA method to assess the toxicity of the residue to assure it does not constitute a hazardous waste.

Finally, since the disposal involves transport and handling of residues it would be prudent to collect samples and define background levels of air and soil contaminants that may evolve from the process. Such sampling should include sulfur dioxide, particulates and lead concentrations in the air, and lead in the soil. Sampling sites should include the area around the process and mining sites, as well as along the route of residue transport. Followup sampling should be periodically performed after operations begin.

d.) Summary/Recommendations.

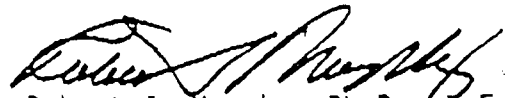
MF^M has addressed numerous issues in their proposal to deal with our concern's with their permit. These include: revision of fuel used in the process to limit emissions, limits on the amount of lead that will be allowed in the contaminated material and blending the baghouse residue with decontaminated soil to minimize potential lead accumulation in the residue.

I would not recommend that FTBA support the approval of a permit for operation of this facility unless the aforementioned matters are included in the permit conditions, and the following outstanding matters are addressed in the permit.

- 1) Fugitive air emissions in blending operations of the contaminated and uncontaminated soil require more comprehensive assessment, and control, if warranted.

- 2) Disposal of decontaminated soil and baghouse residues are well controlled. However, the provisions of sampling and analysis of the residues to assure destruction of contaminants and that the residue itself is non-hazardous should be expanded and specifically defined.
- 3) In order to assure no long term degradation of environmental quality occurs, monitoring should be performed in vicinity of the plant, mine and transport route to the mine. Background levels of contaminants should be defined before and periodically after operations begin. The air contaminants of interest are; sulfur dioxide, particulate and lead. The soil contaminant of interest is lead.

Sincerely,

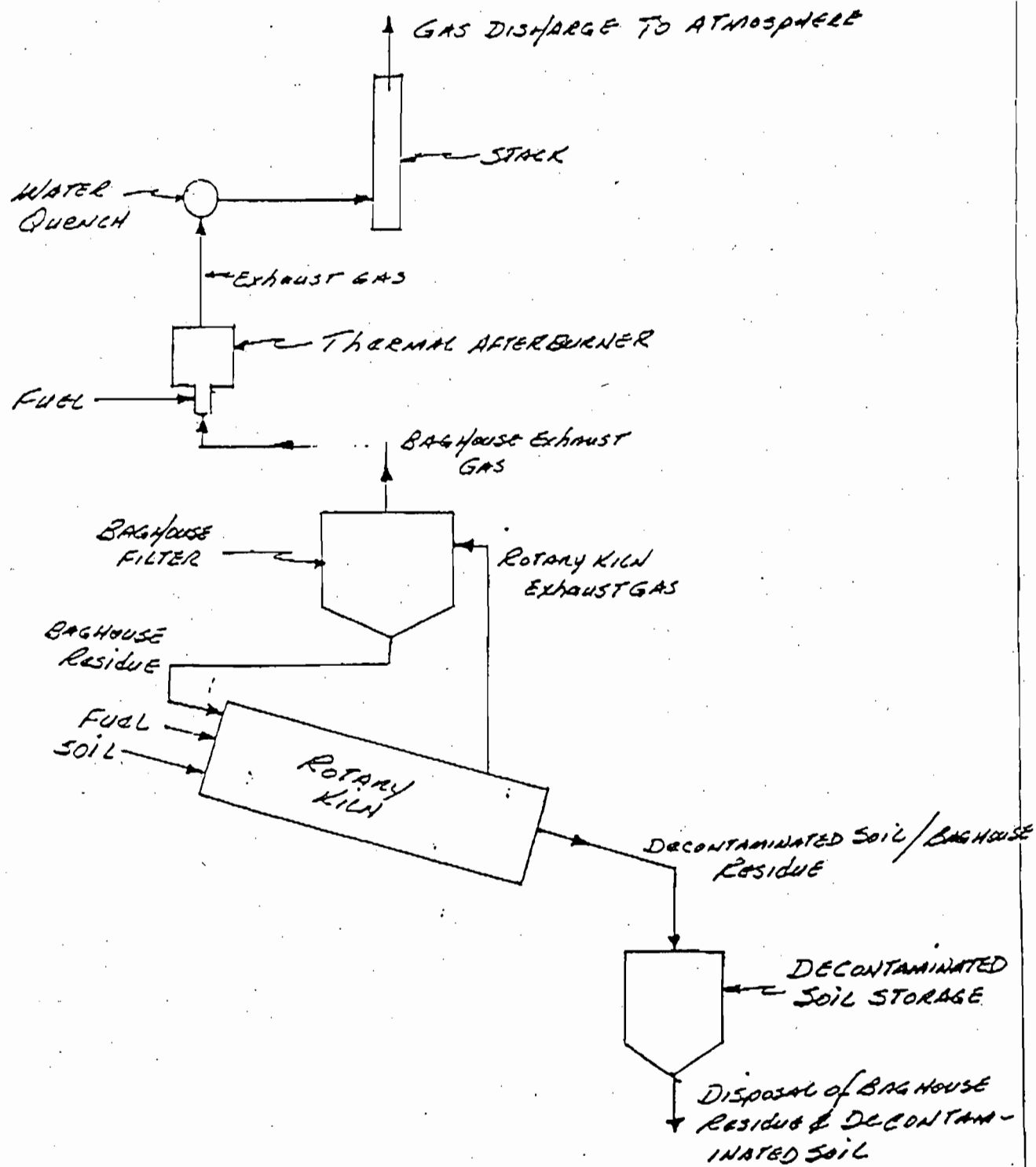


Robert J. Murphy, Ph.D., P.E.
Consulting Engineer

Enclosure: Flow Diagram

RJM/sb

47.187 ICG SHEETS
NATIONAL



FLOW DIAGRAM
MFM THERMAL PROCESSING FACILITY



ENVIRONMENTAL

Explanation of Mid-Florida Mining's Afterburner Permitting Process

The Florida Department of Environmental Regulation (DER), on the advice of their engineers and scientists, is issuing Mid-Florida Mining a permit to install an afterburner unit that improves air quality by burning gases and eliminating odors. An afterburner can reasonably be compared to a catalytic converter on an automobile. Both serve the same purpose of reducing air emissions and creating a cleaner environment.

In DER's own words:

The intent of the afterburner is to prevent possibly dangerous emissions from occurring. You should understand the operation of a rotary kiln which simply is a tilted rotating drum. The combustion zone is the lower end with the soil to be processed fed to the upper end. Due to rotation and tilt the soil progresses downward into increasing temperatures. Most contaminants in the soils are volatilized and driven off by the increasing temperatures and the flow of combustion gases into the atmosphere. In the proposed permit these gases will be passed through a fabric filter to remove particulates and then the gases will go to the afterburner where they will be held at a high temperature (approximately 2000 degrees Fahrenheit) for a long enough time to break down (or incinerate) the contaminants, controlling atmospheric pollution. Only clean fuel may be burned in the afterburner to maintain the high temperature.

Dr. Cornelius Link does not want the afterburner built and has initiated action challenging the DER and Mid-Florida Mining. (It is important to remember that while Dr. Link has made many wild and unsubstantiated statements about the afterburner and Mid-Florida Mining, he has yet to present one shred of valid scientific evidence that challenges the safety of the afterburner.) An administrative hearing will be held to decide whether DER and Mid-Florida Mining can build the afterburner. If DER and Mid-Florida Mining overcome this challenge, the afterburner will be built. If Dr. Link can show valid environmental reasons why the afterburner should not be built, the afterburner will either be redesigned to accommodate Dr. Link's suggestions or it will not be built. In such event, Mid-Florida Mining operations will continue in their present state as a clay mining and manufacturing facility that also thermally processes soil contaminated with petroleum products.

Mid-Florida Mining's Lowell manufacturing plant is a safe, efficient, and effectively run facility. It is fully permitted, licensed, and regulated by both DER and the Environmental Protection Agency. It is important to understand that over 90% of Mid-Florida Mining's business concerns the mining and manufacturing of various industrial and consumer clay products. Mid-Florida Mining also thermally processes contaminated soil. The afterburner will be used only when Mid-Florida thermally processes soils contaminated with hydrocarbon residue.

While the DER permit assumes that, in order to assess the worst case impact on air quality, Mid-Florida Mining would decontaminate soil and use the afterburner every available hour in a year, in actuality Mid-Florida Mining's soil decontamination and afterburner use will be much less than the permitted every available hour in a year. Recent events demonstrate Mid-Florida Mining's commitment to its base clay business in that recently the company became the cat litter supplier (in boxes) to every K-Mart store in the United States.



ENVIRONMENTAL

MFM Virgin Fuel Oil Procedures

MFM will burn only virgin fuel when processing contaminated soil. To ensure that virgin fuel and only virgin fuel will be burned, MFM will adopt the following monitoring and certification procedures.

MFM will dedicate, in its tank farm, one 35,000 gallon tank for the purpose of storing virgin fuel oil.

The virgin fuel oil will be transferred to a virgin fuel only burn tank (15,000 gallon capacity). This dedicated burn tank will supply the dryer/calcliner and the afterburner combustion systems with the proper quality and quantities of virgin fuel oil when processing contaminated soils.

Each load of virgin fuel coming into our facility will be checked and verified by MFM personnel to ensure that the virgin fuel has met MFM standards of quality. Once inside MFM's plant, only trained and authorized MFM personnel will handle the virgin fuel. The virgin fuel, after certification, will be transferred to the dedicated burn tank only by MFM trained and authorized personnel.

Every load of fuel being transferred to the dedicated burn tank by MFM personnel will also be under the direct control of MFM's process supervisor. Each load will be checked by the process supervisor and he, as well as the MFM oil personnel, will certify by signature that each load has met MFM's internal standards of certification.



ENVIRONMENTAL

Thermal Processing of Hydrocarbon Contaminated Soil
From Receiving to Final Disposition at the Mine.

All soils coming into the plant contaminated with hydrocarbons are received and processed on an approval basis only. The contaminated material is, and has been, approved by testing laboratories that have determined the material has met DER requirements for the following criteria as far as heavy metals are concerned:

CONSTITUENT/PROPERTY	ALLOWABLE/LEVEL
Arsenic	5 PPM MAX
Cadmium	2 PPM MAX
Chromium	10 PPM MAX
Lead	100 PPM MAX
Total Halogens	4000 PPM MAX
PCB	*2 PPM MAX

*NOTE: This spec has been established by MFM Environmental. The State level is 40 PPM and the Federal EPA level is 50 PPM.

Prior to thermal processing, the contaminated material is screened and blended with our wet clay, (non-contaminated). Blending allows for a more effective and smooth combustion process and allows the metals in the contaminated soils to bind or fixate to the wet clay. Only clean clay, never baghouse dust, is used as the blending medium.

The clay-blended contaminated hydrocarbon soil material is fed into the thermal processing unit and the temperature of the material is raised from ambient temperature to a pre-established temperature range of 650 degrees F min. -- 1150 degrees F max. for the removal of the hydrocarbon compounds that are to be vaporized into the gas stream at approximately 130 degrees F-- 150 degrees F for most oil, diesel and gasoline laden materials.

The thermal processing system follows the standard procedure for any process unit operation relying upon the function of time and temperature to process the solid material and control the outlet gas stream requirements. The gas stream and the processed solids flow of material shall be reviewed in detail as follows:

GAS FLOW:

The process gas flow initially starts with the combustion primary air blower that provides the primary air source required for the actual combustion of the preheated fuel oil of the combustion burner system. The burner at this point releases the standard theoretical products of combustion into the gas stream and also is blended, just downstream from the combustion chamber, with the required secondary air that controls the actual inlet gas temperature to the process system.

The process system of the kiln being a counter-current operation, the highest gas temperature is in contact with the highest temperature of the solids establishing a large Delta T () temperature difference between the two process streams.

The elevated temperature of the gas stream as it travels counter-current through the system is transferred to the solids causing the temperature of the hydrocarbons to also rise until they reach the volatilization temperature required in the thermal process operation.

The gas stream as it travels through the rotating kiln based on the internal design of the unit and predicated on the internal velocity of the gas stream, approximately 2% of the solids, based on inlet feed rate, are entrained in the outlet gas stream traveling downstream to the dry solids collector (bag house), where the solids are separated from the gas stream using the bag filters and the solids for the additional filtration media for the air/solids separation method.

The solids collected in the baghouse are conveyed to a rotary valve and transferred through a pneumatic transfer system to a plenum chamber section on the discharge hood of the dryer/ calciner for the purpose of recycling this fine material back into the process system for continual thermal processing. (This continual reprocessing of the baghouse solids is operational only during thermal processing.) Samples of this material are sent to a State certified laboratory for complete analytical data along with the analytical data of the purged material from the kiln being transported to our mine for land reclamation purposes.

The amount of solids in this final gas stream (which is always above the dew point) is always less than the DER requirement of .08 grains/standard cubic foot of air at standard operating conditions.

SOIL PURGE: MATERIAL HANDLING, ROUTING FROM EXIT OF KILN TO MINE SITE

- 1.) Soil during purge leaves the drum via an enclosed chute at temperatures from 650 degrees F to +1150 degrees F.
- 2.) Soil then enters a 95 foot high bucket elevator which carries the material up and discharges the material down a separate 10 inch dia. pipe to a surge bin.
- 3.) After the material leaves the surge bin there is an enclosed hood that covers the open truck bed. This hood is fitted with a spray water nozzle cooling and de-dusting system, a series of small nozzles lining the inside of the hood area. The injected water cools the product and reduces dust emission. Also fitted in this hood transition is dust collection pipes that vent dust and steam to the collector. The load out trucks are monitored by personnel in the area. The condition of the bed load, is signed off on the load out person and the driver of the load, when the truck is filled to the correct level. The load out person shuts the purged material off the truck by a series of pneumatic valves. While the exchange of trucks are taking place, the small surge bin starts to fill thusly not having an interruption in the process. After the trucks are changed, the load out cycle restarts, then the newly loaded truck is washed and inspected before leaving the plant gate. The load in the truck is completely covered with high-temperature tarpolion. The entire bed of the truck is completely sealed with the exception of the tailgate which is hydraulically closed by extended closure arms to ensure total closure. (No truck leaves the plant without washing and inspection.
- 4.) After leaving the plant gate, the truck arrives at the mine site, approximately 7 miles N.W. of the plant down SR 329. Here the purged soil is stored in a prepared holding area. This area is clay based at an average of 20 feet thick. The purged soil is contained in this holding area until the following steps are taken:
 - 4-1) Soil samples are taken during the entire run at the plant while trucks are being loaded. Samples are taken at the discharge end of kiln for temperature, automatically by control room instruments, and electronically chart recorded. Temperature is also manually recorded and charted by the sample taker. The samples are cooled and labeled and sealed in clean jars, with an I.D. number and time. These samples are delivered to

an independent certified approved lab for complete analysis. Once the lab results are received and approved, the material may be moved out of the holding area.

- 4-2) If the customer does not have a need for the decontaminated soil to be returned to him, the cleaned, certified soil is put in a prepared burial area at the mine site. This site has a 20 foot minimum protective clay liner. The area is charted, recorded and sealed with a clay product cap.
- 4-3) All records of purge run and process variables of that run, are put into a contaminated soil beneficiation report. Both manual and electronically recorded data of every purge is retained by MFM.

MEMORANDUM

TO: Dr. Stephen F. Sundlof and Dr. Jerry Murphy
FROM: John Koogler and David Kibler
DATE: April 11, 1990
SUBJECT: Response to Several Recent Issues Regarding
Soil Processing Activities

Dr. Stephen F. Sundlof letter of March 23, 1990

1. The Florida Ambient Air Quality Standard for lead is 1.5 micrograms per cubic meter, quarterly (3-month) average. The Florida Ambient Air Quality Standards for sulfur dioxide are 60 micrograms per cubic meter, annual average; 260 micrograms per cubic meter, 24-hour average; and 1300 micrograms per cubic meter, 3-hour average. The results of the air quality modeling attached hereto demonstrate that sulfur dioxide emissions from the MFM Lowell facility are well below these standards.
2. The deposition rate of lead in the first 1-inch of topsoil cannot be estimated with any degree of certainty at this time. As a point of reference, however, it can be stated that lead emissions from the MFM Lowell facility under present and proposed operating conditions will be in the range of 0.01 pounds per hour (see attached emission summary), or approximately 70 pounds a year, based on the assumption that the facility will operate 7,000 hours per year. As a point of comparison, it is estimated that in the mid-1970s, lead emissions in Marion County were in the range of 90-100 tons per year and, at the present time, lead emissions in Marion County are in the range of 80 tons per year. It has also been estimated that lead emissions from automobile traffic on Interstate 75 are in the range of 1,000 pounds of lead per mile of interstate per year. Compared with lead emissions from automobiles, the projected lead emission rate of 70 pounds per year from the MFM facility is not significant.
3. In worst case conditions, the highest short-term sulfur dioxide impact (3-hour averaging period) near the MFM facility will be in the range of 8-15 micrograms per cubic meter, depending on the fuel use and the type of operation (clay drying or soil processing). The impact analyses are summarized in the attached table.



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Page 2

As a point of comparison, the Florida Ambient Air Quality Standard for sulfur dioxide for the 3-hour period is 1300 micrograms per cubic meter. This is an air quality standard designed to protect human health and welfare (vegetation, materials and domestic animals). The expected impact of MFM emissions is approximately 1/100th of the air quality standard.

Undated FTBA (Florida Thoroughbred Breeders Association) letter to FDER (prepared in early April 1990)

1. Contaminated soils will be blended with clean clay when soils containing abnormally high levels of hydrocarbon products are received. Generally, soils requiring blending will be soils that have been reclaimed as a result of an emergency spill response or when soils containing heavier fuel oils are received. The high hydrocarbon levels that could be encountered in these fuels result in unstable combustion within the dryer and require blending to eliminate this unstable combustion condition.

When the soils are blended, fugitive emissions, particulate matter and organic compounds are non-existent. The moisture content of soil that is received (usually in the 7-15 percent range) will eliminate the emission of fugitive particulates. The fact that the soils which will require blending will generally contain hydrocarbon products that have low vapor pressures will assure that fugitive emissions of organic compounds are minimal.

MFM has blended several types of soil in the past and has first-hand operating experience that fugitive emissions are not a problem, either on-site or off-site.

2. A concern has been expressed that there will be a build-up of lead in the dust collected in the baghouse. This is not true. Because of temperatures achieved in the dryer while processing contaminated soil, virtually no lead will be vaporized and driven from the soil. As a result, the lead concentration in the dust collected in the baghouse will be essentially the same as the lead concentration in the soil that is being processed. Since only virgin fuel will be burned in the dryer, there is no possibility that the lead concentration in the baghouse dust will be increased by lead from the fuel being burned. As a further protection, the baghouse dust is re-injected back into the dryer for further decontamination and incorporation with the processed, decontaminated soil.



4. There has also been concern raised regarding the effect of introducing baghouse dust into the dryer on the performance of the baghouse. MFM has first-hand operating experience that demonstrates that the baghouse dust can be re-injected into the dryer for decontamination and incorporation with the processed decontaminated soil without affecting the performance of the baghouse. Visible emissions observations conducted on the baghouse stack while the baghouse dust was re-injected showed that the opacity of emissions from the baghouse remained at zero percent.

5. As stated in response to a previous concern, the lead emission rate of 0.01 pounds per hour from the MFM facility is at least several thousand times less than lead emissions from automotive traffic in Marion County. Because of the minimal amount (70 pounds per year, at most) of lead emissions from MFM, no environmental impact is expected; either over the short-term or long-term.



MFM EMISSION RATES WHILE BURNING VIRGIN FUEL
IN DRYER AND AFTERBURNER

Particulate Matter Emissions

Present Permit	- 15.0 lb/hr
While Soil Processing @ 0.08 gr/scf corrected to 50% excess air	- 17.4 lb/hr

SO₂

Present Permit	- 52.5 lb/hr
While Soil Processing	
Virgin fuel in afterburner @ 0.3 % Sulfur	- 18.0 lb/hr
Virgin fuel in dryer @ 0.3% Sulfur	- 12.2 lb/hr

TOTAL	- <u>30.2 lb/hr</u>
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NO_x

Present	- 29.4 lb/hr
While Soil Processing	- 37.4 lb/hr

CO

Present	- 0.8 lb/hr
While Soil Processing	- 2.8 lb/hr

HCl

Present	- 19.2 lb/hr
While Soil Processing	
Virgin fuel in afterburner	- 0.0 lb/hr
Soil @ 100 mgCl/kg soil	- 6.8 lb/hr
Virgin fuel in dryer	- 0.0 lb/hr

TOTAL	- <u>6.8 lb/hr</u>
-------	--------------------

Lead

(At 99.9% Control in Baghouse)	
Present with 100 ppm lead in dryer feed	- 0.01 lb/hr
While Soil Processing	
Virgin fuel in afterburner	- 0.00 lb/hr
Soil with 100 ppm lead	- 0.01 lb/hr
Virgin fuel in dryer	- 0.00 lb/hr

TOTAL	- <u>0.01 lb/hr</u>
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MFM

Soil Processing

Air Quality Impact Analysis with Afterburner

Exhaust Gas Flow Rate per 9/11/89 Letter to DER

Model - ISCST

Met Data - Orlando (1976)

Downwash accounted for

Modeled Emission Rate - 10.0 g/sec.

Model Impacts

Time Period	Impact at 10.0 g/s emissions	Distance
Annual	0.5 ug/m ³	2000 meters
Quarterly	1.0 ug/m ³	2000 meters
24-hour	5.7 ug/m ³	2000 meters
8-hour	10.7 ug/m ³	1000 meters
3-hour	21.0 ug/m ³	1000 meters
1-hour	28.5 ug/m ³	1500 meters

04/11/98 15:43 984 377 7158 KOGGLER & ASSOC.

IMPACT ANALYSIS WITH VIRGIN FUEL IN DRYER AND AFTERBURNER

	Expected Impact (ug/m ³)		Air Quality Std (ug/m ³)	Significant Impact (ug/m ³)
	Present	Afterburner		
SO ₂				
Annual	0.3	0.2	60	1
24-hour	3.8	2.2	260	5
3-hour	13.9	8.0	1300	25
NO _x				
Annual	0.2	0.2	100	1
Particulate Matter (PM10)				
Annual	0.1	0.1	50	1
24-hour	1.1	1.2	150	5
Lead				
Quarterly	0.0001	0.0001	1.5	-
HCl				
Annual	0.12	0.04	7	-
3-min	11.31	4.00	150	-

M E M O R A N D U M

TO: David Kibler
FROM: John Koogler
SUBJECT: Preliminary Review of Letter Report
of Jerry Murphy to the Florida Thoroughbred
Breeders Association
DATE: March 9, 1990

I have reviewed Dr. Murphy's preliminary report dated March 2, 1990, to the Florida Thoroughbred Breeders Association (FTBA). Following are my preliminary comments on various issues contained in Dr. Murphy's cover letter and his three pages of background and supporting information.

1. Dr. Murphy stated that because the facility did not fit into a well-defined category, emission limiting standards were not pre-defined by FDER and were consequently negotiated. There are several facilities permitted by FDER that do not fit into well defined categories and require "negotiated" emission limiting standards. In the cases where emission limits are established on a case-by-case basis, the emission limitations generally reflect Best Available Control Technology or the most stringent of regulations applicable to similar facilities. In the case of the MFM afterburner, we based the permit on a 99.99 percent destruction of all volatile organic compounds entering the afterburner. According to data developed by EPA, this destruction can be achieved with a temperature of 1450-1500°F and a residence time in the afterburner of 1.0 seconds. We



designed our afterburner for an operating temperature of 2000°F and a residence time of 2.0 seconds. As a result, the efficiency of our afterburner as it will actually operate will be 100 to 1,000 times more effective than the "worst case" conditions (99.99 percent efficient) we assumed for permitting.

For particulate matter control, we are using a baghouse to control particulate matter emissions from fuel combustion in the dryer and from the entrainment of particles of contaminated soil. The efficiency of the baghouse for controlling these particles is 99+ percent and baghouses are routinely considered Best Available Control Technology by FDER and EPA.

The sulfur dioxide that will be emitted from the dryer/afterburner is minimized by using low-sulfur fuel. Even though we assumed a fuel with 1.2 percent sulfur in the dryer and 1.0 percent sulfur in the afterburner for permitting purposes, actual fuel sulfur contents will routinely average 20 to 40 percent of these values.

In summary, the "negotiated" emission limits for the dryer/afterburner represent Best Available Control Technology or standards that represent some of the most stringent that are applied to similar facilities by FDER.

2. Dr. Murphy states that the "concept that this (the soil processing operation) is not hazardous waste incineration is one such judgment

call." The definition of hazardous wastes and the incineration of hazardous waste are defined by EPA and FDER taking into consideration the risks associated with such wastes and incineration of the wastes. MFM has stated, and permit issued by FDER requires, that no hazardous wastes will be introduced into the dryer/afterburner system.

3. Regarding the definition of hazardous wastes, Dr. Murphy states an opinion that is contrary to rules established by EPA and FDER and to interpretations of rules by these agencies. Dr. Murphy states that soils contaminated at five percent with creosol or coal tar cannot credibly be excluded as a hazardous waste. Just because Dr. Murphy is of this opinion, does not change the well thought out and scientifically based rules and interpretations that have been put forth by EPA and FDER.

In the statement of this opinion, Dr. Murphy also incorrectly identifies creosol (correct spelling cresol) as creosote. In addressing cresol, Dr. Murphy states that because of the provision to have a bypass stack that functions only if there is a malfunction in our quench system, there is a potential for a short-term, high, level exposure to cresol downwind of the facility. It is apparent is that Dr. Murphy does not recognize that the bypass stack will operate only when our water quench system fails; not when the afterburner fails. The purpose of the bypass stack is to exhaust the 2000 degree gases from the afterburner to the atmosphere if the



water quench system fails rather than to allow these hot gases to damage the main stack. Once the bypass stack opens, the entire system (dryer and afterburner) is shutdown and remains down until all operational problems are resolved. Even with the fuel to the afterburner shut-off, any organic compounds that might be generated by the hot residual contaminated soils remaining in the dryer will be destroyed by the heat retained in the refractory of the afterburner.

Regarding the "high-level exposures downwind of the facility," we demonstrated to the satisfaction of FDER that ground-level concentrations of all organic compounds during our trial burns in 1988 were well below exposure limits that would result in any detrimental effects. This was true even though the trial burns were conducted with no afterburner. Dr. Murphy is concerned about "high-level exposure" during a period of a few minutes during which gases may be exhausted through the bypass stack with the afterburner operating. It is quite apparent that Dr. Murphy does not understand the process that we have designed.

4. Dr. Murphy's comments on significant concentrations of metals such as lead, cadmium, mercury and arsenic in the soil are unfounded. If contaminated soil has significant quantities of any of these substances, the soil will be classified as a hazardous waste and would not be processed by MFM. It is true that some of the soil processed by MFM may contain small quantities of these metals or

other metals. Many of these metals naturally occur in virgin soil in the central Florida area (including Ocala). One factor Dr. Murphy does not recognize is that the particles of the soil that are entrained in the exhaust gases of the dryer must first pass through the baghouse before passing through the afterburner and then being discharged to the atmosphere. The baghouse is 99+ percent effective for removing the particles. Furthermore, the trial burn conducted by an EPA contractor at MFM in February 1984 showed that 99.94 percent of the lead introduced to the kiln system would be captured and not released to the atmosphere (We assumed only a 90 percent control for permitting purposes). This same test showed that 99.92 percent of all metals introduced to the kiln system would be captured and not released into the atmosphere.

Dr. Murphy's comments about not having uniformly blended soil (soil blended to reduce the concentration of metal in the feed material) is without basis. First, the environmental effects of metals (at concentrations we are talking about) are based on annual average exposure. Thus, even though the soil may not be uniformly blended, the long-term average emission rate is going to be reduced by the fraction of clean soil blended with the contaminated soil. Secondly, clean clay will be blended with the contaminated soil and it has been fairly well established by others that there is an affinity between clay and the metals which will bind the metals to the processed soil and prevent their release.

5. Dr. Murphy's statement that blending to lower the rate at which heavy metals are fed to the kiln does not alter the total mass of material that will be processed is also not accurate. For example, let's assume that the system can operate 4000 hours a year processing contaminated soil, with the remaining time allotted to only clay products and maintenance. If the soil to be processed can be handled without blending (40 tph x 4000 hr), 160,000 tons of soil could be processed a year. If the soil had to be blended 50/50 with clay, only 80,000 tons of soil could be processed a year and the total mass of contaminants processed would certainly be reduced.

Regarding the total mass of heavy metals that might be discharged from the system, we estimated for permitting purposes that with soil decontamination occurring 8300 hours a year, the lead emission rate, under worst case conditions, would be 1.7 tons per year. During 1975, there were 86,717 vehicles registered in Marion County and it is estimated that these automobiles would have released about 195,000 pounds of lead a year. Between 1975 and 1978, the registered automobiles (139,000) would have emitted about 149,000 pounds a year of lead and, currently, the registered automobiles (242,544) emit about 160,000 pounds of lead per year. Compared to these emission rates, the 1.7 tons per year that we estimate seems awfully insignificant.

6. Dr. Murphy's statement regarding the impact of heavy metals deposited on land and forage also appears to be made with no



critical thought. As an example, refer back to the comments regarding lead emissions in my previous comment and ask if there have been any problems with humans or animals over the past several years as a result of lead emissions from automobiles. His comments regarding exposure of these animals to cresol should also be considered in light of the fact that many horses gnaw on creosote fence boards and graze on grass grown in creosote-soaked soils under fences.

7. In the background material it is stated that particulate matter emissions are not mitigated by control equipment. The system is equipped with a baghouse that is 99+ percent effective; or Best Available Control Technology.
8. The comment about increased ambient sulfur dioxide levels is also unfounded. For example, ambient sulfur dioxide levels in the Lexington, Kentucky area (outside of the city) are in the range of 16 micrograms per cubic meter, annual average; 73 micrograms per cubic meter, 24-hour average; and 117 micrograms per cubic meter, three-hour average. The sulfur dioxide levels we project (in the immediate vicinity of MFM) are 4 micrograms per cubic meter, annual average; 48 micrograms per cubic meter, 24-hour average; and 177 micrograms per cubic meter, three-hour average; and these are projected using absolute worst-case sulfur dioxide emission rates and worst-case meteorological conditions.

March 27, 1990

Mr. Norman H. Nosenchuck, P.E.
Director of the Division of Solid Waste
New York State Department
of Environmental Conservation
50 Wall Road, Room 208
Albany, New York 12233

Dear Mr. Nosenchuck:

MFM Industries, located in Ocala, Florida, is the parent company of MFM Environmental and Mid-Florida Mining. We mine and manufacture clay products for various industrial, environmental and consumer uses. Cat litter is our primary consumer product. We also process non-hazardous soil contaminated by petroleum products.

Last fall we received from the Florida Department of Environmental Regulation a notice of intent to issue a permit to build an afterburner that would allow us to treat emissions from thermally processed hydrocarbon contaminated soils. (See enclosure). The afterburner will remove 99.99 percent of all potentially harmful emissions.

A small group of citizens organized to oppose our permit. An administrative hearing is scheduled in the middle of May before an administrative law judge to present any and all experts and evidence on the process.

First, we would like to assure you that we do not object to responsible dialogue concerning the DER's intent to issue a permit. The opposition, however, does not appear satisfied with the formal hearing process. They appear to want to circumvent the legal process by creating fear in the community. They are doing this through half truths, untruths and totally unsubstantiated claims.

The most recent tactic they employed was inviting Paul Connett to speak to a group of local residents. Mr. Connett was styled in the press as an "internationally known and respected expert" on waste storage and incineration and a member of a New York State solid waste advisory panel.

We have included a summary of his talk in front of this group. The summary is self explanatory. In this talk, Mr. Connett implies that state agencies are not competent to do their jobs and that engineers and experts are deceiving the public. Mr. Connett makes specific reference to not only opposing our permit but trying to shut our plant down completely.

We have had several conversations with Bob McCarty of your office and write this letter at his suggestion. We would appreciate your impression of Mr. Connett as well as a description of his relationship with the New York State government. We would like to know if New York considers him a competent advisor and expert. We would also like to know how New York feels about incineration in general and what steps if any the state is taking to approve or promote this process.

We intend to report back to our local officials on what we find from you in order to allay some of the fear and misinformation we feel has been generated. We include background material on both Mr. Connett's visit and our permit in general. If you have any comments or questions please let me know. We deeply appreciate your help in this matter.

Sincere thanks,

John F. Mizroch
General Counsel

JFM:lfw

Enclosures

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Tallahassee
April 11, 1990

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VIA HAND DELIVERY

Mr. Mike Harley
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Regulation
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2600 Blair Stone Road
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RECEIVED

APR 16 1990

DER-BAQM

Re: Mid-Florida Mining, Inc.; DER File No.
AC42-162996

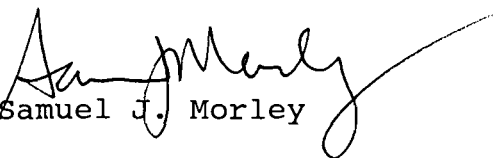
Dear Mike:

Please find enclosed the original October 9, 1989 proof of publication relating to the Department's notice of intent to issue the above-referenced permit.

Please call should you require any further information concerning the proof of publication.

Sincerely,

HOLLAND & KNIGHT


Samuel J. Morley

SJM/rt
Enclosure

14633-54 41090a:311

cc: M. Harley
C. Collins, C. Diaz
CHF/JSK

PROOF OF PUBLICATION

THE OCALA STAR-BANNER

Published—Daily

OCALA, MARION COUNTY, FLORIDA

STATE OF FLORIDA, COUNTY OF MARION.

Before me the undersigned authority personally appeared Lynn

Maxwell, who on oath says that he is Classified manager

of the Ocala Star-Banner, a daily newspaper published at Ocala, in Marion County,

Florida; that the attached copy of advertisement, being a notice in the matter of

#A6013-Notice of Intent to Issue

in the Court,

was published in said newspaper in the issues of

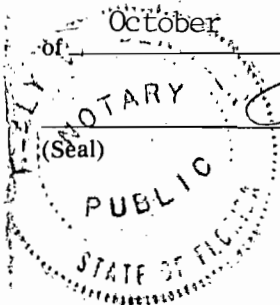
October 9, 1989

Affiant further says that the said THE OCALA STAR-BANNER is a daily newspaper published at Ocala, in said Marion County, Florida, and that the said newspaper has heretofore been continuously published in said Marion County, Florida, daily, and has been entered as second class mail matter at the post office in Ocala, in said Marion 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 cooperation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Lynn Maxwell

Sworn to and subscribed before me this 9 day

October 9, A.D., 1989



Handwritten signature of the Notary Public, likely Healey Vanderveer.

Notary Public

Notary Public, State of Florida
My Commission Expires Sept. 1, 1990
Bonded Thru Troy Fain - Insurance Inc.

tion 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be of the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C. The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at: Department of Environmental Regulation Bureau of Air Regulation 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Dept. of Environmental Regulation Central Florida District Office Suite 232 3319 Maguire Blvd. Orlando, Florida 32303-3767 Marion County Health Department 3230 Southeast Maricamp Road Ocala, Florida 32671

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. No. A6013 — October 9, 1989

Department of Florida Environmental Regulation
Notice of Intent to Issue
The Department of Environmental Regulation hereby gives notice of its intent to issue a permit under the Florida Mining Company (FMC), P.O. Box 68, Lowell, Florida, 32663, to add an afterburner to the existing rotary kiln and clay dryer. The afterburner will be used to destroy organic compounds when the proposed rotary kiln/afterburner system is used for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing non-hazardous inorganic and non-halogenated hydrocarbon products. The rotary kiln may still be operated without the proposed afterburner when used to dry soils that do not contain hydrocarbon products. FMC Florida Mining Company's facility is located on SR 329 at Seaboard Coast Line (now CSX) R.R., Lowell, Marion County, Florida. The proposed modification is expected to result in minor increases in pollutant emissions. The proposed permit includes specific conditions that prohibit the emission of objectionable odors and require FMC to minimize emissions of fugitive dust. If the source is responsibly operated within the constraints of the proposed permit and applicable regulations, no violations of applicable air quality standards are expected to occur. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination. A person whose substantial interests are affected by the Department's proposed permit is entitled to request an administrative determination (hearing) under Section 120.57, Florida Statutes. The petition must be filed below and must be filed in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; within fourteen (14) days of publication of this notice.

Petitioner shall file a copy of the petition to the address of the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes. Petition shall contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action. If a petition is filed, the administrative hearing process is designed to forumulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed with this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be of the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C. The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at: Department of Environmental Regulation Bureau of Air Regulation 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Dept. of Environmental Regulation Central Florida District Office Suite 232 3319 Maguire Blvd. Orlando, Florida 32303-3767 Marion County Health Department 3230 Southeast Maricamp Road Ocala, Florida 32671 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. No. A6013 — October 9, 1989



Florida Thoroughbred Breeders' Association

4727 N.W. 80th Ave.
Ocala, Florida 32675
FAX 904/629-3603
904-629-2160

George M. Steinbrenner, III
PRESIDENT

J. Michael O'Farrell, Jr.
FIRST VICE PRESIDENT

Harry T. Mangurian, Jr.
SECOND VICE PRESIDENT

Betty Lavery
SECRETARY

Greg C. Branch
TREASURER

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Bryan Howlett

Karl Koontz

Dr. Edward L. Noble

George L. Onett

Kenneth Opstein

Dr. John C. Weber

Richard E. Hancock
EXECUTIVE VICE PRESIDENT

Mr. Bill Thomas
Department of Environmental Regulations
State of Florida
Twin Towers Office Building
2600 Blainstone Road
Tallahassee, Florida 32399-2600

Re: Mid Florida Mining Permit issued by the Department of Environmental Regulations.

Dear Mr. Thomas,

Thank you for taking the time to visit with us last week. As we discussed I would appreciate any information concerning the permit for review by our experts.

The following are a few questions we would like for you to answer. Time as you know is of the essence. We would like to review the information prior to our Board of Directors meeting on April 20th.

1. Blending Incoming Contaminated Soil With Wet Uncontaminated Soil.

A. Since system design for the incinerator and control equipment are based on handling contaminated soil, independent from blending with uncontaminated soil, why is blending necessary or allowed? Rather than contributing to the process performance (other than by diluting contaminants in the contaminated soil) blending will actually provide an additional handling step of the soil prior to it's decontamination. This provides another opportunity for uncontrolled acceptance of contaminated soils at the levels proposed in the attached description there should be no need for blending.

B. The matter of blending appears simply to be a proposition to achieve dilution of the contaminated soil, as well as a means to enhance the decontaminated soil product from potential failure of the EP toxicity test. This may result in its designation as a hazardous waste due to any remaining heavy metal (lead) residue.

RECEIVED
APR 10 1990
DER-BAQM

2. Regulatory Criteria for MFM Process and Alternate Disposal of Residues.

A. MFM conducted pilot studies for the purposes of defining design criteria for a full scale process to decontaminate soil. Apparently this pilot test was conducted under a permit from Florida Department of Environmental Regulation (FDER). When MFM was asked what the characteristics of their baghouse residues were or if such residues were subjected to EP toxicity testing, the response was negative. Considering that the intent for permit provides for an input of up to 500 ppm of lead contaminant in the fuel and soil input to the process and that at this rate lead will accumulate to a level of 6000 ppm (weight basis) in the baghouse residues, some testing of the final product should be specifically identified.

B. There should be more refined scrutiny of the entire aspect of final disposal of the decontaminated soil. There is potential impact of heavy metal contamination in handling and transport of the material. In addition to lead, petroleum contaminated soil may also contain significant levels of zinc. Since these contaminants can accumulate in soil and forage, background levels for the area should be defined and follow up levels measured to assure there is no deterioration of the area in vicinity of the plant, enroute to and at the final disposal site.

3. Sampling and Testing Decontaminated Soil on Process Residues.

The intent for permit (or the attached description) does not adequately provide comprehensive testing or data to assure that the soil or residues are properly treated. The intent for permit provides for a "composite" sample to be taken over the course of a 24-hour operation at 40 tons per hour processing rate. Such sampling or data is meaningless. Rather a series of grab samples (a minimum of 3 to 5 per day) should be analyzed independently. This will provide for statistical analysis of the test program and data to assess performance. Specific parameters and test procedures must be identified.

4. Processing Describe in Attachment

The impact (unless it was assessed in the pilot study) of reinjecting baghouse residues with the input contaminated soil into the rotary kiln may significantly complicate the entire process (especially the baghouse) performance. It would be expected that these baghouse residues would be very fine (small diameter) particles. Consequently, they may significantly contribute to greater small particle emissions from the baghouse since a greater quantity of such particles are generated. This problem has been identified in other combustion applications, for

example reinjection of flyash into coal combustion systems.

5. Testing


A. Did you take in consideration the uniqueness of the horse industry when issuing the permit? Have you tested the soil for lead content? If not, why? If so, do you plan on monitoring the lead build up?

B. Is it possible to monitor the emissions from the stack for criteria pollutants and hazardous pollution such as lead. If so, has the DER monitored the emissions and what are the results? If not, why?

C. Did you consider other routes of exposure to livestock other than air exposure, such as soil and forage?

Thank you for your time and consideration.

Very Truly Yours,



Richard E. Hancock
Executive Vice President

4-16

~~DAE~~ FYI
JKP 4/16/90
mail slow
mis year PA

LAW OFFICES

HOLLAND & KNIGHT

1401 MANATEE AVENUE WEST
P. O. Box 241
BRADENTON, FLORIDA 34206
(813) 747-5550
Fax (813) 748-6945

2000 INDEPENDENT SQUARE
P. O. Box 52687
JACKSONVILLE, FLORIDA 32201
(904) 353-2000
Fax (904) 358-1872

400 NORTH ASHLEY
P. O. Box 1288
TAMPA, FLORIDA 33601
(813) 227-8500
Fax (813) 229-0134

92 LAKE WIRE DRIVE
P. O. Box 32092
LAKELAND, FLORIDA 33802
(813) 682-1161
Fax (813) 688-1186

CABLE ADDRESS
H&K Mia
TELEX 52-2233 MIAMI

1200 BRICKELL AVENUE
P. O. Box 015441
MIAMI, FLORIDA 33101
(305) 374-8500
Fax (305) 374-1164

PLEASE REPLY TO:

800 NORTH MAGNOLIA AVENUE
P. O. Box 1526
ORLANDO, FLORIDA 32802
(407) 425-8500
Fax (407) 423-3397

Tallahassee
April 6, 1990

ONE EAST BROWARD BLVD.
P. O. Box 14070
FORT LAUDERDALE, FLORIDA 33302
(305) 525-1000
Fax (305) 463-2030

BARNETT BANK BLDG.
P. O. DRAWER 810
TALLAHASSEE, FLORIDA 32302
(904) 224-7000
Fax (904) 224-8832

888 SEVENTEENTH STREET, N.W.
SUITE 900
WASHINGTON, D.C. 20006
(202) 955-5550
Fax (202) 955-5564

VIA HAND DELIVERY

Douglas MacLaughlin, Esquire
Florida Department of Environmental
Regulation
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32399-2400

RECEIVED

APR 06 1990

DER-BAQM

Re: MFM Industries, Inc. - Notice of Intent
to Issue

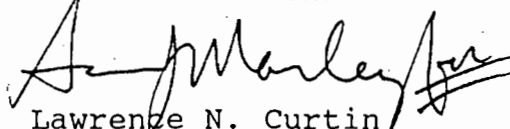
Dear Doug:

As we discussed at our meeting yesterday, I have enclosed for your review a copy of the procedures that MFM will employ to ensure that virgin fuel oil is segregated from other types of fuel for the kiln and afterburner.

Please let us have your comments at your earliest convenience.

Sincerely,

HOLLAND & KNIGHT



Lawrence N. Curtin

4-11-90

LNC/rt,
Enclosure

cc: David Schwartz, Esquire
Gary Smallridge, Esquire
Mr. Mike Harley
(with enclosure)

14633-54 4690a:311


FYI. Initial and
return to Patty for filing.

ced:

CHF

FP

Chuck Collins

MH

File





ENVIRONMENTAL

MFM Virgin Fuel Oil Procedures

MFM will burn only virgin fuel when processing contaminated soil. To ensure that virgin fuel and only virgin fuel will be burned, MFM will adopt the following monitoring and certification procedures.

MFM will dedicate, in its tank farm, one 35,000 gallon tank for the purpose of storing virgin fuel oil.

The virgin fuel oil will be transferred to a virgin fuel only burn tank (15,000 gallon capacity). This dedicated burn tank will supply the dryer/calculator and the afterburner combustion systems with the proper quality and quantities of virgin fuel oil when processing contaminated soils.

Each load of virgin fuel coming into our facility will be checked and verified by MFM personnel to ensure that the virgin fuel has met MFM standards of quality. Once inside MFM's plant, only trained and authorized MFM personnel will handle the virgin fuel. The virgin fuel, after certification, will be transferred to the dedicated burn tank only by MFM trained and authorized personnel.

Every load of fuel being transferred to the dedicated burn tank by MFM personnel will also be under the direct control of MFM's process supervisor. Each load will be checked by the process supervisor and he, as well as the MFM oil personnel, will certify by signature that each load has met MFM's internal standards of certification.

GARY,

3/1/90

2:51P.

40 CFR 261 IS ADMINISTERED BY
HAZ. WASTE, NOT AIR. WE HAVE RECEIVED
A LETTER FROM EPA ABOUT THE INDUSTRIAL
FURNACE. I SUGGEST SATISH KASTURY,
BILL NAIMUS AND MIKE HARLEY.
Jim P.

JIM - 2:33/3/1

I NEED AN
EXPERT TO HELP
ME WITH THESE
ADMISSIONS.

GARY

RECEIVED

FEB 28 1990

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

Dept. of Environmental Reg.
Office of General Counsel

CORNELIUS A. LINK,

Petitioner,

vs.

Case No. 89-6053
OGC File No. 89-1093

**MID-FLORIDA MINING COMPANY,
and STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
REGULATION,**

Respondents.

**PETITIONER'S FIRST SET OF
REQUESTS FOR ADMISSION TO
RESPONDENT STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION**

Pursuant to Rules 22I-6.019, Fla. Admin. Code, and Rule 1.370(a), Fla.R.Civ.P., Petitioner, CORNELIUS A. LINK, by and through his undersigned counsel, hereby requests that Respondent State of Florida, Department of Environmental Regulation admit the truth of the following assertions within 30 days of the date of service hereof. As used herein, "Mid-Florida" refers to Respondent Mid-Florida Mining Company, and "Mid-Florida's rotary kiln-afterburner system" refers to the operation to which Mid-Florida seeks to add an afterburner pursuant to the construction permit application that is the subject of this proceeding.

1. Admit that creosote is a toxic waste as identified in 40 CFR 261.33(f).

2. Admit that, under 40 CFR 261.33, toxic wastes listed in 40 CFR 201.33(f) are hazardous wastes if and when they are discarded or intended to be discarded.

3. Admit that, for purposes of 40 CFR 261.33, materials are considered "discarded" if they are "abandoned," "recycled," or "inherently waste-like," as defined by 40 CFR 261.2(a)(2).

4. Admit that, for purposes of 40 CFR 261.2(a)(2), materials are considered abandoned if they are "disposed of."

5. Admit that, for purposes of 40 CFR 261.2(a)(2), materials are considered abandoned if they are "burned or incinerated."

6. Admit that Mid-Florida's proposed processing of creosote-contaminated soils constitutes the burning or incineration of creosote.

7. Admit that, due to the burning or incineration of creosote proposed by Mid-Florida, creosote as contained in creosote-contaminated soils is an "abandoned" material as defined in 40 CFR 261.2(b).

8. Admit that, because creosote as contained in creosote-contaminated soil is abandoned, it is a "discarded material" as defined in 40 CFR 261.2(a)(2).

9. Admit that, because creosote as contained in creosote-contaminated soil is a discarded material, and creosote is listed in 40 CFR 261.33(f), then creosote as contained in creosote-contaminated soils is a hazardous wastes under 40 CFR 261.33.

10. Admit that creosote-contaminated soil is a solid waste as defined in 40 CFR 261.2(a)(1).

11. Admit that creosote-contaminated soil has not been excluded from the definition of solid waste by variance granted under 40 CFR 260.30 and 260.31.

12. Admit that, pursuant to 40 CFR 261.3(a), a solid waste is a hazardous waste if it is not expressly excluded from regulation under 40 CFR 261.4(b) and is listed in Subpart D of 40 CFR Part 261.

13. Admit that creosote is not a household waste as defined in 40 CFR 261.4(b)(1).

14. Admit that creosote is not a solid waste generated by the growing and harvesting of agricultural crops or the raising of animals as referenced in 40 CFR 261.4(b)(2).

15. Admit that creosote is not mining overburden as referenced in 40 CFR 261.4(b)(3).

16. Admit that creosote is not fly ash waste, bottom ash waste, slag waste, or flue gas emission as referenced in 40 CFR 261.4(b)(4).

17. Admit that creosote is not a drilling fluid, produced waste, or other waste associated with the exploration, development or production of crude oil, material gas, or geothermal energy as referenced in 40 CFR 261.4(b)(5).

18. Admit that creosote is not a waste which is listed in Subpart D of 40 CFR Part 261 due to the presence of chromium, as referenced in 40 CFR 261.4(b)(6).

19. Admit that creosote is not a solid waste from the extraction, beneficiation or processing of ores and minerals as referenced in 40 CFR 261.4(b)(7).

20. Admit that creosote is not cement kiln dust waste, as referenced in 40 CFR 261.4(b)(8).

21. Admit that creosote is not discarded wood or wood products as referenced in 40 CFR 261.4(b)(9).

22. Admit that creosote is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b).

23. Admit that creosote is listed as a hazardous waste in Subpart D of 40 CFR Part 261.

24. Admit that creosote has not been excluded from Subpart D of 40 CFR Part 261 under 40 CFR 260.22.

25. Admit that creosote-contaminated soil is a mixture of solid waste and a hazardous waste listed in Subpart D of 40 CFR Part 261.

26. Admit that creosote-contaminated soil is not a material listed in 40 CFR 261.4(a)(1),(2),(3),(4),(5),(6),(7) or (8) as being excluded from the definition of solid waste.

27. Admit that, when used for processing contaminated soils, Mid-Florida's rotary kiln-afterburner system is not an "industrial furnace" as defined in 40 CFR 260.10.

28. Admit that, when used for processing contaminated soils, Mid-Florida's rotary kiln-afterburner system is not a "boiler" as defined in 40 CFR 260.10.

29. Admit that, when used for processing contaminated soils, Mid-Florida's rotary kiln-afterburner system is an enclosed device using controlled flame combustion.

30. Admit that, when used for processing contaminated soils, Mid-Florida's rotary kiln-afterburner system is not an integral component of a manufacturing process.

31. Admit that, when used for processing contaminated soils, Mid-Florida's rotary kiln-afterburner system is not a controlled flame device used to accomplish recovery of materials or energy.

32. Admit that, when used for processing contaminated soils, Mid-Florida's rotary kiln-afterburner system is an "incinerator" as defined in 40 CFR 260.10.

33. Admit that Mid-Florida intends to burn hazardous waste in order to destroy it.

34. Admit that Mid-Florida is an owner or operator considered to incinerate hazardous wastes, as defined in 40 CFR 264.340(a).

35. Admit that corrosivity is not the characteristic for which creosote is listed in Subpart D of 40 CFR Part 261.

36. Admit that ignitability is not the characteristic for which creosote is listed in Subpart D of 40 CFR Part 261.

37. Admit that reactivity is not the characteristic for which creosote is listed in Subpart D of 40 CFR Part 261.

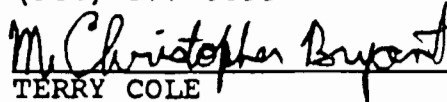
38. Admit that 40 CFR 264.340(b) does not exempt Mid-Florida from the requirements of Subpart O of 40 CFR Part 264.

Dated this 28th day of February, 1990.

Respectfully submitted,

**OERTEL, HOFFMAN, FERNANDEZ
& COLE, P.A.**

P.O. Box 6507
Tallahassee, Florida 32314-6507
(904) 877-0099



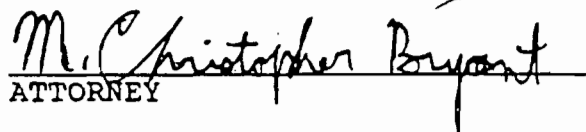
TERRY COLE

M. CHRISTOPHER BRYANT

ATTORNEYS FOR CORNELIUS A. LINK

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by U.S. Mail to Lawrence N. Curtin, Holland & Knight, Post Office Drawer 810, Tallahassee, Florida 32302, and by Hand Delivery to Betsy F. Hewitt, Assistant General Counsel, State of Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, on this 28th day of February, 1990.


ATTORNEY

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

Patty
RECEIVED
FEB 12 1990

CORNELIUS A. LINK,

Petitioner,

Dept. of Environmental Reg.
Office of General Counsel

vs.

Case No. 89-6053
OGC File No. 89-1093

**MID-FLORIDA MINING COMPANY,
and STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
REGULATION,**

Respondents.

PATTY THIS IS
A COPY OF OGC'S
FILE ON MFM
AC 42-162296
THIS IS FOR YOU FILE
MIKE

**PETITIONER'S
FIRST SET OF INTERROGATORIES TO
RESPONDENT MID-FLORIDA MINING**

Petitioner, CORNELIUS A. LINK, ("LINK"), by and through its undersigned counsel hereby requests Respondent, Mid-Florida Mining Company ("Mid-Florida" or "MFM") to answer the following Interrogatories within thirty (30) days after service hereof, pursuant to Rule 1.340, Florida Rules of Civil Procedure.

INSTRUCTIONS AND DEFINITIONS

1. In answering these interrogatories, furnish all information which is available to you, including information in the possession of your agents, employees, representatives and all others from who you may freely obtain said information, as well as from your attorneys in their investigation.

2. If you cannot answer any one or any subpart of these interrogatories in full, after exercising due diligence to secure

the information to do so, explicitly so state. Answer every other interrogatory and subpart and give any information in your possession which may partially answer the interrogatory or subpart which you cannot answer in full, or which may lead to discovering the answer thereto. Attach additional sheets if additional space is required.

3. As used herein, "person" refers to any natural person, individual, proprietorship, partnership, association, organization, joint venture, firm, corporation or other business enterprise, governmental body, group of natural persons or other entity.

4. As used herein, "MFM", "you", "your" and "yours" refers to Mid-Florid Mining Company, its agents, officers or representative.

5. As used herein, "DER" or "the Department" means the Florida Department of Environmental Regulation, its agents, officers, employees, or representatives.

6. As used herein, "document" and "documents" refer to any written or graphic matter or other means of preserving thought or expression, and all tangible things from which information can be precessed or transcribed, (including the original by reason of any notation made on such copy or otherwise), including but not limited to, correspondence, memoranda, notes, messages, letters, telegrams, teletype, facsimile, bulletin, notice of meeting, chronological data, minutes of meetings or conferences, books, reports, charts, ledgers, invoices, worksheets, receipts, returns, affidavits, contracts, cancelled checks, transcripts, statistics, surveys,

magazine or newspaper articles, releases (and any and all drafts, alterations and modifications, changes and amendments to any of the foregoing), and graphic or aural records or representations of any kind, including, without limitation, photographs, charts, graphs, microfiche, microfilm, videotape, recordings, motion pictures, electronic, mechanical or electromechanical recordings or representations of any kind including, without limitation, tapes, cassettes, discs, recordings, and any other information which is stored or processed by means of data processing equipment and which can be retrieved in printed or graphic form.

7. As used herein, the terms "identify" or "identification" when used in reference to an individual person, unless otherwise specified, means to state his full name, present home address if known (do not use post office box address), and his present employment position and business affiliation. When used in reference to a person other than the individual person, "identify" or "identification" means to state whether such person is a corporation, partnership or other organization, and the name, present and last known address, and principal place of its business. Once any person has been identified properly, it shall be sufficient thereafter when identifying that same person to state his or its name only. If other identification is requested in a question, it shall be in addition to the above identification requirements.

8. As used herein, the terms "identify" or "identification" when used in reference to a document or documents means to state

the date, the author (or, if different, the signer or signers), the addresses, type of document, and any other means of identifying it with sufficient particularity to meet the requirement for its inclusion in a request for production of documents pursuant to Rule 1.350, Fla. R. Civ. P. If any such document was, but is no longer in your possession or subject to your control, state what disposition was made of it and the reason for such disposition. In lieu of identifying any document, a true and correct copy thereof may be annexed to and incorporated in the answers to interrogatories.

9. As used herein, the terms "identify" and "identification" when used in reference to real property means to state the location of the property, by state, county and any other political or legal subdivision, the legal description, the structures, if any, on the land at present, including buildings, pavements, below surface construction, such as swimming pools, or any other man-made facilities on or in the land.

10. As used herein, "permit application" means MFM's application for DER permit number AC 42-162296, and all amendments, supplements, and explanatory information thereto; and "draft permit" means the draft permit accompanying DER's intent to issue permit number AC 42-162296, and all documents included therein by reference.

INTERROGATORIES

1. Indicate the current and proposed means of disposal of ash or other residue from the rotary kiln/ after-burner system at MFM's processing operations.

2. For each permit held by MFM for operating its mining operations and processing activities, identify the issuing agency, permit number, activity permitted, issue date and expiration date.

3. Explain the operation of the proposed emergency bypass stack, indicating when and under what circumstances it will be used and whether the means of activating the bypass stack is manual or automatic.

4. Explain the existing and proposed method of disposal of particulates and other residue from the baghouse at MFM's processing operations.

5. Explain the basis for MFM's assertion that the afterburner will effect a 99.99% destruction of volatile and semivolatile hydrocarbon emissions.

6. Indicate what measures, if any, are in place to clean or decontaminate the rotary kiln between its use for soil decontamination and its use for processing clay.

7. Explain the means, facilities, and equipment to be employed by MFM in transporting and storing contaminated soils before, during and after processing.

8. Explain the basis for your assertion that the baghouse will remove 90% of the lead content from emissions and detail any actual tests that have been performed to confirm the assertion.

9. If one or more trial burns has been conducted to determine the efficiency of the rotary kiln - afterburner system, indicate the date of such burn(s), the persons present, the concentration of contaminants in the soil, the feed rate of soil into the kiln, the fuel rate, the afterburner temperature conditions, the specific fuels used to fire the rotary kiln and the afterburner, and the concentration of contaminants in the used and virgin oil.

10. Explain the origins and nature of contaminated soil sources, contaminants contained in, and maximum contaminant levels for soils which MFM proposes to process. Include in your answer a description of the activities and operations, leading to gradual or sudden release, or accidents or discharge events, for the sites from which contaminated soils will be transported to MFM for treatment.

11. Explain the steps that will be taken to insure that soils contaminated with creosote are not also contaminated with pentachlorophenol or other hazardous wastes.

12. What are the actual ranges of sulfur content expected for each grad of virgin fuel and used oil fuels to be used to operate the rotary kiln and the after burner?

13. Indicate whether there have ever been emission of acid gases from the stack, and if so, identify the nature of such acid gases; their emission quantities on a daily, monthly, and annual basis; and any health or environmental impacts or alleged impacts from such emissions of which MFM is aware.

14. For each witness you expect to call at the hearing in this proceeding, please provide the following information:

a. Name and address of each witness.

b. If the witness is to be preferred as an expert by you, identify the field in which the witness is expected to be qualified and attach a brief resume of the witnesses qualifications.

c. The subject matter in which each witness is expected to testify.

d. A summary of the substance of the facts and opinions to which each witness is expected to testify.

e. A summary of the grounds for each opinion to which each expert is expected to testify.

f. If the answers to subparagraph c, d or e are contained in a document, please identify that document.

15. Identify each person who prepared or assisted in preparing MFM's permit application, and any amendments, supplements, or explanatory information thereto, indicating which portion or portions such person prepared or assisted in preparing.

16. Identify each person who prepared or assisted in preparing answers to these interrogatories, indicating which answers each such person prepared or assisted in preparing.

BY: _____

TITLE

STATE OF FLORIDA)

COUNTY OF)

BEFORE ME, the undersigned authority, personally came and appeared _____, who after first being duly sworn did depose and say that he/she did execute the foregoing Answers to Petitioner's First Set of Interrogatories to Respondent Mid-Florida Mining Interrogatories and that the same are true, accurate and correct to the best of his/her knowledge, information and belief.


SWORN TO AND SUBSCRIBED before me this _____ day of _____, 1990.

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:
Respectfully submitted,

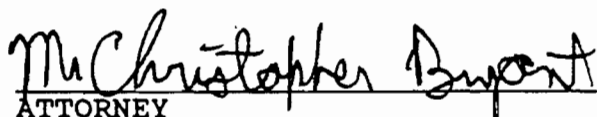
Interrogatories propounded this 9th day of February, 1990, to Respondent Mid-Florida Mining by:

OERTEL, HOFFMAN, FERNANDEZ
& COLE, P.A.
P.O. Box 6507
Tallahassee, Florida 32301
(904) 877-0099


TERRY COLE
SEGUNDO J. FERNANDEZ
M. CHRISTOPHER BRYANT
ATTORNEYS FOR CORNELIUS A. LINK

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by HAND DELIVERY to Lawrence N. Curtin, Holland & Knight, Barnett Bank Building, 315 S. Calhoun Street, Tallahassee, Florida 32302, and Vivian Garfein, Assistant General Counsel, State of Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, on this 9th day of February, 1990.


ATTORNEY

~~S. Smallwood~~
Clair

CHARLOTTE I. HUNTER
ATTORNEY AT LAW
333 N.W. THIRD AVENUE
OCALA, FLORIDA 32670

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DEC 18 1989

TELEPHONE
(904) 622-7300

December 14, 1989

Office of the Secretary
RECEIVED
FILE NUMBER:

DEC 20 1989

DER-BAQM

Dale Twachtmann, P.E.
Sec. Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Twachtmann:


Please be advised that the undersigned is the attorney for the Town of Reddick. This letter is written in behalf and at the request of the Town Council and citizens of Reddick who adamantly oppose any expansion or re-permitting for the Mid-Florida Mining operation located in Lowell, Florida.

Granting Mid-Florida Mining's request for a change in their permit to allow incineration of soil contaminated with hydrocarbons, would dramatically increase the levels of pollutants emitted into the surrounding area. Additionally, any such expansion would necessarily increase traffic resulting from the transportation of toxic wastes not only from other locations in Florida, but also from other states over the local road systems.

The citizens of Reddick have strongly voiced their opinion against any permit which would allow any increase in the emission of pollutants into the town and its surrounding area. Furthermore, they are opposed to the generation of the heavy track traffic transporting these toxic waste over local roads.

Therefore, the citizens and Town Council of Reddick strongly urge the department to deny the expansion or re-permitting for Mid-Florida Mining.

Very truly yours,


Charlotte I. Hunter

CIH/caw

12/16/89
Pattley -
I gave a copy to
Bill T & Mike H.
Clair

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

RECEIVED
DEC 1 1989

CORNELIUS A. LINK,

Petitioner,

vs.

OGC File No. 89-1093

Dept. of Environmental Reg
Office of General Counsel

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondents.

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NOV 30 1989

DER-BAQM

DEPARTMENT OF ENVIRONMENTAL REGULATION'S
FIRST INTERROGATORIES TO PETITIONER

TO: Cornelius A. Link, D.D.S.
P.O. Box 125
Lowell, FL 32663

Respondent, State of Florida Department of Environmental Regulation, (Department) propounds the following interrogatories to , (Petitioner), pursuant to Rule 22I-6.19(1), Florida Administrative Code, and Florida Rules of Civil Procedure 1.280 and 1.340. Petitioner must answer or object to each and every interrogatory question in writing within thirty (30) days after the date of service of these interrogatories.

Within the thirty day period, the original answers and objections to the interrogatory questions must be returned to the Department and a copy served on all other parties to the case. The answers to these interrogatories should be inserted within the space provided following each numbered interrogatory. If the space provided is not sufficient for you to insert your entire answer to a question, please type your answer on a separate sheet, refer to it in the space provided and attach it to the interrogatories.

You are being asked to provide answers to these interrogatories to the best of your knowledge and belief, based upon your own personal knowledge and any knowledge possessed by your attorney(s), agent(s), investigator(s), and other representatives. As used in these interrogatories, the term "person" means any natural person or any legally recognized organization, including corporations, partnerships, associations (incorporated or unincorporated), their agents and employees; and governments or governmental bodies, commissions, departments of government, boards or agencies, and their agents and employees. The term "document" means a preserved information source of any kind, including paper upon which information is written, typed, printed, punched, marked or memorialized in any way; video or audio recorded tape, movie film, photographs, or any other graphic information medium however produced or reproduced.

To "identify" a natural person, state his or her full name, current address, telephone number, and present employment or governmental position, if known. To "identify" any other person, state whether the person is an agency or department of government, a corporation, partnership or other type of organization; and give the name, and current address of the organization and its chief executive officer, if known.

To "identify" a document, state the type of document (e.g., letter, memorandum, telegram, chart, sketch, diagram, etc.), its date, if any; its author or signer and to whom it was transmitted if known. If any document was but is no longer in your possession or subject to your control, state what disposition was made of the document and the reason for disposition. In lieu of identifying

any document, a copy of it may be attached and incorporated in your answers to these interrogatories. If any document has already been furnished to the Department, state when and to what Department office it was furnished. Once you have fully identified any person or document in an answer, it is not necessary to fully identify the same person or document again if mentioned in another interrogatory answer.

You must answer these interrogatories under oath. Your answers may be used as evidence in any hearing which is held in this case.

Interrogatory No. 1: Is the Petitioner acting on behalf of any third party or parties in filing the petition which the Petitioner has filed in this case? If the answer is yes, identify the person(s) on whose behalf the Petitioner is acting.

The Concerned Citizens listed on attached addendum
"A"
Anticipate many more to follow

Interrogatory No. 2: Is the Petitioner a corporation, association, or other organization? If the answer is yes, identify the type of organization date of incorporation, if any; state of incorporation, if any; all officers and directors of the organization; and its principal place of business.

NO

Interrogatory No. 3: Identify all persons known or believed by the Petitioner to have knowledge of the facts upon which the Petitioner relies to support the relief requested by the petition. For each person identified, state the subject matter of the person's knowledge and whether he or she has personal knowledge of any fact which the Petitioner asserts is at issue in this case.

Greg Thompson--Emissions- P.O.Box 266
Lowell,Fl. 32663

Connie Bonbrest-Foliage Necrosis- 6005 NW County Highway 31
Reddick,Fl. 32686

Michelle Watson-Paint on wheels-
4131 W.Highway 329
Lowell,Fl. 32663

OTHERS TO FOLLOW

Interrogatory No. 4: Identify each person Petitioner expects to call as its expert witness at the final hearing in this case. Please state for each expert witness identified.

Unavailable at this time, to be identified later

- a. subject matter on which the person is expected to testify.

N.A. See Interrogating 4

- b. the substance of the facts and opinions concerning which the expert is expected to testify and a summary of the grounds for each opinion.

N.A.

- c. a resume, curriculum vitae, or other detailed list of the expert's qualifications.

N.A.

- d. a list of all cases in which the expert has given previous expert testimony listing the cases by case style, case number, and forum.

N.A.

Interrogatory No. 5: Identify every person not identified in the answer to interrogatory 4 whom Petitioner expects to call as its witness at the final hearing, giving the subject matter(s) concerning which each person is expected to testify.

Tim Worley- Forrestry

Kerry Dressler Rt 2-Box 565C
Miconopy, Fl. 32667

DER & EPA regulations

Interrogatory No. 6: Please identify any studies, analyses, tests, inspections, or other investigations of matters placed at issue by the petition which have been conducted by Petitioner or by his agents, employees or consultants, in the fields of domestic or industrial waste engineering, bioassay, water quality, effluent or solid waste disposal, hydrogeology, biology, chemistry, or any other scientific or technical field. As to each investigation identified, please state:

- a. name(s) and address(es) of the person(s) performing the analysis, study or other investigation.

In process of compling at this time
Will be available later

- b. the information, data, system, or object, that was analyzed, studied, or otherwise investigated.

N.A. see "a" above

c. the facts or information sought by means of the analysis, study, or investigation.

- Verification of applicants facts in permit
- Verification of source of damage to vegetation and livestock

d. the data and test results obtained by the analysis, study, or investigation.

Pending

e. the name and issue date of any final report or other document resulting from or relating to the analysis, study, or investigation.

Pending

- f. a summary of the facts, opinions, or conclusions derived from any final report or other document resulting from or relating to the analysis, study, or investigation.

Pending

- g. the name and address of the person having custody or control of the report or other document.

N.A.

Interrogatory No. 7: Identify all documents not identified in the answer to Interrogatory 6 which the Petitioner expects to offer at the final hearing as support for the relief requested by the petition.

In process of being researched and compiled

Interrogatory No. 8: Identify every person who prepared or assisted in the preparation of the answers to these interrogatories. Identify the answers each person prepared or assisted in preparing.

N.A.

STATE OF FLA

COUNTY OF MARION

I have read the foregoing Interrogatories. The answers to the Interrogatories are true, correct, and complete to the best of my knowledge and belief.

By: Conrad A. Link
As Authorized Agent or Officer

SWORN AND SUBSCRIBED before me on this 28TH day of November, 1989.

W. Tucker Weikert
NOTARY PUBLIC

My Commission Expires:

NOTARY PUBLIC, STATE OF FLORIDA.
MY COMMISSION EXPIRES: AUG. 9, 1991.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

CORNELIUS A. LINK,

Petitioner,

vs.

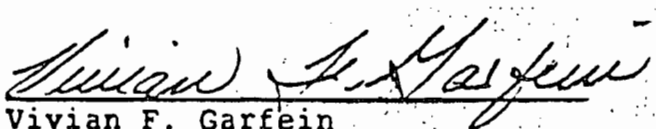
OGC File No. 89-1093

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondents.

NOTICE OF SERVICE OF INTERROGATORIES

I HEREBY CERTIFY that the Department of Environmental Regulation's FIRST INTERROGATORIES to CORNELIUS A. LINK, were served by United States Mail on Cornelius A. Link, D.D.S., P.O. Box 125, Lowell, FL 32663, Mid-Florida Mining, Co., P.O. Box 68, Lowell, FL 32663, Bill Thomas, Bureau of Air Quality Management, Department of Environmental Regulation, 2600 Blair Stone Road, Room 306G,, Tallahassee, Florida 32399-2400, and Larry Curtin, Holland & Knight, P.A., Barnett Bank Building, P.O. Drawer 810, 315 South Calhoun Street, Tallahassee, FL 32302, on this 3rd day of November, 1989.


Vivian F. Garfein
Assistant General Counsel

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

Addendum
"A"

We the undersigned, object to issuance permit # AC 42-162296 to Mid Florida Mining by the DER, because we are alarmed that the expanded functions of the project will adversely affect our private properties as well as the Public Health, Natural Resources, air and water quality in Marion County.

	①		②		③		④		⑤	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Michelle Watson 4131 W. Hwy 329 Lowell, Fl.	X		X		X		X		X	
Ted Karch (N.W. 100 th St. Reddick Ridge) 68200 N.W. 25 ^A Lot A. Lot 1 C.A. 32675	X		X				X	X		X
JAMES E. ROLAND P.O. Box 22 Lowell, FLA 32663	X		X		X		X		X	
DONNA WALVERSON P.O. Box 336 LOWELL, FL 32663	X			X		X	X			X
Connie Lambert 4131 W Hwy 329 Lowell	X		X		X		X			X
Phyllis Mathw 12161 N.W. Gainsville Rd. Reddick Fla 32686	X				X		X			X
Jerry Crawford P.O. Box 156 Lowell Fla 32663	X		X		X				X	
Thomas Crawford P.O. Box 156 Lowell Fla 32663		X	X				X	X		
Rebecca C Watman PO Box 156 Lowell, Fl 32663	X		X	X			X			X
Joni Martinez Oxal Roost Farm					X		X	X		
Jerry Thompson P.O. Box 266 Lowell	X		X		X		X			X

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	YES	NO	YES	NO	YES	NO	YES	NO
Shirley W. Dorman P.O. Box 156 Lowell, Fl. 32663		X	X		X		X	X
William R. Morye P.O. Box 113 Lowell, Fl. 32663	X		X	X	X		X	X
Ernest Drape Box 105 Greshamwood for Scott fr	X		X		X		X	X
POB 3920 NW Hwy 328	X		X		X		X	X
Luther Scott Sr. Lowell Fl Box 337			X			X	X	X
Mr + Mrs Luther Scott Jr. P.O. Box 182 Lowell, Fla 32663					X		X	X
Patricia Scott P.O. Box 337 Lowell Fla 32663		X				X	X	X
Demora Scott 3420 W. Hwy 329 Lowell		X		X	X		X	
Leo + Gwen Scott, Box 341, Lowell, Fl.	X				X		X	X
Dr. & Mrs. Rodney G. Lundock P.O. Box 218, Lowell, Fl 32663		X		X	X			X X
LORNA & TED HAEGBMAYER Rt. 1 Bx 2649 CITRA, FL. 32113		X					X	
Johnnie W. Wilson P.O. Box 251 Lowell Fl 32663		X			X		X	X

Howell, Fla Box 151

Edna M. Waters

X X X

Mrs. G. M. Rau

X X

G M Rau Sr

X X

Lowell

X X X

Dorothy Mae Graham

Reddick PO Box 61 FL 32688

Jerome J Ingram

X ~~X~~ X X X

Jahne Mae Coney

PO Box 61 Reddick Fla

X X X X

Finola Lawson

PO Box 942 Fairfield FL 32637

X X X

Jeanne Siegler

P.O. Box 292
Lowell, Fl. 32663

X ~~X~~ X X

Clarence Zuyler

PO Box 92 Lowell Fla 32663

X X X

Mrs D A Lewis Sr

P.O. Box 128, Lowell, Fla. 32663

X X X X X

D.A. Lewis Jr

P.O. Box 128 Lowell Fla

X X X X X

Carol Parker

Bo-Bett Farm Reddick Fla

X X X X X

Bessie Parker

1255 W Hwy 329 Reddick

X X X X X

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

Please help us fight the pollution of our beautiful area by signing your name and address to the following petition.

We, the undersigned, object to issuance of permit #AC 42-162296 to Mid Florida Mining by the DER because we are alarmed that the expanded functions of the project will adversely affect our private properties as well as the Public Health, Natural Resources, Air and Water quality in Marion County.

Edmund Heubeck Jr. - Quail Roost Farm - Fairfield

Harnet C. Heubeck - Quail Roost Farm - Fairfield

James Passinger - Bo-Bett Farm - Reddick

Amyville Smith - Bo-Bett Farm

Susan Johnson - Hobeau Farm

Shirley Samson - Hobeau Farm

Bruce Frederick - Hobeau Farm

Ronney Schmitt - Hobeau Farm

Caroline Barrs - Hobeau Farm

Tom Buhly - Hobeau Farm

Tommy Jones - Hobeau Farm

Jul W Brown - Hobeau Farm

Guthrie Kempton - Hobeau Farm

Maat Warrick
Joy Brown

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DER - BAQM

May 1 1958
Elizabeth Wheeler Hobbeau Farm

Mary Wethington

Bourbon Hills Farm

Keith Smith

~~Bourbon Hills Farm~~

KELLY JONES

BOURBON HILLS FARM

We the undersigned, object to issuance of permit # AC 42-162296 to Mid Florida Mining by the DER, because we are alarmed that the expanded functions of the project will adversely affect our private properties as well as the Public Health, Natural Resources, air and water quality in Marion County.

NOV 30 1989
DER. BAUM

- W. H. Bonbrust - 6005 N.W. County Hwy 316 Reddick
- Rene K Smith P.O. Box 133 Lowell, Fla 32663
- Mrs. James Shawby 7357 N.W. County Hwy 316 Fairfield
- May E. Zabala 3600 Mystic Pkwy. Apt 502 No M. Beh Fl 33180
- Alvin de Brachian Rt. 1 Box 485C, Micanopy, Fla 32667
- Roxana Bates Rt 2 Box 567 Micanopy Fl 32667
- Harriette J. Cooke ~~Box~~ 2123 NE 6th Ter. Y'ville, FL 32609
- Raymond C. Burr Box 109 Lowell, Fl. 32663
- Robert Ruffo 6127 N.W. 60th St. Ocala Fla. 32675
- James J. Lemmy RT 1 Box 949 Anthony Fl 32671
- Kath Norma 6005 NW CR 316 REDDICK, FLA
- Ann Cox 4757 N.W. 150th Ave Reddick, Fla. 32686
- John Conroy P.O. 127 Lowell, Florida 32663
- Joy Messeras Box 596 McIntosh, Florida 32664
- Wendell Murphy 8120 New 48th Ln, Ocala Fl 32675
- A. P. Lutner Pt 1 Box 685 Citra 32113
- M. S. Pogram, 150 NE 52 Ct., Ocala, Fl. 32671
- Louise E. Tucker P.O. Box 712 Reddick, Fl. 32686
- James B. Hawkins 13534 NW 160 Ave. Morriston, Fla 32668
- Elaine J. Hawkins 13534 N.W. 160 Ave Morriston, Fl 32668
- Margaret J. Cheaney, NW 75th Ave Rd, P.O. Box 679, McIntosh, FL 32664

Beth Dickson Rt 2 Box 570, Micavopy, FL 32667
Mrs. C. L. Siskew Rt. 2 Box 510 Micavopy Fl. 32667

Jane Earnest PO Box 550 Citra, Fl. 32113

David Allen Beach Rt 2 Box 562 Micavopy, Fla. 32667

David H. McAllen USPO Netley 329 Reddick, Fla. 32000

Mrs. H. Lambert 5311 N.W. 78th Ct. Deale, Fl 32675

Harold L. Lambert " " " "

Delores E. James, P.O. Box 467, Mc Intosh

URGENT — URGENT

48

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

Please help us fight the pollution of our beautiful area by signing your name and address to the following petition.

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Jerry E. Stikland
Leverett S. Thum

11430 N.W. 160th St. Reddick,
P.O. Box 900, Fairfield, Fl. 32634 Fla

Harold Shuman

P.O. Box 952 Fairfield, FL 32634

Larry W. Ruggley

RT. 1 Box 221-D Reddick, Fla. 32686

Red Wilson

P.O. Box 621 Fairfield, FLA 32634

Herbman Williams

RT 1 Box 195 Reddick FLA 3268

Frank Dale

P.O. Box 842 Fairfield FL. 32634

Chuck Palmer

RT 1 Box 643 Citra Fla

Kee Dumbear

Reddick
Box # Reddick Fla

Joseph Longmeyer

REDDICK

Fred Hays

Reddick Fla

Curto Weller

1802 NW 42nd Pl Ocala

Linda Shinn

P.O. Box 775 - Fairfield FLA. 32634

Ed. P. Borge

P.O. Box 500 CITRA, FLA,

James P. ...

11430 N.W. 160th St. Reddick, Fla.

James E Thiggin POB 733 Fairfield

Dan & Marion Route 1 Reddick

Joe W. Wams Rt 1 PO Box 369 Reddick FL 32688

Joanna Swines P.O. Box 754 Fairfield, FL. 32634

Clint Swines P.O. Box 925 Fairfield, FL. 32634

Terry Morse 5703 W E 21st Ave, Ocala 32670

James E. Jan Zlat P.O. Box 111 Lowell Fla. 32663

Brian Ekland PO Box 918 Fairfield Fla 32634

Janet Powell PO Box 685 Fairfield Fla 32634

Chuck Stoff PO Box Orange Lake, FL. 32681

Julie Ware Rt. 1 Box 477 Micavopy, Fl. 32667

Ronald E Billing PO Box 924 Fairfield, Fl. 32634

Lawrence P.O. Box 757 Fairfield Fl 32634

Keith Smith 9965 NW 60th Ave Ocala FLA 32676

TERRY Oliver 812 Box 1250 Ft McCoy FLA 32637

Dyan Hoyt II PO Box 317

Sandra A Kunitz Rt #1 Box 6800 Williston FL

Margaret Woodruff P.O. Box 811, Fairfield, Fl. 32634 32696

Kenneth C. Aldred 3611 W. S.S. Road Ocala, Fl.

Arthur A. Hall 9187 W 316 Hwy.

Jeff Kinn 329 W NW 160th

Tom Lumber 942 Fairfield Fla

Dore J. C. Macher

Gene R. Fissell 8476 NW 60th Ave Ocala, Fla

Jay H → PO Box 5754 Ocala FL

Robert G. Shetter 12700 N. Hwy 225 Reddick
32686

Bill Weis Box 745 - Fairfield Fla

John S. Lawrence P.O. Box 4665 Fairfield, Fla
32634

Lang Davenport 9401 N.W. Hwy 225 Reddick, Fla. 32686

Jonathan W. Davall PO Box 274 Reddick Fla 32686

Mrs. Thomas J. Shackelford Jr P.O. Box 351 Lowell, Fla. 32663

Barbara A. Kinsell PO Box 1027 Fairfield FL 32654

URGENT!

(21)

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

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We, the undersigned, object to issuance of permit #AC 42-162296 to Mid Florida Mining by the DER because we are alarmed that the expanded functions of the project will adversely affect our private properties as well as the Public Health, Natural Resources, Air and Water quality in Marion County.

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Carol Teston
Debbie Norton, 5580 N.E. 20th Ave, Ocala 32670
Karen Morgan
Shawn Connolly
Dawn Caswell
Vera Darling 5855 NW 165th St Reddick FL
BOB WURST - 119 NE Hwy 318, CITRA, FL 32113
Bill Darling
Judith S. Totter 4961 SE 17th St. Ocala, FL 326
AL Seiser. 6880 NW 62 St. Rd. Ocala 32675
FRAN Seiser " " " " " " " " " " " "
Eleanor A. Keefe 2700 SE. 73rd St Ocala. Fla. 32672
Cave Brewery 3765 N.E. 60th Ct Silver Springs Fl 32688
Mrs G. Johnson 1623 NW 42 Pl Ocala 32675
VERNON N JOHNSON 1623 NW 42 Pl Ocala 32675

Koec College

Alice Robinson

Paul E. Robinson

Clara Sistrunk

Wendy Shonper

URGENT!

(22)

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NOV 30 1989
DER-BAQM

- Anna L. Smith
- Alice Rekey 3308 N. E. 23 Ave. Ocala, FL
- Matha D. Roland P.O. Box 27 Lowell,
- Caroline Devilling 1225 ne 19th st Ocala, FL
- Cheeryl Melendez 2621 N.W. 5th AVE. Ocala FL
- Laura Williams 4991 SE 34th ct Ocala FL 32671
- Quanta Brown 5025 NW 52nd Pl. Ocala, FL 32675
- Melinda Lewis PO Box 711 Anthony 32617
- Shirley H. [Signature] 2310 SW 7th St. Ocala, Fla. 32674
- Beverly Ellis P.O. Box 417, Sparr, Fla. 32192
- Dorann Colchick - 7605 N.W. 14th St. Ocala, Fla 32663
- David [Signature] R+1 Box 6790 Williston 23696
- H. J. [Signature] P.O. BOX 72, MORRISTON, FL. 32668
- Donald [Signature] 5037 SE MARICAMP RD. Ocala FL. 32671
- Tom [Signature] Sr. P.O. Box 128 Holder, FL. 32645
- Richard W. [Signature] 7651 W. Anthony Rd Ocala, FL. 32670
- Charles [Signature] Rt 2 Box 1020 Williston Fla 32696
- Heaman [Signature] P.O.B. 458 Williston, FL 32696
- Maynie Edwards P.O.B. 458 Williston, FL 32696
- Charlie [Signature] 420 SE 5th St Williston FLA.

Ron Davis

P.O. Box 2021

CRYSTAL RIVER

FL
32629

Rene K. Smith

P.O. Box 133

Lowell, Fla

32667

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

Please help us fight the pollution of our beautiful area by signing your name and address to the following petition.

We, the undersigned, object to issuance of permit #AC 42-162296 to Mid Florida Mining by the DER because we are alarmed that the expanded functions of the project will adversely affect our private properties as well as the Public Health, Natural Resources, Air and Water quality in Marion County.

- Kenneth A. Aldrich 3611 W. Silver Springs Blvd. Ocala Fl 32678
- John F. Lyle Dum 16110 NW City Rd 225 Fairfield Fla 32699
- John D. Lumber 8335 NW 47th St Ocala, Fla 32675
- " " " " " " " " " "
- Ann Tompkins
- Nancy Langley P.O. Box 4485 Ocala, Fl 32678
- John P. Lippert P.O. Box 195 Ocala Fl. 32678
- Linna Ewing P.O. Box 344 Lovell Fl. 32663
- Ronald Mill P.O. Box 83 Lovell Fl 32663
- Gary Langston P.O. Box 322 Reddick Fla 32686
- Laura V. Kilbury RT1 Box 300 Citra Fla. 32113
- Dore Spillman P.O. Box 721 Citra Fla. 32113
- Lynette Beck P.O. Box 505 Reddick, Fla 32686
- Diane Skinner P.O. Box 638 Anthony Fl 32617
- Jessie Rueland Rt 4 Box 4740 Citra, Fl. 32113
- My C. Smith 3727 SW 95th Ave Ocala, FL 32504
- George C. O'S... PO Box 825 Fairfield Fl 32634

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8

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

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Pamela Hamilton

Karen L Benfield - Sp. 200 Ocala Fl

Shirley White - Apt 1 Box 921-A - OKLAWAHA, FL 32179

Christine Warren - Ocala, FL

Diara D. Mullarg - 3240 NE 58th Ave Apt. A

Silver Spgs, FL 32688

Glenn Thompson

address →

Dennis R Thompson - 5500 SW 6th Place Ocala Florida 32674

Elizabeth Basile - Citrus, Fla.

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URGENT!

9

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

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Larry Smith P.O. Box 4194 Ocala Fl. 32678
 W.L. Brown 3900 S E 44 St Ocala
 Jackie Fordham P.O. Box 354, Oklawaha, Fl. 32177
 Leo DeLeon 1111 N.W. 42 Pl Ocala 32620
 Boone Johnson P.O. Box 397 Anthony Fl.
 Doris Brown 131 N.E. 17th Pl., Ocala, Fl. 32670
 Michael Hensley 645 P.O. Box Dunnellon Fl.
 Rodger Prince P.O. Box 6080 Ocala Fla. 32678
 Ed Krueger 112821 NE 51st St SS 32684

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URGENT!

16

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

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- ① Tammy FARRAS Silver Springs, Fl.
- ② Larry Sears OKLAWAHA, Fl.
- ③ Charles Rose Anthony, Fl.
- ④ Greg Rose Anthony, FL.
- ⑤ Jua McCoy 3757 N.E. 16 Ave Ocala,
- ⑥ Jangabunkad Anthony, Fl
- ⑦ Carlo Kirkhead Ocala, Fl
- ⑧ Robin Cain Ocala, Fl.
- ⑨ Dot R. Ocala Fl.
- ⑩ Robert Duncan Ocala. Fl.
- ⑪ Mary Lee
- ⑫ Daise L. Potter Ocala Fl.
- ⑬ Gary Williams Ocala Fl.
- ⑭ John Love Ocala FLA.
- ⑮ Mary Burt Ocala, FL.
- ⑯ Laurie Hawthorne Ocala FL.

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NOV 30 1989
DER-BAQM

URGENT!

14

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LISAC. LEONARD
5081 S.W. GARDENIA, CT.
DUNNELLON, FL. 32630

Petronella Brown
13900 S.W. 3rd place
Ocala FL. 32674

Cecil and Verma Finck
3700 S.W. 18th Ave.
Dunnellon, Fla. 32630

Leo Duchisneau
4839 N. ALAMANDRA
BEVERLY HILLS

Patricia A. Worsman
P.O. Box 431
Anthony, Fla 32617

CHRIS CONKLIN
12281 S.E. 89TH TERR
BELLVIEW, FL. 32620

John Lake
2401 S.E. 8th Ave
Ocala FL 32671

Marsha Davis
1802 W.W. 26th Ave
Ocala, FL. 32675

Kathy Futch
12456 N.E. 13th St.
Fort McCoy, Fl. 32134

Joyce C. Petit
137 N.W. 137th Terr.
Ocala, FL. 32675

LEONARD Rose
PO 5962
OCALA FL 32678

Paula Baldwin
2117 NW 46 Lane #26
Ocala FL 32675

FRANCES Exyle
13857 SW 14th pl
OCALA FL 32674

Martha Ramos
7080 SW the 15th place
Ocala Fl. 32674

URGENT!

4/6

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

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- 1 Nadine McCoy Rt. 1. Box 949 Ocala, Fl. (20) Judy Barrow Ocala Fla. 32670
- 2 Eileen Baucher Ocala, Fl. 1612 N.E. 25TH
- 3 GARY DACUS 2963 NE 99 LN ANTHONY FL Ave Let 24
- 4 Deborah Humphreys RT3 Box 576 OKlawaha FL (21) Jane Mann
- 5 Helen Hargrave Ocala, Fla. (22) Kathy Flynn
- 6 Irma V. Wheeler Ocala Fl. EAST ORANGE AVE
CONSWOOD
- 7 [Signature] Ocala Fla.
- 8 Michael Baughman OXFORD 31A
- 9 Holly Smith Ocala Fla
- 10 Glenda Antonovich Ocala, Fl
- 11 Roger Bowen (Bays Pest Control) Ocala Fl.
- 12 Brad [Signature] DUNCAN'S LEWISPORT
- 13 Eric Cook Ocala FL
- 14 Jean Bantz Ocala
- 15 Paul [Signature] Ocala
- 16 J. Correll Bellum Fl
- 17 J. Harris Ocala Fl.
- 18 [Signature] (19) [Signature] Ocala Fl.

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NOV 30 1989
DER-BAQM

- 3 Becky Johnson Rt 1 Box 3359 Ft. McCoy Fl. 32134
- 4 Glenn Higbie 4297 NE 22 Ave Ocala, FL 32668
- 5 Groun 4937 NE 12 Ave Ocala Fla
- 6 Nancy Portright 12473 SE 83 TERR Belleview.
- 7 J.D. Gills Belleview Fla.
- 8 Ray Brown Ocala 32670
- 9 Craig Gar Ocala FL 32672
- 30 Boyd Cox Ocala 32620
- 31 Linda Hunter Anthony Al 32617
- 32 Jan M Brown Ocala 32670
- 33 Julie Turner Ocala Fl. 32670
- 34 Linda Turner Ocala Fl. 32670
- 35 Linda Blendon Ocala Fl. 32678
- 36 A.D. Patey - Ocala, FL. 32670
- 37 Craig Sturgeon Ocala Fl. 32670
- 38 Jennifer Hettings Ocala 32670
- 39 Sarah M. Hill Ocala 32671
- 40 Mike Horvath Ocala 32670
- 41 Ward Lutz Ocala 32670
- 42 Bodford Greene Ocala 32670
- 43 Linda Stephens Fort Myers, FL 33901
- 44 Kate Parnicek Jax Fl 32204

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 DER-BAQM

④5 Lori Jenton Anthony, Fl.

④6 Ken McCoy Ocala, Fl.

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URGENT

(5)

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

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DER BACOM

NOV 30 1989

- Dellie Miller 836 N.E. 31st St. Ocala, Fl.
- Cynthia S. Wathington 5821 N.W. 11th Pl. Ocala, Fla.
- Gloria Roberts 18440 S.E. 18th St. Rd. Silver Springs, Fl.
- Donna Morris Rt. 1 Box 611-6 Morrison, Fl.
- Loyette L. Watson 1100 N.E. 31st St. Ocala, 32670
- Sadie Gomillion 1920 NE 60th St Ocala Fla
- Joy Bay 1860 NE 61 PL Ocala Fla
- Limey Dexter 2380 North East 49th St Ocala, Fla 32670
- Theresa Weaver 4550 NW 49th Pkwy Ocala 32675
- Linda McCoxnell 957 NE 20th St. Ocala, 32670
- Sharon Moran Narwham 1754 NE 60th St. Ocala, Fl. 32670
- Connie Laube 1855 NE 61st PL Ocala Fla 32670
- Chuck + Mindy Decker 4300 NW 52 Ave Ocala Fl 32675
- Allison Armstrong 5080 NW 75th Ave Ocala Fl 32675
- Wendy Winans Bo-Bett Farm 7255 W. Highway 329 Reddick, Fl 32684
- Laver Williams Bo-Bett farm 7255 W. Highway 329 Reddick
- Pinky Realy P.O. Box 264 Spar Fla. 32619

URGENT!

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Pat Hammer	Wanda Nays	Jay N. Howard
Annette Peck	Robert J. Busman	Harold B. J.
Steve Parker	Min. Reggie Snow	Rose Rivers
Harry J. Burnsides	Nathaniel Thomas	Duclan Luce
Janie Ray	Willie Butler	K. M. Mallet
Betty Beam	Shirley Butler	D. D. Dible
Joe Beam	Jane Duffer	Hanni Williams
John Beam	Isabel Child	Jack Saska
Jean Bunde	Plastic Johnson	Peggy West
Edwin E. Willis	Robin Johnson	Quinn Hain
John Beam	Thoy B.	Abner J. J.
Annetta Leaps	Patricia L. Evans	B. Wood
Chas. W. Hudson	Bease W. Smith	Pat Hawk
P. Stokes	Virginia Ormarte	Delia J. J.
J. Melbar		
L. Wilson		
C. Ford		

John Marsee
Leroy Werneth
Billie Jean Cape
Sammy Proctor

Please Sign!

URGENT!

43

We are threatened with acid rain. If the permit listed below is issued we face an estimated 119 tons of hydrochloric acid thrown into our atmosphere every year. Also 479 tons of sulfur dioxide, 11.8 tons of carbon monoxide, and 1.7 tons of lead.

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Tony M. WARD P.O. Box 334 Reddick Fl. 32686

Calvin Huggins 6980 N.W. Wier Rd Ocala, FL 32670

Joan Gifford P.O. Box 721 Citra Fla. 32113

JOAN GIFFORD P.O. BOX 1273 INTERLACHEN FL 32148

Paul W. Frouel P.O. Box 196 Reddick FL 32686

Charles F. Squires P.O. Box 815 Fairfield Fla 32634

Mr Frank 750 NE 165 ST. CITRA, FL 32113

Kevin Wilder Box 297 Ocala Fla, FL 32681

LISA Surrency Box 305 Lowell, FL 32663

Etzel Osman 13785 N.E. 47th Ave. Anthony, FL 32617

Patty Baxter 2901 SW 41st St #1202 Ocala, FL 32674

Zara Cavellison 6088 NW City Hwy 318 Reddick, FL

Jeff Goldy 451 N.E 165 ST CITRA FL

William Berry P.O. Box 305 Cowell, FL 32603

Sydney Harvey Box 153 Reddick 32686

Royal Lawrence P.O. Box 285 Reddick FL 32686

Ruby J. Standard 3075 NE 164th Ln Citra FL 32113

James + Jerry Gould P.O. BOX 693 + 819 Fairfield, Fla. 32634

Jenny STEVENS

117 SLAVE BLDG. (ORANGE), FL 32150

Janet Newell

PO Box 638 Orange Lake FL 32681

Deborah Beaumont

2180 NW 165 St., Citra, FL 32113

RECEIVED

NOV 21 1989

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

CORNELIUS A. LINK,
Petitioner,

Dept. of Environmental Reg.
Office of General Counsel

vs.

DOAH CASE NO. 89-6053
OGC FILE NO. 89-1093

MID-FLORIDA MINING COMPANY,
and STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
REGULATION,

Respondents.

NOTICE OF TAKING DEPOSITION

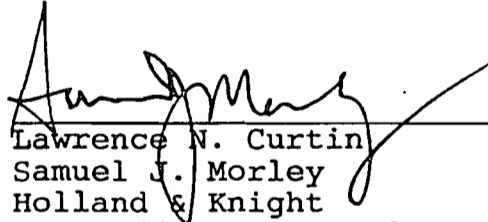
TO: Cornelius A. Link
Flamingo Farms
County Road 25A
Lowell, Florida 32633

PLEASE TAKE NOTICE that pursuant to the provisions of Sections 28-5.208 and 22I-6.019(1), Florida Administrative Code, and Rule 1.310, Florida Rules of Civil Procedure, the undersigned will take the deposition of the following individual at the offices of the Mid-Florida Mining Company, 3300 S.W. 34th Avenue, Suite 152, Ocala, Florida 32674 at the date, time and specific location set forth below:

<u>NAME</u>	<u>DATE & TIME</u>	<u>LOCATION</u>
Cornelius A. Link	December 21, 1989 at 10:00 a.m.	3300 S.W. 34th Ave. Suite 152 Ocala, FL 32674

PLEASE GOVERN YOURSELF ACCORDINGLY.

Respectfully submitted,

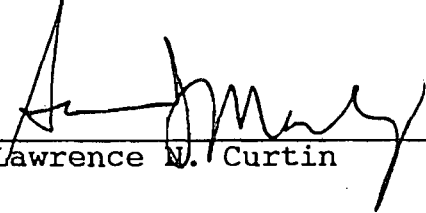
A handwritten signature in black ink, appearing to read "Samuel J. Morley", is written over a horizontal line. The signature is stylized and cursive.

Lawrence N. Curtin
Samuel J. Morley
Holland & Knight
Post Office Drawer 810
Tallahassee, Florida 32302
(904) 224-7000

Attorneys for Mid-Florida
Mining Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of Mid-Florida Mining's Notice of Taking Deposition has been furnished by Federal Express to CORNELIUS A. LINK, Flamingo Farms, County Road 25A, between Lowell and Redding, Lowell, Florida 32633; and by U.S. Mail to VIVIAN GARFEIN, Assistant General Counsel, State of Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 on this 20th day of November, 1989.



Lawrence N. Curtin

14633MF 51-NOD:311

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

RECEIVED
NOV 21 1989

CORNELIUS A. LINK,

Petitioner,

Dept. of Environmental Reg
Office of General Counsel

vs.

DOAH CASE NO. 89-6053
OGC FILE NO. 89-1093

MID-FLORIDA MINING COMPANY,
and STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
REGULATION,

Respondents.

MID-FLORIDA MINING COMPANY'S MOTION TO STRIKE

Pursuant to Rule 28-5.204, Florida Administrative Code, and 22I-6.016(1), Florida Administrative Code, Respondent Mid-Florida Mining Company ("MFM") moves the Hearing Officer to strike certain items from the Petitioner's, Cornelius A. Link's, request for formal administrative proceeding, and states the following in support thereof:

1. On October 27, 1989, Petitioner filed his letter (hereinafter "Petition"), dated October 25, 1989, with the State of Florida Department of Environmental Regulation ("Department") requesting an administrative hearing with respect to the Department's notice of intent to issue an air permit (Permit No. AC 42-162296) to MFM authorizing the addition of an afterburner to the existing rotary kiln type clay dryer at MFM's facility located in Lowell, Marion County, Florida.

2. The Petition contains the following statements relating to water run-off and water quality at MFM's facility:

- a. Alleged problems with respect to "disposition of processed residues and water run-offs." [page 1, paragraph d., phrase 3].
- b. "Rainwater problem of run-off onto CR 329." [page 2, paragraph f. (relating to page 3, paragraph 6 of the draft permit), subparagraph 3].
- c. "Need better storage and leachate monitoring, especially after heavy rains. Need independent testing of water run-off ponds." [page 2, paragraph f. (relating to page 9, paragraph 8 of the draft permit)].

3. The subject permit which the Department has proposed to issue in this case deals only with MFM's proposed addition of an afterburner system to MFM's existing rotary kiln type clay dryer. The proposed permit is intended to insure that the minor increases in pollutant emissions associated with such modifications do not violate any applicable air quality standard. The

notice of intent challenged by Petitioner does not relate to nor will the permit regulate water quality or water run-off activities associated with the proposed facility. Since such water quality and quantity issues are not germane the Department's notice of intent, such issues are not proper for consideration in this proceeding. Berger v. Jemaam, Inc., 10 F.A.L.R. 5325 (July 25, 1988).

4. Page 1, paragraph e., phrase 2, of the Petition states that "[p]ast verbal assurances of no further expansion of activities at this site" have been given by an unnamed individual or entity. Previous assurances that may or may not have been given with regard to future expansion of activities are also not within the scope of the current notice of intent to issue Permit No. AC 42-162296 to MFM.

5. The Petition contains the following statements which raise non-environmental factors:

- a. MFM's proposed activity will result in "[d]evaluation of property due to proximity of these activities and especially if vegetation dies." [Page 2, paragraph f. (relating to page 2, paragraph 3 of the draft permit), subparagraph 4].

b. MFM's proposed activity involves a "[r]isky method of mixing fuels for burning." [Page 2, paragraph f. (relating to page 3, paragraph 6 of the draft permit), subparagraph 4].

6. Florida courts have held that only environmental impacts on the property of others are appropriately considered by the permitting agency. Miller v. State of Florida Department of Environmental Regulation, 504 So.2d 1325, 1327 (Fla. 1st DCA 1987). Non-environmental considerations are beyond the jurisdiction of the Department. Therefore, any reference in the Petition to the economic impact on Petitioner's property including references to real estate values is inappropriate. See, e.g., Bagby v. Department of Environmental Regulation, 10 F.A.L.R. 2208, 2213 (March 29, 1988); Berdeal v. Carpenter, 10 F.A.L.R. 5817, 5826 (October 7, 1988). Furthermore, Petitioner's allegations with respect to the method of mixing fuels for burning are non-environmental concerns not properly cognizable in the current proceeding relating to the proposed issuance of an air pollution permit to MFM.

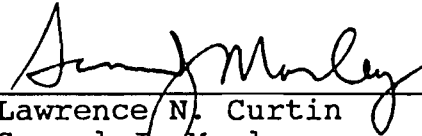
WHEREFORE, MFM requests the Hearing Officer to strike the following provisions from the Petition:

- a. Page 1, paragraph d., phrase 3, which states "disposition of processed residues and water run-offs."
- b. Page 2, paragraph f. (relating to page 3, paragraph 6 of the draft permit), subparagraph 3, which states "Rainwater problem of run-off onto CR 329."
- c. Page 2, paragraph f. (relating to page 9, paragraph 8 of the draft permit), which states "Need better storage and leachate monitoring, especially after heavy rains. Need independent testing of water run-off ponds."
- d. Page 1, paragraph e., phrase 2, which states "[p]ast verbal assurances of no further expansion of activities at this site."
- e. Page 2, paragraph f. (relating to page 2, paragraph 3 of the draft

permit), subparagraph 4, which states "[d]evaluation of property due to proximity of these activities and especially if vegetation dies."

- f. Page 2, paragraph f. (relating to page 3, paragraph 6 of the draft permit), subparagraph 4, which states "[r]isky method of mixing fuels for burning."

Respectfully submitted,

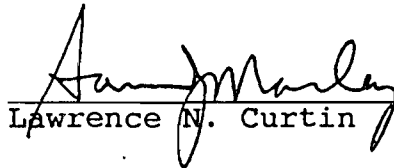


Lawrence N. Curtin
Samuel J. Morley
Holland & Knight
Post Office Drawer 810
Tallahassee, Florida 32302
(904) 224-7000

Attorneys for Mid-Florida
Mining Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of Mid-Florida Mining Company's Motion to Strike has been furnished by Federal Express to CORNELIUS A. LINK, Flamingo Farms, County Road 25A, between Lowell and Redding, Lowell, Florida 32633; and by U.S. Mail to VIVIAN GARFEIN, Assistant General Counsel, State of Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 on this 20th day of November, 1989.


Lawrence N. Curtin

14633MP 51-1113a:311

RECEIVED

NOV 20 1989

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

Dept. of Environmental Reg.
Office of General Counsel

CORNELIUS A. LINK,

Petitioner,

vs.

DOAH CASE NO. 89-6053
OGC FILE NO. 89-1093

MID-FLORIDA MINING COMPANY,
and STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
REGULATION,

Respondents.

MID-FLORIDA MINING COMPANY'S
REQUEST FOR ADMISSIONS TO PETITIONER

Respondent Mid-Florida Mining Company ("MFM") requests Petitioner Cornelius A. Link to admit or deny the truth of the following statements in accordance with Rule 22I-6.019(1), Florida Administrative Code, Rule 28-5.208, Florida Administrative Code, and Florida Rule of Civil Procedure 1.370, within thirty (30) days of the service of this Request:

Definitions

The term "facility" as used herein refers to MFM's facility located on State Road 329 adjacent to the Seaboard Coast Line Railroad (now CSX), Lowell, Marion County, Florida.

The terms "proposed activity" as used herein refers to MFM's proposal to add an afterburner to the existing rotary kiln type clay dryer at MFM's facility.

The term "proposed permit" as used herein refers to the Department's September 29, 1989 draft air permit, No. AC 42-162296.

The "Department" refers to the State of Florida Department of Environmental Regulation.

Request For Admissions

1. The proposed activity is not subject to the preconstruction review requirements of Rule 17-2.500(5), F.A.C.

2. The proposed permit contains specific conditions to ensure that the provisions of Rule 17-2.500, F.A.C., relating to prevention of significant deterioration, are not violated, including those specific conditions described on page 6, paragraph 1, of the Department's September 29, 1989 Amended Technical Evaluation and Preliminary Determination.

3. MFM's proposed activity meets all applicable permitting requirements for sources not subject to prevention of significant deterioration or non-attainment requirements contained in Rule 17-2.520, F.A.C.

4. MFM has provided reasonable assurance to the Department that its proposed activity will not violate the specific emission limiting and performance standards for incinerators as set forth in Rule 17-2.600(1), F.A.C.

5. MFM's proposed destruction efficiency of 99.99 percent for volatile and semi-volatile organic compounds in connection with its proposed activity is consistent with that required for hazardous waste incinerators pursuant to 40 C.F.R. § 264.343(a)-(1).

6. MFM has provided reasonable assurance to the Department that its proposed activity will meet the general particulate

emission limiting standards including those standards relating to unconfined emissions of particulate matter contained in Rule 17-2.610(3), F.A.C.

7. MFM has provided reasonable assurance to the Department that its proposed activity will meet the applicable general pollutant emissions limiting standards relating to volatile organic compounds emissions and organic solvents emissions as set forth in Rule 17-2.620(1), F.A.C.

8. MFM has provided reasonable assurance to the Department that its proposed activity will not discharge air pollutants which cause or contribute to an objectionable odor as set forth in Rules 17-2.620(2) and 17-2.100(138), F.A.C.

9. MFM has provided reasonable assurance that its proposed activity will not circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly as required in Rule 17-2.240, F.A.C.

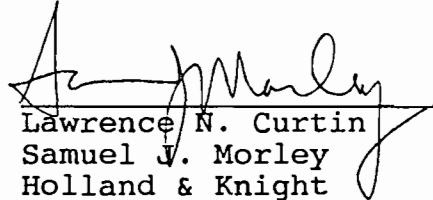
10. MFM has provided reasonable assurance to the Department that its proposed activity will comply with its regulations set forth in Rule 17-2.250, F.A.C., relating to excess emissions.

11. MFM has provided reasonable assurance to the Department that it will comply with the notification requirements of Rule 17-4.130, F.A.C., in the event of temporary noncompliance with conditions of the proposed permit.

12. MFM has supplied the Department with reasonable assurance that it will install source sampling facilities to

demonstrate compliance with the emission limitations established
by the proposed permit pursuant to Rule 17-2.700, F.A.C.

Respectfully submitted,



Lawrence N. Curtin
Samuel J. Morley
Holland & Knight
Post Office Drawer 810
Tallahassee, Florida 32302
(904) 224-7000

Attorneys for Mid-Florida
Mining Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of Mid-Florida Mining Company's Request for Admissions to Petitioner has been furnished by Federal Express to CORNELIUS A. LINK, Flamingo Farms, County Road 25A, between Lowell and Redding, Lowell, Florida 32633; and by U.S. Mail to VIVIAN GARFEIN, Assistant General Counsel, State of Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 on this 17th day of November, 1989.


Lawrence N. Curtin

14633MP 51-1113:311

RECEIVED
NOV 17 1989

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

CORNELIUS A. LINK,

Petitioner,

Dept. of Environmental Reg.
Office of General Counsel

vs.

DOAH CASE NO. 89-6053

OGC FILE NO. 89-1093

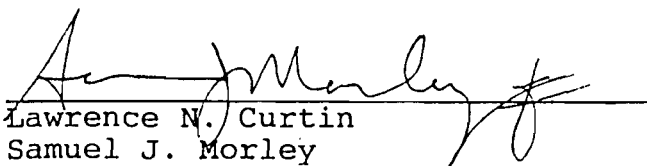
MID-FLORIDA MINING COMPANY,
and STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
REGULATION,

Respondents.

MID-FLORIDA MINING COMPANY'S NOTICE OF SERVICE
OF FIRST SET OF INTERROGATORIES AND FIRST REQUEST FOR
PRODUCTION OF DOCUMENTS TO PETITIONER

In accordance with Section 120.58(1)(b), Florida Statutes,
and Rule 1.340, Florida Rules of Civil Procedure, Respondent,
Mid-Florida Mining Company ("MFM"), hereby gives notice that
MFM's first set of interrogatories and first request for
production of documents to Petitioner were served on this 16th
day of November, 1989.

Respectfully submitted,

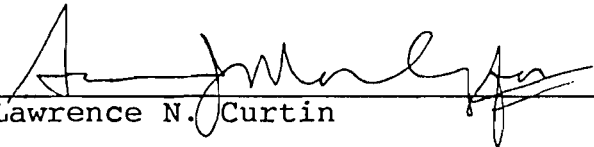


Lawrence N. Curtin
Samuel J. Morley
Holland & Knight
Post Office Drawer 810
Tallahassee, Florida 32302
(904) 224-7000

Attorneys for Mid-Florida
Mining Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of Mid-Florida Mining's Notice of Service of First Set of Interrogatories and First Request for Production of Documents to Petitioner has been furnished by Federal Express to CORNELIUS A. LINK, Flamingo Farms, County Road 25A, between Lowell and Redding, Lowell, Florida 32633; and by U.S. Mail to VIVIAN GARFEIN, Assistant General Counsel, State of Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 on this 16th day of November, 1989.


Lawrence N. Curtin

14633MP 51-11989:311

RECEIVED
NOV 17 1989

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

CORNELIUS A. LINK,
Petitioner,

Dept. of Environmental Reg.
Office of General Counsel

vs.

DOAH CASE NO. 89-6053
OGC FILE NO. 89-1093

MID-FLORIDA MINING COMPANY,
and STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
REGULATION,

Respondents.

MID-FLORIDA MINING'S FIRST SET OF
INTERROGATORIES AND FIRST REQUEST FOR
PRODUCTION OF DOCUMENTS TO PETITIONER

Mid-Florida Mining Company ("MFM"), pursuant to Section 120.58(1)(b), Florida Statutes (1987), Rules 1.280, 1.340 and 1.350, Florida Rules of Civil Procedure, and Sections 28-5.208 and 22I-6.019(1), Florida Administrative Code, propounds the following interrogatories, numbered one (1) through seventeen (17) to be answered separately and under oath by Petitioner, Cornelius A. Link, within 30 days after service or by such earlier time as may be required. In answering these interrogatories, Petitioner must furnish all requested information, not subject to a valid objection, that is known by, possessed by, or available to him or any of his attorneys, consultants, representatives or other agents. If Petitioner is unable to answer fully any of these interrogatories, he must answer them to the fullest extent possible, specifying the reason(s) for his inability to answer the remainder and stating whatever informa-

tion, knowledge or belief he has concerning the unanswered portion. If Petitioner objects to any interrogatory as calling for information which is not properly discoverable, he must state the basis for his objection and he must, nonetheless, answer to the extent the interrogatory is not objectionable. All objections must be signed by the attorney making them.

As used herein, the term "identify" with respect to a document means the giving of the following information, if known: (1) a general description of the document; (2) a brief summary of the document's contents; (3) the name and address of the custodian of the original document; (4) the name and address of the persons(s) who drafted, prepared, compiled or signed the document; (5) if applicable, the names and addresses of the sender or recipient; (6) the date of the document; and (7) any other descriptive information necessary in order to describe the document adequately in a motion or request for production or subpoena duces tecum. When used in connection with a statute, rule, regulation, or standard, the term "identify" means the giving of the following information, where applicable: (1) the name of the statutory or regulatory authority (such as Florida Statutes or Florida Administrative Code); and (2) a specific citation of the authority (including a citation to the specific section, subsection, paragraph, and subparagraph, as appropriate).

The term "documents" as used herein includes all tangible materials, including, but not limited to, letters, reports, memoranda, graphs, charts, photographs, diagrams and automated stored data.

The term "Department" as used herein refers to the State of Florida Department of Environmental Regulation.

The term "person" as used herein includes individuals, firms, corporations, partnerships and other entities. A request to identify a person means the giving of the name, current address and address at times relevant to these interrogatories, and current position and position at times relevant to these interrogatories.

The term "facility" as used herein refers to MFM's facility located on State Road 329 adjacent to the Seaboard Coast Line Railroad (now CSX), Lowell, Marion County, Florida.

The terms "proposed activity" as used herein refers to MFM's proposal to add an afterburner to the existing rotary kiln type clay dryer at MFM's facility.

The term "application" as used herein refers to MFM's air permit application, Application No. AC 42-162296, including all amendments thereto.

The term "Petition" as used herein refers to the letter from Petitioner, Cornelius A. Link, received by the Department on October 27, 1989.

The term "you" or "your" refers to Petitioner, Cornelius A. Link.

MFM also requests that each of the documents designated in these interrogatories, or identified in Petitioner's answers to these interrogatories be either attached to the answers to these interrogatories or produced for inspection and copying at the offices of MFM's attorneys, Holland & Knight, 315 South Calhoun Street, Tallahassee, Florida 32301, at 10:00 a.m. on the date on which the answers to these interrogatories are due.

INTERROGATORIES

1. Is the Petitioner acting on behalf of any third party or parties in filing the Petition which the Petitioner has filed in this case? If the answer is yes, identify the person(s) on whose behalf the Petitioner is acting.

2. Paragraph b. of the Petition states that you were notified of the proposed activity as a result of "[n]umerous phone calls from concerned neighbors". Identify those individuals to which Petitioner refers in the above-referenced paragraph as well as the date and nature of those telephone calls, and any document, such as telephone messages, that relates to such telephone calls.

3. In paragraph c. of the Petition, you state that operations at MFM's facility have caused you to have "experienced an abnormal loss of vegetation this past year" and in paragraph f. of the Petition relating to page 2, paragraph 3 of the draft permit, you state "[h]undreds of trees have died, or are presently wilting, on my land in the past year."

(a) Identify the factual basis for these allegations including, but not limited to, the location of the loss, the specific type of vegetation or trees lost, and the dates, nature and amount of each such loss.

(b) Identify each and every document or other item of evidentiary material on which Petitioner relies in making these claims, including, but not limited to, any photographs, written materials, or any other "documents" as that term is defined on page three of these interrogatories.

4. In paragraph c. of the Petition, you state that you have "experienced unusual paint damage to vehicles" as a result of the operations at MFM's facility and in paragraph f. of the Petition relating to page 2, paragraph 3 of the draft permit, you further state that "[o]ur only vehicle (1986) which stays outside 24 hrs., suffered a mysterious paint default this year."

(a) Identify the factual basis for these allegations including, but not limited to, the nature of the damage, a description of the vehicles damaged, and the date of the damage.

(b) Identify each and every document or other item of evidentiary material on which Petitioner relies in making these claims including but not limited to photographs, notes or automobile repair invoices.

5. In paragraph c. of the Petition you state that "[t]here is odoriferous air pollution regularly" as a result of the operation of MFM's facility and in paragraph f. of the Petition referring to page 3, paragraph 6 of the draft permit, you imply that MFM's facility results in "[s]trong odors on occasion" and "[b]lack smoke on occasion."

(a) Identify the factual basis for these allegations including, but not limited to, the nature, dates, direction and source of such odor or smoke.

(b) Identify each and every document or other item of evidentiary material on which Petitioner relies in making these claims.

6. In paragraph c. of the Petition you state that "[e]xpanded operations of this nature will adversely affect property values" and in paragraph f. of the Petition relating to page 2, paragraph 3 of the draft permit, you claim "[d]evaluation of property due to proximity of these activities...."

(a) Identify the factual basis for these allegations including, but not limited to, a description of the property whose values will be affected, a description of how such values will be affected, and the extent of the decrease in the value in monetary terms.

(b) Identify each and every document or other item of evidentiary material on which Petitioner relies in making these claims.

7. In paragraph c. of the Petition, you state that "[o]ne third of our foals this year demonstrated abnormal anomalies" and in paragraph f. of the Petition relating to page 2, paragraph 3 of the draft permit, you claim "[u]nusual birth deformities to 2 of 6 foals born this past spring" and that "these were first-timers for us and several vets."

(a) Identify the factual basis for these allegations including, but not limited to, the cause of such alleged abnormalities, the dates and nature of such abnormalities, and the specific identification of those foals which have allegedly experienced such abnormalities.

(b) Identify each and every document or other item of evidentiary material on which Petitioner relies in making these claims, including, but not limited to, any veterinarian reports regarding the allegedly abnormal foals.

8. In paragraph d of the Petition, you state that there has been "[u]nauthorized soils processed in past" at MFM's facility.

(a) Identify the factual and legal basis for this claim including, but not limited to, identification of the specific statutes and/or regulations, which you claim have been violated by MFM in the past and identify the factual basis for making this claim, including the type of processed soils you claim were unauthorized and the dates of such alleged unauthorized soil processing.

(b) Identify each and every document or other item of evidentiary material on which Petitioner relies in making this claim.

9. In paragraph d. of the Petition, you state that the permit does not address "disposition of processed residues and water run-offs" and paragraph f. of the Petition which refers to page 3, paragraph 6 of the draft permit, you state that operations at MFM's facility will result in "[r]ainwater problem of run-off onto CR 329". Identify the factual basis for these allegations, including the nature of the process residues for which disposal has allegedly not been addressed by the permit and the nature of the run-off which Petitioner claims presents potential problems; and identify each and every document or other item of evidentiary material on which Petitioner relies in making these claims.

10. Paragraph e. of the Petition states that there have been "[p]ast violations and improprieties; e.g. Consont [sic] Order: OGC File NO: 88-0938" by MFM. Identify each and every factual and legal basis for these allegations and identify each and every document or other item of evidentiary material on which Petitioner relies in making these claims.

11. Paragraph e. of the Petition also states that "[p]ast verbal assurances of no further expansion of activities at this site" have been given by either MFM or other individuals or entities. Identify the individuals who have given such assurances, the dates of such assurances, and the content of such verbal assurances; and identify each and every document or other item of evidentiary material on which Petitioner relies in making this claim including, but not limited to, telephone messages and notes.

12. In paragraph f. of the Petition which refers to page 3, paragraph 6 of the draft permit, Petitioner states that MFM has used a "[r]isky method of mixing fuels for burning" at its facility. Identify the factual basis for this allegation including the type of fuels that were allegedly mixed in a risky manner, the method of mixing, and the date(s) of such mixing; and identify each and every document or other item of evidentiary material on which Petitioner relies in making this claim.

13. The statements contained in 1) paragraph d. (second phrase); 2) paragraph f. referring to page 1, paragraph 2 of the draft permit; 3) paragraph f. referring to page 7, paragraph 7 of the draft permit; and 4) paragraph f. referring to page 12, paragraph 14 of the draft permit, state that you believe that MFM's proposed activity will result in air quality violations. Identify the factual and legal basis for making this claim and identify each and every document or other evidentiary material on which Petitioner relies in making this claim.

14. State whether you have any knowledge of the source of an undated document captioned "URGENT!", apparently circulated recently in Marion County, Florida, which alleges "acid rain" effects in connection with the proposed activity.

15. If the answer to the preceding interrogatory is in the affirmative, identify a) the source of the above-described document b) the factual basis for the statements in the document relating to emissions of hydrochloric acid, sulfur dioxide, carbon monoxide and lead; and c) each and every document or other evidentiary material which Petitioner knows the author of such document to have relied upon in making these statements.

16. For each witness you expect to call at the hearing in this proceeding, please provide the following information.

(a) The name and address of each witness.

(b) If the witness is to be proffered as an expert by you, identify the field in which the witness is qualified and attach a brief resume of the witnesses' qualifications.

(c) The subject matter in which each witness is expected to testify.

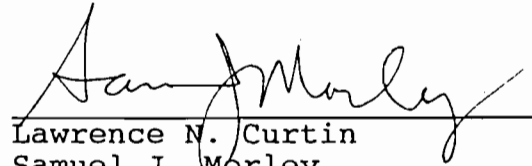
(d) A summary of the substance of the facts and opinions to which each witness is expected to testify.

(e) A summary of the grounds for each opinion to which each expert is expected to testify.

(f) If the answers to subparagraph c, d, or e are contained in a document, please identify that document.

17. State the name and address of all persons who prepared or assisted in the preparation of the answers to these interrogatories and state which set of answers each person prepared or assisted in preparing.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Samuel J. Morley", is written over a horizontal line.

Lawrence N. Curtin
Samuel J. Morley
Holland & Knight
Post Office Drawer 810
Tallahassee, Florida 32302
(904) 224-7000

Attorneys for Mid-Florida
Mining Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of "Mid-Florida Mining's First Set of Interrogatories and Request for Production of Documents to Petitioner" has been furnished by Federal Express to CORNELIUS A. LINK, Flamingo Farms, County Road 25A, between Lowell and Redding, Lowell, Florida 32633; and by U.S. Mail to VIVIAN GARFEIN, Assistant General Counsel, State of Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 on this 16th day of November, 1989.


Lawrence N. Curtin

STATE OF FLORIDA

COUNTY OF _____

BEFORE ME, the undersigned authority, personally appeared _____, who, being duly sworn, states on oath that he/she is the representative of Petitioner, CORNELIUS A. LINK, designated to answer these interrogatories, and that having read the foregoing answers to interrogatories, swears that the answers were completed in good faith and to the best of his/her ability, and are true and correct.

SWORN TO AND SUBSCRIBED BEFORE ME this _____ day of _____, 1989.

Notary Public

My Commission Expires:

14633MP 51-11889:311

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

RECEIVED
NOV 9 1989

CORNELIUS A. LINK
vs
MID-FL. MINING &

DOAH NUMBER 67-004053
67-1073

INITIAL ORDER

Dept. of Environmental Reg.
Office of General Counsel

1. This case is assigned to P. MICHAEL RUFF to whom all questions concerning this case should be addressed.
2. The original and one copy of all pleadings and papers shall be filed on 8.5X11" paper with the Division of Administrative Hearings, DeSoto Building, 1230 Apalachee Parkway, Tallahassee, Florida 32399-1550, and a copy served upon all other parties.
3. THE PARTIES SHALL HAVE TEN (10) DAYS from the date of this order to confer and inform the Hearing Officer in writing as follows:
 - A. Whether there are any related cases before the Division and, if so, the DOAH case nos. and / or the agency case nos. and the name of the Hearing Officer(s) assigned to the cases;
 - B. Estimated length of time necessary to conduct the final hearing;
 - C. Suggested location of hearing;
 - D. Dates not less than 30 days or more than 90 days from the date of this order on which you are available for final hearing. If the dates indicated by the parties conflict with the schedule of the Hearing Officer, the hearing will be set in accordance with the schedule of the Hearing Officer.
4. FAILURE TO COMPLY WITH THE PROVISIONS OF THIS ORDER SHALL WAIVE VENUE RIGHTS AND THE FINAL HEARING WILL BE SET IN TALLAHASSEE, FLORIDA, AT A DATE, TIME AND DURATION ESTABLISHED BY THE DIVISION.

TO:

Urvian P. Gorfain, Esquire
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

11/09/89

Sharyn L. Smith

SHARYN L. SMITH, DIRECTOR, DIVISION OF ADMINISTRATIVE HEARINGS
THE DESOTO BUILDING, 1230 APALACHEE PARKWAY, TALLAHASSEE, FL 32399-1550
PHONE (904) 488-9675 • SUNCOM: 278-9675

SEE ADDITIONAL INFORMATION ON BACK

NOTICE

This case has been filed in the Division of Administrative Hearings to conduct a formal fact finding hearing governed by Chapter 120, Florida Statutes, and Chapters 22I and 28-5, Florida Administrative Code.

THE PARTIES SHALL TAKE NOTICE THAT:

1. Discovery may be undertaken in the manner provided in the Florida Rules of Civil Procedure, and should be initiated immediately if desired. Necessary subpoenas and orders may be obtained through the assigned Hearing Officer. Discovery must be completed five days before the date of final hearing unless extension of time for good cause is granted.
2. The governmental agency for whom a hearing is conducted will make appropriate arrangements for preserving the testimony at the final hearing pursuant to Chapter 120, Florida Statutes.
3. A party may be represented by an attorney or other qualified representative, or may appear on his own behalf, pursuant to Rule 22I-6.008, Florida Administrative Code. If a party desires to be represented by a person who is not an attorney, he shall so notify the Hearing Officer in writing within ten days from the date of this Order.
4. Rule 22I-6.017, Florida Administrative Code, provides that requests for continuances must be made at least five days prior to the date of hearing, except in cases of extreme emergency, and will be granted only by Order of the Hearing Officer for good cause shown.
5. Parties will promptly notify the assigned Hearing Officer at the address contained in the attached order in the event of a settlement or other development which might alter the scheduled hearing.
6. The parties are expected to discuss the possibility of settlement, enter into prehearing stipulations of fact and law, identify and limit issues of law, and exchange exhibit and witness lists to expedite the hearing process.
7. The Division has instituted a settlement assistance program into which this case may be directed. If any of the parties object to participating in the program, the Division must be notified within ten (10) days of receipt of this Order.

CASE: CORNELIUS A. LINK vs. MID-FLORIDA MINING, CO. & DER

OGC#: 89-1093 ATTY NAME: VIVIAN GARFEIN PAGE: 1 OF

NO.	DOCUMENT	RECEIVED/FILED
1	REQUEST FOR ADMINISTRATIVE HEARING	R/09/15/89
2	ORDER OF DISMISSAL	F/10/17/89
3	PETITION FOR ADMINISTRATIVE HEARING	R/10-27-89
4	NOTICE OF INTENT	
5	REQUEST FOR ASSIGNMENT OF HEARING OFFICER	F/11-03-89
6	DER FIRST INTERROG. TO PETITIONER & NOTICE OF SERVICE	F/11-03-89

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

CORNELIUS A. LINK,

Petitioner,

vs.

OGC File No. 89-1093

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondents.

DEPARTMENT OF ENVIRONMENTAL REGULATION'S
FIRST INTERROGATORIES TO PETITIONER

TO: Cornelius A. Link, D.D.S.
P.O. Box 125
Lowell, FL 32663

Respondent, State of Florida Department of Environmental Regulation, (Department) propounds the following interrogatories to , (Petitioner), pursuant to Rule 22I-6.19(1), Florida Administrative Code, and Florida Rules of Civil Procedure 1.280 and 1.340. Petitioner must answer or object to each and every interrogatory question in writing within thirty (30) days after the date of service of these interrogatories.

Within the thirty day period, the original answers and objections to the interrogatory questions must be returned to the Department and a copy served on all other parties to the case. The answers to these interrogatories should be inserted within the space provided following each numbered interrogatory. If the space provided is not sufficient for you to insert your entire answer to a question, please type your answer on a separate sheet, refer to it in the space provided and attach it to the interrogatories.

You are being asked to provide answers to these interrogatories to the best of your knowledge and belief, based upon your own personal knowledge and any knowledge possessed by your attorney(s), agent(s), investigator(s), and other representatives. As used in these interrogatories, the term "person" means any natural person or any legally recognized organization, including corporations, partnerships, associations (incorporated or unincorporated), their agents and employees; and governments or governmental bodies, commissions, departments of government, boards or agencies, and their agents and employees. The term "document" means a preserved information source of any kind, including paper upon which information is written, typed, printed, punched, marked or memorialized in any way; video or audio recorded tape, movie film, photographs, or any other graphic information medium however produced or reproduced.

To "identify" a natural person, state his or her full name, current address, telephone number, and present employment or governmental position, if known. To "identify" any other person, state whether the person is an agency or department of government, a corporation, partnership or other type of organization; and give the name, and current address of the organization and its chief executive officer, if known.

To "identify" a document, state the type of document (e.g., letter, memorandum, telegram, chart, sketch, diagram, etc.), its date, if any; its author or signer and to whom it was transmitted if known. If any document was but is no longer in your possession or subject to your control, state what disposition was made of the document and the reason for disposition. In lieu of identifying

any document, a copy of it may be attached and incorporated in your answers to these interrogatories. If any document has already been furnished to the Department, state when and to what Department office it was furnished. Once you have fully identified any person or document in an answer, it is not necessary to fully identify the same person or document again if mentioned in another interrogatory answer.

You must answer these interrogatories under oath. Your answers may be used as evidence in any hearing which is held in this case.

Interrogatory No. 1: Is the Petitioner acting on behalf of any third party or parties in filing the petition which the Petitioner has filed in this case? If the answer is yes, identify the person(s) on whose behalf the Petitioner is acting.

Interrogatory No. 2: Is the Petitioner a corporation, association, or other organization? If the answer is yes, identify the type of organization date of incorporation, if any; state of incorporation, if any; all officers and directors of the organization; and its principal place of business.

Interrogatory No. 3: Identify all persons known or believed by the Petitioner to have knowledge of the facts upon which the Petitioner relies to support the relief requested by the petition. For each person identified, state the subject matter of the person's knowledge and whether he or she has personal knowledge of any fact which the Petitioner asserts is at issue in this case.

Interrogatory No. 4: Identify each person Petitioner expects to call as its expert witness at the final hearing in this case. Please state for each expert witness identified.

- a. subject matter on which the person is expected to testify.

- b. the substance of the facts and opinions concerning which the expert is expected to testify and a summary of the grounds for each opinion.

- c. a resume, curriculum vitae, or other detailed list of the expert's qualifications.

- d. a list of all cases in which the expert has given previous expert testimony listing the cases by case style, case number, and forum.

Interrogatory No. 5: Identify every person not identified in the answer to interrogatory 4 whom Petitioner expects to call as its witness at the final hearing, giving the subject matter(s) concerning which each person is expected to testify.

Interrogatory No. 6: Please identify any studies, analyses, tests, inspections, or other investigations of matters placed at issue by the petition which have been conducted by Petitioner or by his agents, employees or consultants, in the fields of domestic or industrial waste engineering, bioassay, water quality, effluent or solid waste disposal, hydrogeology, biology, chemistry, or any other scientific or technical field. As to each investigation identified, please state:

a. name(s) and address(es) of the person(s) performing the analysis, study or other investigation.

b. the information, data, system, or object, that was analyzed, studied, or otherwise investigated.

c. the facts or information sought by means of the analysis, study, or investigation.

d. the data and test results obtained by the analysis, study, or investigation.

e. the name and issue date of any final report or other document resulting from or relating to the analysis, study, or investigation.

f. a summary of the facts, opinions, or conclusions derived from any final report or other document resulting from or relating to the analysis, study, or investigation.

g. the name and address of the person having custody or control of the report or other document.

Interrogatory No. 7: Identify all documents not identified in the answer to Interrogatory 6 which the Petitioner expects to offer at the final hearing as support for the relief requested by the petition.

Interrogatory No. 8: Identify every person who prepared or assisted in the preparation of the answers to these interrogatories. Identify the answers each person prepared or assisted in preparing.

STATE OF _____

COUNTY OF _____

I have read the foregoing Interrogatories. The answers to the Interrogatories are true, correct, and complete to the best of my knowledge and belief.

By: _____
As Authorized Agent or Officer

SWORN AND SUBSCRIBED before me on this ____ day of November, 1989.

NOTARY PUBLIC

My Commission Expires:

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

CORNELIUS A. LINK,

Petitioner,

vs.

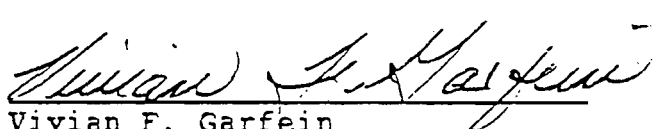
OGC File No. 89-1093

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondents.

NOTICE OF SERVICE OF INTERROGATORIES

I HEREBY CERTIFY that the Department of Environmental Regulation's FIRST INTERROGATORIES to CORNELIUS A. LINK, were served by United States Mail on Cornelius A. Link, D.D.S., P.O. Box 125, Lowell, FL 32663, Mid-Florida Mining, Co., P.O. Box 68, Lowell, FL 32663, Bill Thomas, Bureau of Air Quality Management, Department of Environmental Regulation, 2600 Blair Stone Road, Room 306G,, Tallahassee, Florida 32399-2400, and Larry Curtin, Holland & Knight, P.A., Barnett Bank Building, P.O. Drawer 810, 315 South Calhoun Street, Tallahassee, FL 32302, on this 3rd day of November, 1989.


Vivian F. Garfein
Assistant General Counsel

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CORNELIUS A. LINK,

Petitioner,

vs.

OGC File No. 89-1093

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION.

Respondents.

REQUEST FOR ASSIGNMENT OF HEARING OFFICER
AND NOTICE OF PRESERVATION OF RECORD

YOU ARE NOTIFIED that the State of Florida Department of Environmental Regulation has received the attached Petition for Hearing in the above-styled case. See Exhibit 1. Pursuant to Section 120.57(1)(b)3., Florida Statutes, the Secretary has decided not to act as hearing officer and requests that the Division of Administrative Hearings assign this matter to a hearing officer to conduct all necessary proceedings required by law and to submit a recommended order to the Department. The forwarding of this Petition is not a waiver of the Department's right to object to any material defects in the Petition or to Petitioner's standing to institute this proceeding.

YOU ARE FURTHER NOTIFIED that the Department is responsible for preserving the record of any evidentiary hearings in this case in accordance with Florida Administrative Code Rule 17-103.205. Such a record may be preserved by a court reporter or by mechanical recording equipment. The Department will use mechanical recording equipment unless one of the parties makes arrangements to provide a court reporter, including payment of the

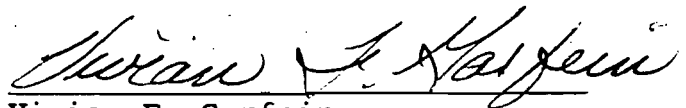
court reporter's fees. Any party arranging for the presence of a court reporter at hearing should notify the hearing officer and all parties prior to hearing of the court reporter's name, mailing address, and telephone number.

Whenever a court reporter is used, Florida Administrative Code Rule 28-5.306 provides that the court reporter's recordation becomes the official transcript. The Department may tape a hearing for its own use even when a court reporter is present. If the Department tapes a proceeding which is also recorded by a court reporter, copies of the tapes can be made available to all parties upon request at cost of reproduction. However, parties should not assume in all instances that the Department will tape a proceeding.

If a party decides to file exceptions to any finding of fact made by the hearing officer or to appeal the final order of the Department, the party will need to submit an official transcript of the proceeding. A transcript may be prepared, at the expense of the requesting party, from a court reporter's notes or, when no court reporter has been hired, from the tapes made by the Department.

CERTIFICATE OF SERVICE

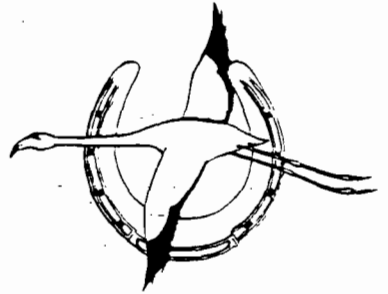
I HEREBY CERTIFY that a copy of this REQUEST FOR ASSIGNMENT OF HEARING OFFICER has been furnished by U.S. Mail to Cornelius A. Link, D.D.S., P.O. Box 125, Lowell, FL 32663, Mid-Florida Mining, Co., P.O. Box 68, Lowell, FL 32663, Bill Thomas, Bureau of Air Quality Management, Department of Environmental Regulation, 2600 Blair Stone Road, Room 306G,, Tallahassee, Florida 32399-2400, and Larry Curtin, Holland & Knight, P.A., Barnett Bank Building, P.O. Drawer 810, 315 South Calhoun Street, Tallahassee, FL 32302, on this 31st day of November, 1989.



Vivian F. Garfein
Assistant General Counsel

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

RECEIVED
OCT 27 1989



Dept. of Environmental Reg.
Office of General Counsel

Flamingo Farm  THOROUGHBRED HORSES P.O. BOX 125, LOWELL, FLORIDA 32663

25 October 1989

Office of General Counsel
Florida Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Fl.

Gentlemen:

I hereby petition for an Administrative Proceeding in reference to DER'S intent to issue a permit to Mid-Florida Mining Co. of Lowell, for construction of an afterburner and its associated usage.

- a.) Petitioner: Cornelius A. Link
P.O. Box 125
Lowell, Fl. 32663 (904 591-1863)
Applicant: Mid-Florida Mining, Co.
P.O. Box 68
Lowell, Fl. 32663 (Marion County)
Dept. File No: AC 42-162296
- b.) Legal notice in local newspaper, 5 Sept, 9 Oct 89
Numerous phone calls from concerned neighbors.
- c.) I reside on a 100Ac horse-breeding farm within 1 mile of applicant facility.
We have experienced an abnormal loss of vegetation this past year.
We have experienced unusual paint damage to vehicles.
There is odoriferous air pollution regularly.
Expanded operations of this nature will adversely affect property values.
One third of our foals this year demonstrated abnormal anomalies.
- d.) Unauthorized soils processed in past; Emissions have been noticeably wrong at times; disposition of processed residues and water run-offs not addressed; No permit No. published in legal notice.
- e.) Past violations and improprieties; e.g. Consort Order: OGC File NO: 88-0938.
Past verbal assurances of no further expansion of activities at this site.
DER's acceptance of applicant's prediction of air quality resulted in Ambient Air Quality Analysis not required; especially when applicant admits increased pollutant emissions.

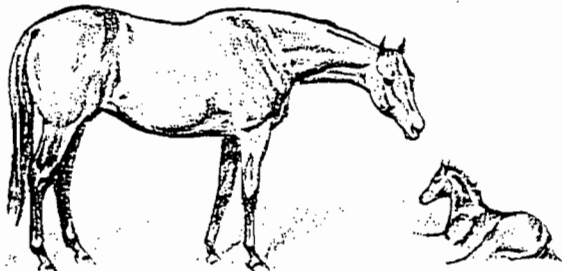


EXHIBIT 1

(904) 591-1863

Member Florida Thoroughbred Breeders Association

f.) Rules involved:

Permit Draft, General Conditions:

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- 4.) Risky method of mixing fuels for burning.

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g.) Petitioner is entitled to the requested relief pursuant to Chapters 120 and 403, Florida Statutes, the U.S. Constitution and Florida Constitution, and Chapters 17-2, 17-12 and 28-5, FAC.

VERIFICATION

I, CORNELIUS A. LINK, hereby verify that I have reviewed the Petition for Administrative Hearing and that, to the best of my knowledge, the matters alleged therein are true and correct.

Cornelius A. Link
CORNELIUS A. LINK

Sworn to and subscribed before me on this 26TH day of October, 1989.

W. Michael Tribulato
Notary Public
State of Florida

My commission expires:

NOTARY PUBLIC, STATE OF FLORIDA.
MY COMMISSION EXPIRES: AUG. 9, 1991.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

been forced to contact a chemist who is presently reviewing your literature but says she needs a considerable amount of time to thoroughly examine the contents.

I am simply a common citizen and have become quite lost with your bureaucratic procedures and for two weeks have been frantically seeking legal counsel to assist me. I feel I have every right for this time extension as this afterburner will literally be in my back yard and will obviously bring down the value of my property. Furthermore I have dying trees, pecans that aren't bearing nuts, and corrosive dust periodically covering my property. What can I expect after the arrival of this afterburner?

I wait your reply.

Sincerely,

Cornie W. Bonbrest
Cornie W. Bonbrest

Connie W. Bombrest
6005 N.W. County Hwy. 316
Reddick, Fla.
32686

Department of Environmental Regulations
Mr. Bill Thomas
2600 Blair Stone Road
Tallahassee,
Florida 32399-2400

RECEIVED
NOV 2 1989

6005 N.W. County Hwy. 316
Reddick, Fla. 32686

Oct. 20, 1989

Dept. of Environmental Reg.
Office of General Counsel

Mr. Bill Thomas
D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fla
32399 - 2400

RECEIVED
OCT 27 1989
DER-BAQM

Dear Mr. Thomas:

Once again I am writing in regards to your intent to issue a permit to Mid-Florida Mining (Lowell, Florida) for an addition of an afterburner.

This time I am requesting an extension of time to properly review this entire situation. I base this request on the fact that Marion County Health Dept. is not aware of the pending issue and obviously could not answer my questions of concern when I called them. Nor have you answered my questions. I have

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Carol Northman

Initial

Date

2.

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

We're not sure if this person is requesting an extension of time to file for a hearing

INFORMA

Review & I

Review & I

Initial & Fc

DISPOSITI

Review & R

Prepare Res

*Bill - 11/2
Here's one to
grow on -
what do you
think? Case?
no case? Carol*

Bill

My call - not a case.

Carol

FROM:

Patty Adams

Initial & Return

DATE

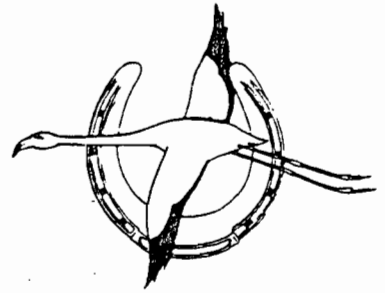
11-1-89

PHONE

8-1344

RECEIVED
OCT 27 1989

Dept. of Environmental Reg.
Office of General Counsel



Flamingo Farm THOROUGHBRED HORSES P.O. BOX 125, LOWELL, FLORIDA 32663

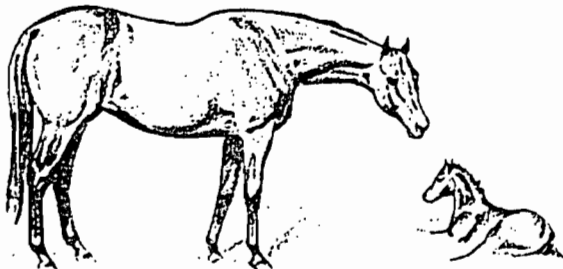
25 October 1989

Office of General Counsel
Florida Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Fl.

Gentlemen:

I hereby petition for an Administrative Proceeding in reference to DER'S intent to issue a permit to Mid-Florida Mining Co. of Lowell, for construction of an afterburner and its associated usage.

- a.) Petitioner: Cornelius A. Link
P.O. Box 125
Lowell, Fl. 32663 (904 591-1863)
Applicant: Mid-Florida Mining, Co.
P.O. Box 68
Lowell, Fl. 32663 (Marion County)
Dept. File No: AC 42-162296
- b.) Legal notice in local newspaper, 5 Sept, 9 Oct 89
Numerous phone calls from concerned neighbors.
- c.) I reside on a 100Ac horse-breeding farm within 1 mile of applicant facility.
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- e.) Past violations and improprieties; e.g. Consort Order: OGC File NO: 88-0938.
Past verbal assurances of no further expansion of activities at this site.
DER's acceptance of applicant's prediction of air quality resulted in Ambient Air Quality Analysis not required; especially when applicant admits increased pollutant emissions.



(904) 591-1863

Member Florida Thoroughbred Breeders Association

f.) Rules involved:

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VERIFICATION

I, CORNELIUS A. LINK, hereby verify that I have reviewed the Petition for Administrative Hearing and that, to the best of my knowledge, the matters alleged therein are true and correct.

Cornelius A. Link
CORNELIUS A. LINK

Sworn to and subscribed before me on this 26TH day of October, 1989.

W. Michael Tribulak
Notary Public
State of Florida

My commission expires:

NOTARY PUBLIC STATE OF FLORIDA.
MY COMMISSION EXPIRES: AUG. 9, 1991.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CORNELIUS A. LINK,

Petitioner,

vs.

OGC File No. 89-1093

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION.

Respondents.

REQUEST FOR ASSIGNMENT OF HEARING OFFICER
AND NOTICE OF PRESERVATION OF RECORD

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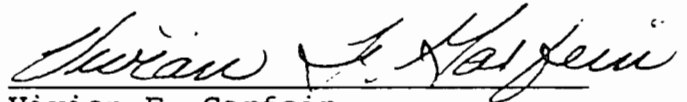
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CERTIFICATE OF SERVICE

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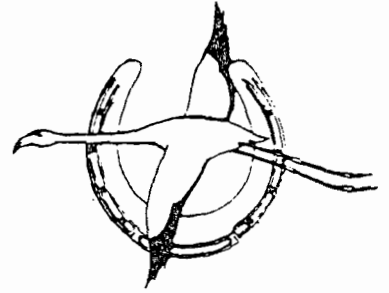
Vivian F. Garfein
Assistant General Counsel

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

RECEIVED

OCT 27 1989

Dept. of Environmental Reg.
Office of General Counsel



Flamingo Farm THOROUGHBRED HORSES P.O. BOX 125, LOWELL, FLORIDA 32663

25 October 1989

Office of General Counsel
Florida Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Fl.

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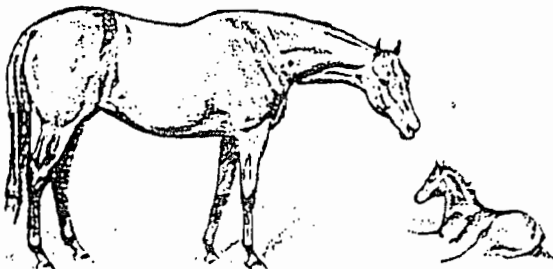


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(904) 591-1863

Member Florida Thoroughbred Breeders Association

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Cornelius A. Link
CORNELIUS A. LINK

Sworn to and subscribed before me on this 26TH day of October, 1989.

W. Michael Triebel
Notary Public
State of Florida

My commission expires:

NOTARY PUBLIC STATE OF FLORIDA.
MY COMMISSION EXPIRES: AUG. 9, 1991.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

6005 N.W. County Hwy. 316
Reddick, Fla. 32686
16 October 1989

Mr. Bill Thomas
Dept. of Environmental Reg.
100 Blair Stone Road
Tallahassee, Fla.
939-2400

RECEIVED
OCT 20 1989
DER-BAQM

Dear Mr. Thomas,

Thank you for the literature you sent me regarding Mid-Florida Mining Company's request for permit to add an afterburner to their existing business located in Lowell, Florida.

After reading this literature I am even more strongly against the addition of an afterburner. The materials to be mined and the emissions produced are indeed frightening.

I reside less than one half mile

BEST AVAILABLE COPY

- 2 -

from said business and have observed during the past several years changes in their tone of activities. One becomes accustomed to the round-the-clock noise and the daily morning residue corroding the paint on vehicles in my driveway, but recently and periodically there has been a different color of smoke and residue emitting from the chimneys. From time to time there is also unusual odor drifting through the neighborhood. Noticeable, also, is the number of tanker-type trucks traveling to and from the factory particularly during night-time hours. All this causes me to wonder about their present activities.

Prior to receiving your literature I took these situations in stride and ignored what my complacency and intelligence should have questioned.

During the past several years I

ve lost many large trees on my property. I had to employ a tree surgeon remove five of them and he could give me no logical explanation for their demise (disease, insects, fungus, etc.). Just perhaps factory emission was the cause.

Repeated efforts to grow flowers and vegetable plants are futile. Every year is worse than the previous year. Fertilizer is a waste of time as healthy growth will not result. Could this also be a result of the factory's activities?

I am not a Philadelphia lawyer nor a chemist, so a portion of your literature is indeed confusing to me. I presently have a chemist acquaintance analyzing the situation for me. But, in the meantime I have several questions which deserve answering.

① Is the proposed afterburner intended to "clean up" MFM's

present activities?

OR

② Is the proposed afterburner intended to increase MFM's range of burning materials?

OR

③ Is the "minor increases in pollutant emissions" (D.E.R. Notice of Intent to Issue page 1 of 2) to be more hazardous or less hazardous than the present emission?

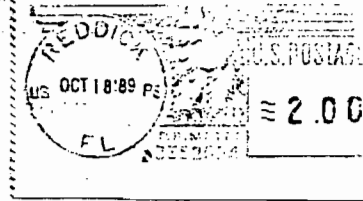
AND

④ What concerns should I have regarding my well and water supply? If a reckless spillage of these burnables occurs can it affect the aquifer?

I strongly request an answer to these above-listed questions.

Upon purchase of my property seven years ago I bargained to live

Connie W. Bonbrest
6005 N.W. County Hwy. 316
Reddick, Fla.
32686



RETURN RECEIPT
REQUESTED

Mr. Bill Thomas
Dept. of Environmental Regulation
2600 Blair Stone Road
Twin Towers Office Bldg.
Tallahassee, Fla.
32399-2400

Fold at line over top of envelope to the right
of the return address

CERTIFIED

P 809 878 590

MAIL

-5-
beside a kitty litter factory and
begudgingly accepted this fact because
the surrounding land and neighborhood is
beautiful and pleasant. Additional
activity and pollution from MFM
will, indeed, bring down this area's
safety for good health and will
most definitely diminish property value.

I am not an expert on zoning,
but in A-1 zoning (our neighborhood) a
permit, for whatever request, will be
denied if there is even one objection
to it. Why is MFM a different situation
when the area to be affected is
A-1 zoning?

Please accept this letter as an
objection to the requested permit from
MFM for the addition of an afterburner,
and please issue a reply to my listed
concerns.

Sincerely,
Connie W. Bonbrest
Connie W. Bonbrest

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CORNELIUS A. LINK,

Petitioner,

vs.

OGC File No. 89-1093

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION.

Respondents.

ORDER DISMISSING PETITION WITH LEAVE TO AMEND

On September 15, 1989, Cornelius A. Link, D.D.S., filed a letter with the Department challenging the Department's Intent to Issue Permit No HT 42-068443 to Mid-Florida Mining Co. for construction of an afterburner and its associated usage.

(Exhibit I)

Permit No. HT 42-068443 expired on July 31, 1987. The correct number of the permit Dr. Link challenges is AC 42-162296. Mid-Florida Mining Co. recently requested changes to the proposed project. Therefore, the Department amended its Intent to Issue on September 29, 1989 and Mid-Florida is required to re-publish a notice of Intent to Issue. Dr. Link is advised to check the Department files for changes to the project.

Florida Administrative Code Rule 17-103.155(2) explains what must be included in a petition for a formal administrative proceeding. Dr. Link's current's petition does not comply with Rule 17-103.155(2) and therefore does not contain sufficient information to determine whether a formal administrative proceeding should be held. Specifically, the request does not include:

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

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

Without this information, Petitioner's petition must be dismissed as required by Florida Administrative Code Rule 17-103.155. Furthermore, Dr. Link may wish to consider the Department's revised Intent to Issue prior to filing an amended petition. Therefore, it is

ORDERED that the petition for hearing filed by CORNELIUS A. LINK is hereby DISMISSED. Such dismissal is without prejudice to Dr. Link to amend his petition to provide the information listed above.

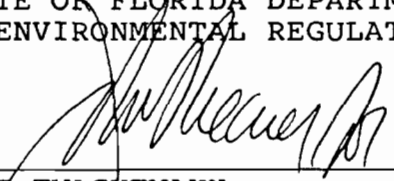
The amended petition must be filed (received) in the Office of General Counsel, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 within 15 days from the date set forth in the Certificate of Service on the last page of this Order. This Order constitutes final agency action of the Department unless a timely amended petition is filed in conformance with this Order.

Any party to this Order has the right to seek judicial review of the Order 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 Order is filed with the clerk of the Department.

DONE and ORDERED this 12th day of October, 1989, in Tallahassee, Florida.

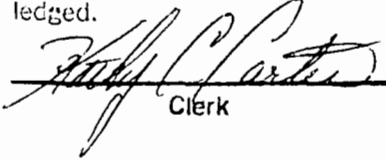
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



DALE TWACHTMANN
Secretary
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: 904/488-4805

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to §120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.


Clerk

10-12-89
Date

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing ORDER OF DISMISSAL has been furnished by U.S. Mail to Cornelius A. Link, D.D.S., P.O. Box 125, Lowell, FL 32663, Mid-Florida Mining, Co., P.O. Box 68, Lowell, FL 32663, Bill Thomas, Bureau of Air Quality Management, Department of Environmental Regulation, 2600 Blair Stone Road, Room 306G,, Tallahassee, Florida 32399-2400, and Larry Curtin, Holland & Knight, P.A., Barnett Bank Building, P.O. Drawer 810, 315 South Calhoun Street, Tallahassee, FL 32302, on this ^{17 VFG}~~23~~th day of October, 1989.


Vivian F. Garfein
Assistant General Counsel

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CORNELIUS A. LINK,

Petitioner,

vs.

OGC File No. 89-1093

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION.

Respondents.

ORDER DISMISSING PETITION WITH LEAVE TO AMEND

On September 15, 1989, Cornelius A. Link, D.D.S., filed a letter with the Department challenging the Department's Intent to Issue Permit No HT 42-068443 to Mid-Florida Mining Co. for construction of an afterburner and its associated usage.

(Exhibit I)

Permit No. HT 42-068443 expired on July 31, 1987. The correct number of the permit Dr. Link challenges is AC 42-162296.

Mid-Florida Mining Co. recently requested changes to the proposed project. Therefore, the Department amended its Intent to Issue on September 29, 1989 and Mid-Florida is required to re-publish a notice of Intent to Issue. Dr. Link is advised to check the Department files for changes to the project.

Florida Administrative Code Rule 17-103.155(2) explains what must be included in a petition for a formal administrative proceeding. Dr. Link's current's petition does not comply with Rule 17-103.155(2) and therefore does not contain sufficient information to determine whether a formal administrative proceeding should be held. Specifically, the request does not include:

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Bill Thomas

Initial

Date

2.

Air Quality 306G

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

INFORMATION

Review & Return

Review & File

Initial & Forward

RECEIVED

OCT 17 1989

DER - BAQM

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:

Vivian Gaffen

Louaine - OQC

DATE

10/17

PHONE

8-9730

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

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

Without this information, Petitioner's petition must be dismissed as required by Florida Administrative Code Rule 17-103.155. Furthermore, Dr. Link may wish to consider the Department's revised Intent to Issue prior to filing an amended petition. Therefore, it is

ORDERED that the petition for hearing filed by CORNELIUS A. LINK is hereby DISMISSED. Such dismissal is without prejudice to Dr. Link to amend his petition to provide the information listed above.

The amended petition must be filed (received) in the Office of General Counsel, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 within 15 days from the date set forth in the Certificate of Service on the last page of this Order. This Order constitutes final agency action of the Department unless a timely amended petition is filed in conformance with this Order.

Any party to this Order has the right to seek judicial review of the Order 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 Order is filed with the clerk of the Department.

DONE and ORDERED this 12th day of October, 1989, in Tallahassee, Florida.

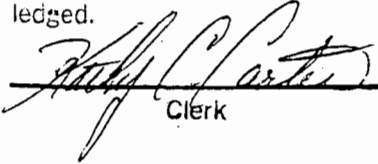
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



DALE TWACHTMANN
Secretary
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: 904/488-4805

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to S120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

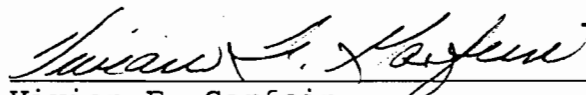


Clerk

10-12-89
Date

CERTIFICATE OF SERVICE

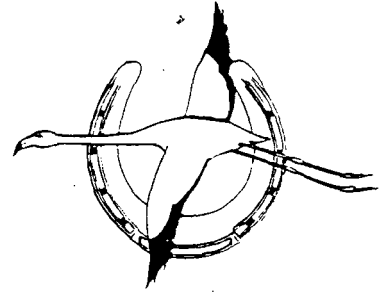
I HEREBY CERTIFY that a copy of the foregoing ORDER OF
DISMISSAL has been furnished by U.S. Mail to Cornelius A. Link,
D.D.S., P.O. Box 125, Lowell, FL 32663, Mid-Florida Mining, Co.,
P.O. Box 68, Lowell, FL 32663, Bill Thomas, Bureau of Air Quality
Management, Department of Environmental Regulation, 2600 Blair
Stone Road, Room 306G,, Tallahassee, Florida 32399-2400, and Larry
Curtin, Holland & Knight, P.A., Barnett Bank Building, P.O. Drawer
810, 315 South Calhoun Street, Tallahassee, FL 32302, on
this ^{17 VFG} ~~20th~~ day of October, 1989.


Vivian F. Garfein
Assistant General Counsel

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

RECEIVED
SEP 15 1989

Dept. of Environmental Reg.
Office of General Counsel



Flamingo Farm  **THOROUGHBRED HORSES** P.O. BOX 125, LOWELL, FLORIDA 32663

13 September 1989

Office of General Counsel
Florida Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Fl.

Gentlemen:

I hereby petition for an Administrative Proceeding (Hearing) in reference to DER's intent to issue a permit to Mid-Florida Mining Co. of Lowell, for construction of an afterburner and its associated usage.

a.) Petitioner: Cornelius A. Link, D.D.S.
P.O. Box 125
Lowell, Fl. 32663 (904 591-1863)
Applicant: Mid-Florida Mining, Co.
P.O. Box 68
Lowell, Fl. 32663
Dept. File No: H T 40-68443 Marion County

b.) How and when I received notice of proposed action:
Legal notice in local newspaper, 5 September 1989
Numerous phone calls from concerned neighbors.

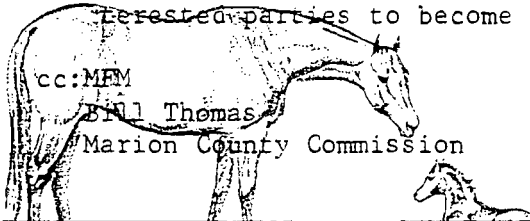
c.) I reside on 100 acres of prime, Karst-type, farmland within one mile from applicant's facility. I am concerned regarding protection of life, environment and the Aquifer.

d.) Disputed facts: Unauthorized fuels have been burned in past; Emissions have been noticeably "wrong" at times; disposal of unburned waste not addressed; No Department File Number published in legal notice.

e.) Facts warranting reversal: Past violations and improprieties; e.g. Consort Order: OGC File No: 88-0938. Past verbal assurances of no further expansion of activities at this site.

f.) Rules requiring reversal: Unknown at this time, but reserve right to submit.

g.) Relief sought by Petitioner: 1.) Copy of permit application. 2.) Public Hearing in Marion County not sooner than 180 days to allow time for interested parties to become informed.



Very truly yours,

Cornelius A. Link, D.D.S.

(904) 591-1863

Member Florida Thoroughbred Breeders Association

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

GLEN PENFIELD,

Petitioner,

vs.

OGC File No. 89-1146

MID-FLORIDA MINING and
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION.

Respondents.

ORDER DISMISSING PETITION WITH LEAVE TO AMEND

On September 25, 1989, the State of Florida Department of Environmental Regulation ("Department") received a letter from Petitioner, GLEN PENFIELD. (Exhibit 1) The letter challenged the Department's decision to issue Permit No. AC 113787 to Mid-Florida Mining Co., for construction of an afterburner and its associated usage in Marion County. Florida Administrative Code Rule 17-103.155(2) explains what must be included in a petition for a formal administrative proceeding. Petitioner's letter does not comply with Rule 17-103.155(2) and therefore does not contain sufficient information to determine whether a formal administrative proceeding should be held. Specifically, the request does not include:

(a) A statement of how and when Petitioner received notice of the Department's action or proposed action;

(b) A statement of how Petitioner's substantial interests are affected by the Department's action or proposed action;

(c) A statement of the material facts (i.e., those facts upon which the Department's action or proposal is based) disputed by Petitioner, if any;

(d) A statement of the facts that Petitioner contends warrant reversal or modification of the Department's action or proposed action;

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

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

Without this information, Petitioner's letter must be dismissed as required by Florida Administrative Code Rule 17-103.155. Therefore, it is

ORDERED that the petition for hearing filed by GLEN PENFIELD is hereby DISMISSED. Such dismissal is without prejudice to GLEN PENFIELD to amend his petition to provide the information listed above.

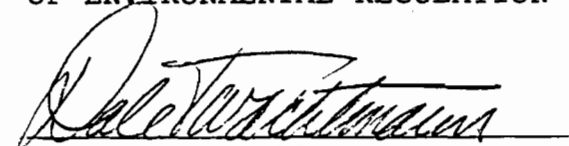
The amended petition must be filed (received) in the Office of General Counsel, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 within 15 days from the date set forth in the Certificate of Service on the last page of this Order. This Order constitutes final agency action of the Department unless a timely amended petition is filed in conformance with this Order.

Best Available Copy

Any party to this Order has the right to seek judicial review of the Order 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 Order is filed with the clerk of the Department.

DONE and ORDERED this 13 day of ^{October}~~September~~, 1989, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



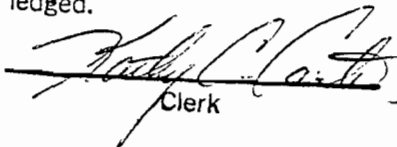
DALE TWACHTMANN

Secretary

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: 904/488-4805

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to S120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.


Clerk

10-16-89
Date

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing ORDER DISMISSING PETITION WITH LEAVE TO AMEND has been furnished by U.S. Mail to Glen Penfield, P.O. Box 135, Lowell, FL 32663, Bill Thomas, Bureau of Air Quality Management, Department of Environmental Regulation, 2600 Blair Stone Road, Room 306G,, Tallahassee, Florida 32399-2400, and Larry Curtin, Holland & Knight, P.A., Barnett Bank Building, P.O. Drawer 810, 315 South Calhoun Street, Tallahassee, FL 32302, on this 17th day of ~~September~~ ^{October}, 1989.


Vivian F. Garfein
Assistant General Counsel

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: (904)488-9730

MR. BILL THOMAS

IN RE: TO OWER PHONE CONV.
ON 9-19-89 REGARDING MID. FLA.
MININGS APP. # A.C. 42113787 FOR
A AFT. BURNING PERMIT, I WOULD
LIKE TO ASK FOR A HEARING REQUEST
AS MUCH AS THIS COMPANY HAS
ABUSED THE AIR QUALITY IN THE
LOWELL AREA I WOULD BE OPPOSED
TO ALLOWING THEM ANYTHING.

ALSO COULD YOU TELL ME WHERE
THEY HAVE BEEN DISPOSING THE
RESIDUE FROM BURNING HAZZORDOUS
MATERIAL, THANK YOU.

RECEIVED

SEP 25 1989

DER-BAQM

Blon Penfield

P.O. Bx 135

LOWELL, FLA

32663

P 938 762 709

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

Sent to Connie W. Bonbrest	
Street and No. 6005 N.W. County Hwy. 316	
P.O. State and ZIP Code Reddick, FL 32686	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 10-5-89 Permit: AC 42-162296	

PS Form 3800, June 1985

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. 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Connie W. Bonbrest 6005 N.W. County Hwy. 316 Reddick, FL 32686	
4. Article Number P 938 762 709	
Type of Service: <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> COD <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and DATE DELIVERED.	
8. Addressee's Address (ONLY if requested and fee paid)	
5. Signature of Address Agent <i>Connie Bonbrest</i>	
6. Signature - Agent <i>X</i>	
7. Date of Delivery 10-10-89	

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

*She sent her a copy of our print
to save on Oct. 5, 1989.*

RECEIVED

OCT 18 1989

10-16-89

DER - BAQM

Mr. Bill Thomas

In Regards to Mid Fla. Mining's
 Notice in the paper 10-9-89
 for an after Burner Permit #
 AC 42113787, I would like to
 Request an open hearing.

I think they are the
 people in this area some
 answer

Regards

GLEN PENFIELD

P.O. Box 135

LOWELL, FLA

32643

904-591-2605

OR

"

"

3091

Original

Sent to

OBC

10-20-89

MR. BILL THOMAS..

IN RE: TO OWER PHONE CONV.
ON 9-19-89 REGARDING MID. FLA.
MININGS APP # A.C. 42113787 FOR
A AFT. BURNING PERMIT, I WOULD
LIKE TO ASK FOR A HEARING REQUEST
AS MUCH AS THIS COMPANY HAS
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LOWELL AREA I WOULD BE OPPOSED
TO ALLOWING THEM ANYTHING.

ALSO COULD YOU TELL ME WHERE
THEY HAVE BEEN DISPOSING THE
RESIDUE FROM BURNING HAZZORDOUS
MATERIAL, THANK YOU

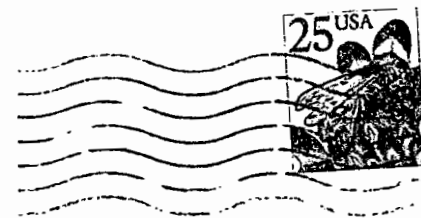
RECEIVED

SEP 25 1989

DER-BAQM

Glenn Penfield
P.O. Bx 135
LOWELL, FLA
32663

PENFIELD
BX 135
LOWELL, FLA
32663



BILL THOMAS

2600 BLAIR STONE RD.

TALLAHASSEE, FLA

32399-2400



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

October 3, 1989

Mr. David Townsend
Director of Environmental Health
Marion County Health Department
3230 Southeast Maricamp Road
Ocala, Florida 32671

Dear Mr. Townsend:

Re: Mid-Florida Mining Company
Air Construction Permit Application

The Bureau of Air Regulation needs to make the enclosed information available for public inspection pursuant to Chapter 17-2, Florida Administrative Code. A notice directing people to your office will be published in a local newspaper in the near future. The information should be available upon request for a period of at least 14 days from the notice date.

We appreciate your help in providing this valuable public service, and your assistance does not necessarily constitute an endorsement of the project. Should you have any questions, please call me at (904)488-1344.

Sincerely,

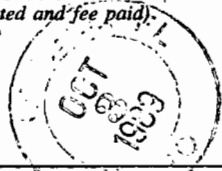
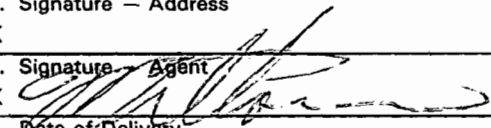
Patricia G. Adams
Planner
Bureau of Air Regulation

PA/kt

enclosure

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. 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. David B. Kibler IV Executive Director Mid-Florida Mining Company P. O. Box 68 Lowell, FL 32663	4. Article Number P 938 762 698
	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Address X	8. Addressee's Address (ONLY if requested and fee paid) 
6. Signature - Agent X 	
7. Date of Delivery	

PS Form 3811, Mar. 1988

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

DOMESTIC RETURN RECEIPT

P 938 762 698

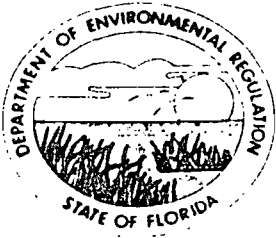
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. David B. Kibler IV, MFM Co	
Street and No. P.O. Box 68	
P.O., State and ZIP Code Lowell, FL 32663	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 10-2-89 Permit: AC 42-162996	

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 Twachmann, Secretary

John Shearer, Assistant Secretary

September 29, 1989

CERTIFIED MAIL-RETURN RECEIPT REQUESTED


Mr. David B. Kibler IV, Executive Director
Mid-Florida Mining Company
P. O. Box 68
Lowell, Florida 32663

Dear Mr. Kibler:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for the addition of a 50 million Btu/hr. afterburner to the existing rotary kiln type clay dryer. The afterburner will be used to destroy volatile and semi-volatile organic compounds when the proposed rotary kiln/afterburner system is operated for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing hydrocarbon products. The hydrocarbon products in the materials to be processed may include but are not limited to gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other non-hazardous halogenated and non-halogenated hydrocarbons. The rotary kiln may still be operated without the proposed afterburner when it is used to dry soils that do not contain hydrocarbon products.

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

Sincerely,


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

CHF/mdh

Attachments

cc: J. Koogler, P.E.
W. Butler
C. Collins

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Mid-Florida Mining Co.
P. O. Box 68
Lowell, Florida 32663

DER File No. AC 42-162996

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, Mid-Florida Mining Company (MFM) applied on March 8, 1989 to the Department of Environmental Regulation for a permit to add an afterburner to the existing rotary kiln type clay dryer. The afterburner will be used to destroy organic compounds when the proposed rotary kiln/afterburner system is used for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing non-hazardous halogenated and non-halogenated hydrocarbon products. The rotary kiln may still be operated without the proposed afterburner when it is used to dry soils that do not contain hydrocarbon products. The proposed modification is expected to result in minor increases in pollutant emissions. The proposed permit includes specific conditions that prohibit the emission of objectionable odors and require MFM to minimize emissions of fugitive dust. If the source is responsibly operated within the constraints of the proposed permit and state regulations, no violations of applicable air quality standards are expected to occur.

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 is required for the proposed work.

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

publication within the allotted time may result in the denial of the permit.

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

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

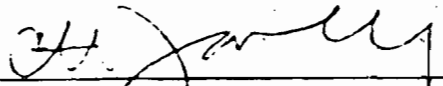
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c)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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the applicant have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to

participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

J. Koogler, P.E.
W. Butler
C. Collins

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 10-2-89.

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

Kurt Weber
Clerk

10-2-89
Date

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

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Mid-Florida Mining Company (MFM), P. O. Box 68, Lowell, Florida, 32663, to add an afterburner to the existing rotary kiln type clay dryer. The afterburner will be used to destroy organic compounds when the proposed rotary kiln/afterburner system is used for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing non-hazardous halogenated and non-halogenated hydrocarbon products. The rotary kiln may still be operated without the proposed afterburner when it is used to dry soils that do not contain hydrocarbon products. Mid-Florida Mining Company's facility is located on SR 329 at Seaboard Coast Line (now CSX) R. R., Lowell, Marion County, Florida. The proposed modification is expected to result in minor increases in pollutant emissions. The proposed permit includes specific conditions that prohibit the emission of objectionable odors and require MFM to minimize emissions of fugitive dust. If the source is responsibly operated within the constraints of the proposed permit and applicable regulations, no violations of applicable air quality standards are expected to occur. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

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

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

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

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

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

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

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

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

Marion County Health Department
3230 Southeast Maricamp Road
Ocala, Florida 32671

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
(Amended)

Mid-Florida Mining Company

Addition Of An Afterburner To A Rotary Kiln Clay Dryer

Permit No. AC 42-162296

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

September 29, 1989

I. Project Description

A. Applicant

Mid-Florida Mining Company
Post Office Box 68
Lowell, Florida 32663

B. Project and Location

The applicant proposes to add a 50 million Btu/hr. afterburner to an existing rotary kiln type clay dryer (35 million Btu/hr. heat input and 40 tons/hr. of raw material feed) to destroy volatile and semi-volatile organic compounds when the proposed rotary kiln/afterburner system is used for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing hydrocarbon products. The hydrocarbon products may include but are not limited to gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other non-hazardous halogenated and non-halogenated hydrocarbons. The rotary kiln may still be operated without the proposed afterburner when it is used to dry soils that do not contain hydrocarbon products.

The Standard Industrial Classification Codes are Major Group 14, Industry 1459, Clay, Ceramic, and Refractory Minerals, Not Classified Elsewhere. The Source Classification Codes are 5-03-001-01, Incineration-Multiple Chamber, and 5-03-005-06, Incineration-Sludge, when the rotary kiln/afterburner system is operated as a two chamber incinerator. The Source Classification Codes are 3-90-004-99, In-Process Fuel Use-Residual Oil-General, and 3-05-040-33, Mining and Quarrying of Nonmetallic Minerals-Ore Dryer, when the rotary kiln is used to dry soils that are not contaminated with hydrocarbon products.

Mid-Florida Mining Company's project is located at their facility on State Road 329 adjacent to the Seaboard Coast Line railroad (now CSX), Lowell, Marion County, Florida. The universal transverse mercator (UTM) coordinates of the project are Zone 17, 384.5 km East, and 3245.3 km North.

The application was received on March 8, 1989 and the Department determined that it was complete on June 13, 1989. Following receipt of the public notice package dated July 5, 1989, the applicant filed for an extension of time to request an administrative hearing. The applicant elected to amend the permit application after discussing the issues with the Department.

C. Project Description and Controls

Mid-Florida Mining Company operates a facility that has been used to produce grease absorbents and cat litter. The product is produced by the drying of montmorillinite clays in a rotary kiln type clay dryer that has been fired with No. 2-5 oil and waste solvents. Particulate emissions from the rotary kiln are controlled by a baghouse. The rotary kiln type clay dryer is presently subject to construction permit AC 42-113787, which authorizes the installation of the equipment that will enable the applicant to burn coal in the rotary kiln. The Department previously amended that permit to allow the company to decontaminate soils that are contaminated with on-specification hydrocarbon products. The permit was also amended on two separate occasions to allow the applicant to decontaminate soils that were contaminated with coal tar and creosote. The Department authorized the decontamination of the soils contaminated with coal tar and creosote in order to allow the applicant to develop the parameters needed to design an afterburner. The proposed construction of that afterburner is the subject of this permit application.

The applicant plans to modify the rotary kiln by installing an afterburner system. The proposed afterburner system consists of a combustion chamber, quench section, burner and fuel supply system, ducts and fans, electrical system, and a 135-ft. stack. The proposed system will also include a by-pass stack that will be located between the afterburner and the 135-ft. stack. Mid-Florida Mining Company proposes to install the afterburner system such that the gases from the rotary kiln will be vented to the baghouse and then either to the afterburner system or directly to the stack. If the rotary kiln is being used for the purpose of drying soils that are not contaminated with hydrocarbon products, then the gases are to be vented directly from the baghouse to the 135-ft. stack. If soils contaminated with hydrocarbon products are being fed to the rotary kiln, then the volatile and semi-volatile organic compounds that contaminate the soil are vaporized and, in some cases, partially combusted in the rotary kiln. The gas stream is vented from the rotary kiln to the baghouse which removes some of the entrained particulate matter. The gas stream is then vented from the baghouse to the afterburner system where the remaining volatile and semi-volatile organic compounds are burned. The gases from the afterburner system are ducted to a quench chamber and then to a stack. The applicant proposes to increase the stack height to an elevation of 135 ft., the good engineering practice stack height, in order to prevent downwash.

The 50 million Btu per hour afterburner system has been custom designed. The information provided by the applicant

indicates that the afterburner system is designed to destroy 99.99% of the volatile and semi-volatile organic compounds in the gas stream. The 250°F gas stream from the baghouse will be exposed to a temperature of about 2,000°F for 2 seconds in the afterburner. The gases will be cooled from 2,000°F to 350°F by direct contact with water sprays in the quench chamber. The applicant is of the opinion that the design of the afterburner is such that emissions of dioxins should not be a problem.

The applicant proposes to ensure the proper operation of the rotary kiln/afterburner system by installing instruments to monitor a number of operational variables. The applicant proposes to monitor the following parameters:

- soil feed rate,
- fuel firing rate,
- cumulative fuel use,
- fuel use per ton of soil processed,
- fuel pressure,
- oxygen content of gas leaving the dryer,
- gas temperature leaving the dryer,
- gas temperature entering the baghouse,
- gas temperature entering the afterburner,
- afterburner temperature,
- total air flow rate to the afterburner,
- stack gas temperature, and
- oxygen content of the stack gas.

Mid-Florida Mining Company will develop a recommended set of surrogate parameter limits that provide an indication that the rotary kiln/afterburner system is being operated in a way that minimizes emissions. The proposed surrogate parameter limits will be submitted to the Department for approval.

The proposed system is being installed so that the company can safely decontaminate soils. Mid-Florida Mining Company plans to use the rotary kiln/afterburner system to thermally process soils contaminated with hydrocarbons that are not listed in 40 CFR 261.31 thru 40 CFR 261.33 and that do not show hazardous characteristics of corrosivity, reactivity, EP toxicity and ignitability. The applicant further proposes to limit the chloride content of the soil to be processed to 100 ppm total organic chlorides.

Mid-Florida Mining Company will fuel the rotary kiln with a mixture of waste oil, No. 2-5 fuel oil, terpene derivative type fuels, non-halogenated spent hydrocarbon solvent mixtures (such as xylene, acetone, etc.), and used kerosene. The fuel shall not contain more than 500 ppm lead, 100 ppm antimony, 100 ppm mercury, 100 ppm thallium, 4000 ppm chlorides (as chlorine), and

1.20% sulfur. The fuel mixture shall neither contain beryllium nor cesium. The company has agreed to limit the supplementary fuel burned in the afterburner to No. 2-5 virgin oil and on-specification used oil when the rotary kiln/afterburner system is being used to process soils that contain hydrocarbon products. The sulfur content of the fuel supplied to the afterburner will be no greater than 1.0% . Also, coal is not to be burned when the rotary kiln/afterburner system is being used for the decontamination of soils.

Note: The Department has considered the fact that the materials processed in the rotary kiln may be contaminated with sulfur. If sulfur dioxide emissions should exceed those authorized by the proposed permit, then the permittee will have to reduce the sulfur content of the fuels and unprocessed materials supplied to the rotary kiln/afterburner system.

The applicant proposes to implement the practice of soil blending in order to ensure that the soils to be processed contain a uniform concentration of contaminants. Mid-Florida Mining Company believes this practice will enable the company to operate the system at a uniform rate and to achieve uniform decontamination of the soils being processed.

II. Rule Applicability

Mid-Florida Mining Company's plant is a major facility pursuant to Florida Administrative Code (F.A.C.) Rule 17-2.100(112) [Definitions-Major Facility]. The facility is not one of the 28 major facility categories listed in Table 500-1 of F.A.C. Rule 17-2.500 [Prevention of Significant Deterioration].

The proposed project is a modification pursuant to F.A.C. Rule 17-2.100(119) [Definitions-Modification] because an increase in actual emissions is expected to occur. Based on the applicant's statements, the Department presently does not believe that the proposed project is subject to the preconstruction review requirements of F.A.C. Rule 17-2.500(5) [PSD-Preconstruction Review Requirements]. Pursuant to F.A.C. Rule 17-2.500(1)(d) [Prevention of Significant Deterioration-General Prohibitions], the Department is required to condition each permit to insure that the provisions of F.A.C. Rule 17-2.500 [Prevention of Significant Deterioration] are not violated. The source is also subject to the provisions of F.A.C. Rules 17-2.520 [Sources Not Subject to Prevention of Significant Deterioration Requirements and 17-4.070(3) [Standards of Issuing or Denying Permits].

Pursuant to the definitions in F.A.C. Rule 17-2.100(179) [Definitions-Source or Stationary Source] the proposed rotary

kiln/afterburner system will be a source of air pollution. Pursuant to the definition in F.A.C. Rule 17-2.100(64) [Definitions-Emission or Discharge Point], the emission or discharge points include the 135-ft. stack and the "emergency" by-pass stack. [Note: The applicant proposes to operate the "emergency" bypass stack only in the event that the temperature of the gas flow to the main stack exceeds 500°F.] The rotary kiln/afterburner system is a classic two-chamber incinerator pursuant to F.A.C. Rule 17-2.100(91) [Definitions-Incinerator] when the system is used to thermally process soils for the purpose of decontamination. The operation of the associated systems for unloading, mixing, storing, handling, and loading contaminated and decontaminated soils may result in unconfined emissions as defined in F.A.C. Rule 17-2.100(205) [Definitions-Unconfined Emissions]. The unconfined emissions may consist of particulate matter, hydrocarbons, and objectionable odor pursuant to F.A.C. Rule 17-2.100(205) [Definitions-Unconfined Emissions].

The particulate emissions from the operation of the proposed rotary kiln/afterburner system will be subject to the particulate emission limiting standards in F.A.C. Rule 17-2.600(1) [Specific Source Emission Limiting Standards-Incinerators]. Particulate emissions from the rotary kiln/afterburner system will be limited to 0.08 grains/standard cubic foot of dry gas corrected to 50% excess air, 17.4 lbs./hr., 72.2 tons/yr. Please note that the applicant has elected to accept a restriction to limit soil decontamination to 8,300 hrs./yr. The rotary kiln/afterburner system will not be allowed to emit any compounds that produce objectionable odors as defined by F.A.C. Rule 17-2.100(132) [Definitions-Objectionable Odor]. In this case, the Department will consider objectionable odors to be those that result in verifiable, valid and legitimate environmental complaints that originate with Department personnel, county health officials, or surrounding residents.

The applicant has proposed to achieve a destruction efficiency of 99.99% for volatile and semi-volatile organic compounds. The proposed destruction efficiency is consistent with that required for hazardous waste incinerators pursuant to 40 CFR 264.343(a)(1). The Department believes the applicant's proposed destruction efficiency is adequate, especially in view of the fact that the facility will not be used to process hazardous waste.

The Department has placed additional limitations upon the proposed rotary kiln/afterburner system pursuant to F.A.C. Rules 17-2.500(1)(c) [Prevention of Significant Deterioration-General Prohibitions], 17-2.520 [Sources Not Subject to Prevention of Significant Deterioration Requirements,

and 17-4.070(3) [Standards of Issuing or Denying Permits]. Limitations have been placed on the operation rate; the hours of operation; the type and rate of fuel use; emissions of sulfur dioxide, nitrogen oxides, volatile organic compounds, arsenic, hexavalent chromium (Cr⁺⁶), cadmium, and hydrogen chloride; and, the contaminants in the soil to be processed.

Mid-Florida Mining Company's facility is subject to the applicable provisions of F.A.C. Rules 17-2.610(3) [Unconfined Emissions of Particulate Matter], 17-2.620(1) [Volatile Organic Compound Emissions or Organic Solvent Emissions], and 17-2.620(2) [Objectionable Odor Prohibited]. Unconfined emissions of particulate matter shall be controlled pursuant to F.A.C. Rule 17-2.610(3). The applicant will be required to develop a set of reasonable measures, acceptable to the Department, for the control of unconfined emissions of particulate matter, volatile organic compounds, and objectionable odor.

The applicant's proposed project will also be subject to the applicable provisions of F.A.C. Rules 17-2.240 [Circumvention], 17-2.250 [Excess Emissions], and 17-4.130 [Plant Operation Problems]. Mid-Florida Mining Company proposes to monitor and record the variables described on page 3 [Section I.C.] of this document. The applicant will be required to develop a set of surrogate parameters, acceptable to the Department, which demonstrate that the rotary kiln/afterburner system is being properly operated and maintained in compliance with the conditions of the permit during those times that soil is being decontaminated.

The applicant will be required to install source sampling facilities to demonstrate compliance with the emission limitations established by this permit and construction permit AC 42-113787 pursuant to F.A.C. Rule 17-2.700 [Stationary Point Source Emissions Test Procedures].

The Department has also included a specific condition in this construction permit (AC 42-162296) that will make specific conditions Nos. 23-28 of construction permit No. AC 42-113787 null and void either upon completion of the proposed project or as of December 31, 1990. Upon completion of construction or after December 31, 1990, whichever occurs first, the use of the rotary kiln alone to decontaminate soils contaminated with on-specification hydrocarbon products will constitute circumvention pursuant to F.A.C. Rule 17-2.240 [Circumvention] if the afterburner is not operated. The February 15, 1989 amendment to construction permit No. AC 42-113787, and the March 28, 1989 change to the February 15, 1989 amendment to construction permit No. AC 42-113787 will become null and void upon issuance of the

proposed permit. The application for the construction permit effectively negates the need to conduct testing to determine the parameters that are needed to design the afterburner system.

III. Summary of Emissions and Air Quality Analysis

A. Summary of Emissions

Based on the information supplied by the applicant, the Department expects the following emissions to occur.

SUMMARY OF ESTIMATED EMISSIONS FOR PSD PURPOSES

Pollutant	Clay Processing ¹		Soil Decontamination ²		Emissions Change	
	lbs./hr.	TPY	lbs./hr.	TPY	lbs./hr.	TPY
Particulate ³	15.0	65.7	17.4	75.7	+2.4	+10.0
SO ₂	52.5	230.0	112.5	479.0	+60.0	+249.0
NO _x	29.4	128.8	37.4	162.0	+8.0	+33.2
CO	0.8	3.5	2.8	11.8	+2.0	+8.3
VOC	0.2	0.9	1.0	4.3	+0.8	+3.4
Lead	0.2	0.9	0.4	1.7	+0.2	+0.8
HCl	19.7	86.3	27.7	119.5	+8.0	+33.2
Mercury ⁴	0.0	0.0	0.02	0.09	+0.02	+0.09

1. Considers Clay Processing 8,760 hrs./yr.
2. Considers Soil Decontamination 8,300 hrs.yr. And Clay Processing 460 hrs./yr.
3. All Particulate Matter Assumed To Be PM₁₀.
4. Emission Rate Substantially Less Than That Required For Sludge Incinerators By NESHAP, 40 CFR 61.52

B. Air Quality

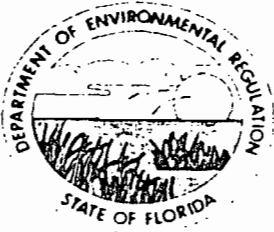
An ambient air quality analysis was not required, because the applicant predicted that there would not be any increase in mass emissions that would make the project subject to the preconstruction review requirements of F.A.C. Rule 17-2.500(5) [PSD-Preconstruction Review Requirements]. But, the applicant and the Department agreed that the nature of the proposed activity justified an analysis of the impacts of both criteria and noncriteria pollutants. The results of the analysis indicate that the emissions from the proposed activity will not result in a violation of the state or federal ambient air quality standards. The results of the analysis further indicate that emissions of noncriteria pollutants are not expected to produce

concentrations that would adversely affect surrounding residents if the source is operated within the constraints of the proposed permit.

IV. Conclusion

Based on the information provided by Mid-Florida Mining Company the Department has reasonable assurance that the proposed rotary kiln/afterburner system as described in this evaluation and subject to the conditions proposed herein, will not cause or contribute to a violation of any ambient air quality standard or PSD increment, or violate any other technical provision of Chapter 17-2 of the Florida Administrative Code.

Michael D. Harley
October 2, 1989



DRAFT

Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

PERMITTEE:
Mid-Florida Mining Co.
P. O. Box 68
Ocala, Florida 32663

Permit Number: AC 42-162296
Expiration Date: Dec. 31, 1990
County: Marion
Latitude/Longitude: 29°19'52"N
82°11'28"W
Project: Afterburner For Soil
Rotary Kiln Soil Processor
(AC 42-113787)

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

The addition of a 50 million Btu/hr. afterburner to an existing rotary kiln type clay dryer (capable of 35 million Btu/hr. and 40 tons/hr. of feed) to destroy volatile and semi-volatile organic compounds when the rotary kiln/afterburner system is used for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing hydrocarbon products. The hydrocarbon products in the materials to be processed may include but are not limited to gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other non-hazardous halogenated and non-halogenated hydrocarbons. The rotary kiln type clay dryer is considered to be simply a clay dryer when it is used to dry soils that do not contain hydrocarbon products.

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

Attachments to the permit are listed below:

1. Permit application for Afterburner for Soil Processor, received March 8, 1989.
2. C. H. Fancy's letter to D. B. Kibler, dated May 19, 1989.

DRAFT

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

Attachments to the permit (Continued):

3. J. B. Koogler's letter to M. D. Harley, dated April 28, 1989, received May 1, 1989.
4. J. B. Koogler's letter to C. H. Fancy, dated May 19, 1989, received May 23, 1989.
5. J. B. Koogler's FAX to M. D. Harley, dated June 13, 1989, received June 13, 1989.
6. J. B. Koogler's letter to M. D. Harley, dated August 4, 1989, received August 7, 1989.
7. J. B. Koogler's letter to M. D. Harley, dated September 11, 1989, received September 12, 1989.
8. Technical Evaluation and Preliminary Determination (Amended) dated September 29, 1989.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or

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PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

GENERAL CONDITIONS:

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 therefor 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.

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.

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PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

GENERAL CONDITIONS:

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

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

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

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.

DRAFT

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

GENERAL CONDITIONS:

13. 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.
- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

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

SPECIFIC CONDITIONS:

1. The rotary kiln/afterburner system is a two-chamber rotary kiln incinerator that is permitted to operate continuously, i.e. 8,760 hrs./yr.

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PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

2. The rotary kiln/afterburner system shall be used to thermally process only those materials that are not listed in 40 CFR 261.31, 261.32, 261.33 (revised as of July 1, 1988) and do not show the hazardous characteristics of corrosivity, reactivity, EP toxicity, and ignitability. Prior to the acceptance of contaminated materials for processing, MFM shall obtain certification from the generator that the material is not classified as a hazardous waste pursuant to the federal regulations cited in this specific condition.

3. Upon completion of the construction and testing authorized by this permit, contaminated materials shall only be processed at those times when the emissions from the rotary kiln are vented to the atmosphere through the baghouse and afterburner; and, both the baghouse and afterburner are operating properly. Specific Conditions Nos. 23-28 of construction permit No. AC 42-113787 shall become null and void either upon completion of the construction and testing authorized by this permit, or the expiration date shown on the face of this permit, whichever occurs first. The February 15, 1989 amendment to construction permit No. AC 42-113787, and the March 28, 1989 change to the February 15, 1989 amendment to construction permit No. AC 42-113787 are now null and void.

4. The maximum hourly feed rate of unprocessed material to the rotary kiln/afterburner system shall not exceed 40 tons/hr. The unprocessed material shall neither contain more than 10% hydrocarbon material, nor more than 100 ppm by weight organic chlorides, nor more than 5.10% coal tar products (such as coal tar-RTECS No. GF8600000, coal tar pitch-RTECS No. GF8655000, coal tar distillate-RTECS No. GF8617500, creosote-RTECS No. GF8615000, etc.). The unprocessed material shall not contain beryllium.

5. The rotary kiln shall be fired with liquid fuel that consists of waste oil, No. 2-5 fuel oil, terpene derivative type fuels, non-halogenated spent hydrocarbon solvent mixtures (such as xylene, acetone, etc.), and used kerosene. The liquid fuel for the rotary kiln shall not contain more than 500 ppm lead, 100 ppm antimony, 100 ppm mercury, 100 ppm thallium, 4000 ppm chlorides (as chlorine), and 1.20% sulfur. The liquid fuel for the rotary kiln shall neither contain beryllium nor cesium. The afterburner shall only be fired with virgin fuel oil No. 2-5 or used oil meeting the specifications listed in the table entitled, "Used Oil Exceeding Any Specification Level Is Subject To This Subpart

DRAFT

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

When Burned For Energy Recovery," in 40 CFR 266.40 (revised as of July 1, 1988). The maximum sulfur content of the fuel input to the afterburner shall not exceed 1.0% sulfur. The maximum fuel input rate to the rotary kiln shall not exceed 272 gallons/hr. (35 MMBtu/hr.). The maximum fuel input rate to the afterburner shall not exceed 400 gallons/hr. (50 MMBtu/hr.). Coal shall not be burned when the rotary kiln/afterburner system is in operation.

6. The total input of chromium (Cr), arsenic (As), and cadmium (Cd) to the rotary kiln/afterburner system shall not exceed the levels that satisfy the following equation:

$$(2.343 \times Cr_1) + (46.85 \times Cr_2) + (1.679 \times As_1) + (16.79 \times As_2) + (0.703 \times Cd_1) + (7.028 \times Cd_2) = 1$$

Cr, As, and Cd are inputs of chromium, arsenic, and cadmium in lbs./hr. The subscript "1" denotes total input of the element to the rotary kiln as a result of both fuel and raw material feeds. The subscript "2" denotes total input of the element to the afterburner as a result of fuel feed. The chromium, arsenic, and cadmium content of the materials input to the rotary kiln/afterburner system shall be determined using the methods required by 40 CFR 261.

7. The following emission limitations shall apply to the rotary kiln/afterburner system:

- a. Particulate emissions from the rotary kiln/afterburner system shall neither exceed 0.08 grain/DSCF corrected to 50% excess air, nor 17.4 lbs./hr., nor 72.2 tons/yr. Particulate emissions shall be determined by EPA Methods 1, 2, 3, and 5 (40 CFR 60 revised as of July 1, 1988).
- b. Hexavalent chromium (Cr⁶), arsenic (As), and cadmium (Cd) emissions from the rotary kiln/afterburner system shall not exceed:

$$(Cr^{+6} \times 46.85) + (As \times 16.79) + (Cd \times 7.028) = 1$$

Emissions of Cr⁶, As, and Cd are expressed in lb./hr. Hexavalent chromium (Cr⁶), arsenic (As), and cadmium (Cd) emissions shall be directly determined using:

DRAFT

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

- (1) EPA Methods 1, 2, 3, and 5 (40 CFR 60 revised as of July 1, 1988); sodium hydroxide extraction; and, ion chromatography for hexavalent chromium (Cr^{+6}).
 - (2) EPA methods 1, 2, 3, and 108 (40 CFR 60 and 61 revised as of July 1, 1988) for arsenic (As).
 - (3) EPA methods 1, 2, and 3 (40 CFR 60 revised as of July 1, 1988); and the EPA's draft Appendix A-Methodology for the Determination of Metals Emissions in Exhaust Gases From Stationary Source Combustion Processes for cadmium (Cd).
- c. Sulfur dioxide emissions from the rotary kiln/afterburner system shall neither exceed 112.5 lbs./hr. nor 466.9 tons/yr. Sulfur dioxide emissions shall be determined by EPA Methods 1, 2, 3, and 6 (40 CFR 60 revised as of July 1, 1988).
- d. Nitrogen oxide emissions from the rotary kiln/afterburner system shall neither exceed 37.4 lbs./hr. nor 155.2 tons/yr. Nitrogen oxide emissions shall be determined using EPA Methods 1, 2, 3, and 7 (40 CFR 60 revised as of July 1, 1988).
- e. Hydrogen chloride emissions from the rotary kiln/afterburner system shall neither exceed 27.7 lbs./hr. nor 115.0 tons/yr. Hydrogen chloride emissions shall be determined using EPA Methods 1, 2, and 3 (40 CFR 60 revised as of July 1, 1988); and Draft Method For The Determination Of HCl Emissions From Municipal And Hazardous Waste Incinerators.
- f. The afterburner shall achieve a minimum destruction efficiency of 99.99% by weight for each volatile and semi-volatile organic compound that is in the feed stream to the afterburner. Emissions of semi-volatile organic compounds shall be measured at points ahead of and after the afterburner using EPA's Modified Method 5 (Method No. 0010) in SW-846 (September 1986). The destruction efficiency may be determined using one or more surrogate compounds approved by the Department.

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PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

- g. The rotary kiln/afterburner system shall not emit objectionable odors. In this case, the Department will consider objectionable odors as defined in F.A.C. Rule 17-2.100(132) [Definitions-Objectionable Odors] to be those which result in verifiable, valid and legitimate environmental complaints that originate with Department personnel, county health officials, or surrounding residents.
8. In order to minimize on-site emissions from contaminated soil the permittee shall:
- a. Minimize unconfined emissions of particulate during loading, unloading, storage, and handling of both contaminated and decontaminated soil. Reasonable precautions to minimize unconfined particulate emissions may include, but shall not be limited to those measures identified in F.A.C. Rule 17-2.610(3)(c) [Unconfined Emissions of Particulate Matter].
 - b. Process contaminated soil that is brought to the site as expeditiously as possible in order to minimize storage time.
 - c. Store contaminated soil on an impermeable concrete pad in a covered, semi-enclosed storage area. Any leachate that drains from the contaminated soil shall be collected and mixed with the contaminated soil prior to introduction into the rotary kiln/afterburner system for decontamination.
 - d. The loading, unloading, and handling of soil, whether contaminated or decontaminated, shall not emit objectionable odors. In this case, the Department will consider objectionable odors to be those which result in verifiable, valid and legitimate environmental complaints that originate with Department personnel, county health officials, or surrounding residents.
11. The permittee shall monitor and record the following parameters:
- a. The hourly rate that unprocessed materials are fed to the rotary kiln/afterburner system.

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PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

- b. The hourly feed rate of fuel to the rotary kiln and the hourly feed rate of oil to the afterburner.
 - c. The chromium, arsenic, cadmium, sulfur, and coal tar products (as benzene solubles) content of the fuels and materials that are fed to the rotary kiln/afterburner system on a daily basis. The daily sample for each fuel and unprocessed material shall consist of a composite of 24 hourly samples.
 - d. The temperature of the flue gases entering and exiting the afterburner.
 - e. The flow rate of gases entering the afterburner.
 - f. The oxygen content of gases exiting the afterburner.
 - g. The types, dates, and quantities of materials processed. These records shall also include the certification required by Specific Condition No. 2 and any analytical results that were used to verify/show that the materials to be processed conform to the requirements of Specific Condition No. 2.
9. The permittee shall develop a set of recommended surrogate parameter limits that will be continuously monitored to provide reasonable assurance that the rotary kiln/afterburner system is being operated and maintained in a way that minimizes emissions and complies with the conditions of this permit. The proposed limits shall be submitted to the Department's Central Florida District office for approval with the application for an operation permit. If approved, the specific limits shall become an amendment to this construction permit.
10. All monitoring and recording systems shall be regularly calibrated and maintained in proper working condition pursuant to written procedures and schedules based on the recommendations of the instrument manufacturer.
11. All excess emissions from the rotary kiln/afterburner system shall be subject to the applicable requirements of F.A.C. Rules 17-2.240 [Circumvention], 17-2.250 [Excess Emissions], and 17-4.130 [Plant Operation Problems]. The rotary kiln/afterburner system (except fans and water quench system) shall be shutdown immediately upon the activation of the by-pass stack.

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PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

12. The rotary kiln/afterburner system shall be equipped with the point source sampling facilities required by F.A.C. Rule 17-2.700.

13. Point source compliance testing shall be conducted pursuant to the following requirements:

- a. Compliance testing shall initially be conducted prior to the expiration date of this permit and annually, thereafter.
- b. Point source compliance testing shall be conducted with all sources operating at 90 to 100 percent of the operation rates allowed by Specific Conditions Nos. 4 and 5.
- c. Compliance test reports shall include all of the information required by F.A.C. Rule 17-2.700(7).
- d. Compliance test reports shall be submitted pursuant to the applicable requirements of F.A.C. Chapter 17-2.
- e. Notification of testing shall be furnished to the DER Central Florida District office at least 15 days prior to the date that testing is to commence.
- f. Emission testing for the purpose of demonstrating compliance with Specific Condition No. 7 shall not be required if the rotary kiln/afterburner system was used to thermally process materials contaminated with hydrocarbon products for less than 40 hours during the year prior to the required testing.
- g. The Department may authorize the permittee to demonstrate compliance with Specific Condition No. 7.b. through direct measurement of emissions on other than an annual basis. The Department's decision would include, but not be limited to, consideration of the results of the initial and subsequent direct emission measurements (compliance tests) and the correlation of those measurements to the levels allowed by Specific Condition No. 6.

14. The following emission data shall be used for PSD purposes

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PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

in the absence of actual emissions data except where the Department elects to require or the permittee elects to provide actual emission measurements using the appropriate federal reference methods:

SUMMARY OF ESTIMATED EMISSIONS FOR PSD PURPOSES

Pollutant	Clay Processing ¹		Soil Decontamination ²		Emissions Change	
	lbs./hr.	TPY	lbs./hr.	TPY	lbs./hr.	TPY
Particulate ³	15.0	65.7	17.4	75.7	+2.4	+10.0
SO ₂	52.5	230.0	112.5	479.0	+60.0	+249.0
NO _x	29.4	128.8	37.4	162.0	+8.0	+33.2
CO	0.8	3.5	2.8	11.8	+2.0	+8.3
VOC	0.2	0.9	1.0	4.3	+0.8	+3.4
Lead	0.2	0.9	0.4	1.7	+0.2	+0.8
HCl	19.7	86.3	27.7	119.5	+8.0	+33.2
Mercury ⁴	0.0	0.0	0.02	0.09	+0.02	+0.09

1. Considers Clay Processing 8,760 hrs./yr.
2. Considers Soil Decontamination 8,300 hrs./yr. And Clay Processing 460 hrs./yr.
3. All Particulate Matter Assumed To Be PM₁₀.
4. Emission Rate Substantially Less Than That Required For Sludge Incinerators By NESHAP, 40 CFR 61.52
15. The permanent source identification number assigned to the permitted source is 30ORL42001702, Clay Dryer. Please cite this number on all test reports and other correspondence for each permitted point source.
16. The permittee for good cause, may request that this construction permit be extended. Such request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration date of the permit (F.A.C. Rule 17-4.090).
17. The application for an operation permit must be submitted to the Central Florida District office at least 90 days prior to the expiration date of this construction permit or within 45 days after the completion of compliance testing whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, and

DRAFT

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1990

SPECIFIC CONDITIONS:

certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this _____ day
of _____, 1989

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

Dale Twachtmann, Secretary

6005 N.W. County Hwy. 316
Reddick, Fla. 32686

Sept. 14, 1989

Mr. Bill Thomas
Dept. of Environmental Regulations
2600 Blair Stone Rd.
Tallahassee, Fla.
32399-2600

RECEIVED
SEP 15 1989
DER-BAQM

Dear Mr. Thomas;

It has come to my attention that Mid-Florida Mining Company located in Lowell, Fla. on County Rd. 329 has applied for a permit to build another furnace on their site for the burning of noxious materials. The request was listed in the legal notice section of the Ocala Star Banner on Sept. 5th 1989.

I reside on County Rd. 329 less than $\frac{1}{2}$ mile from Mid-Fla. Mining in an otherwise lovely

-2-

neighborhood and object to their present polluting habits. I obviously don't care to see their business increase.

I would like this letter to be registered as a complaint against the noise, odor, and dusty residue presently being spewn upon our community. I further request information involving hearings or legal actions that may be taken against this obnoxious, filthy company. It is my right to have a clean, healthy environment.

Thank you for your consideration.

Sincerely,

Connie W. Bonbrest
Connie W. Bonbrest

Connie W. Bonbrest
6005 N.W. County Hwy. 316
Reddick, Fla. 32686



DER-BAOM
SEP 15 1989
RECEIVED

Mr. Bill Thomas
Dept. of Environmental Regulations
2600 Blair Stone Road
Tallahassee,
Florida 32399-2600

September 14, 1989

RECEIVED

SEP 18 1989

DER-branch

Mr. Bill Thomas
Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2600

Dear Mr. Thomas:

We have been made aware of a request made by Mid-Florida Mining Company to build an astro-burner on their existing equipment in Lowell, Florida. This request was made public in the legal notices of the Ocala Star Banner on September 5, 1989.

We would like to register a complaint against Mid-Florida Mining Company as well as voice our opinion regarding the request to add the additional equipment. We live approx. $\frac{1}{2}$ mile from this company and the amount of noise, air pollution, not to mention the long term effects this company will have on the environment is our increasing concern.

We would like to be notified of any hearings, meetings, etc., concerning this request by Mid-Florida Mining Company.

Sincerely,

James E. Roland
Marta D. Roland

Mr. & Mrs. James E. Roland
P.O. Box 27
Lowell, Florida 32663

J. Roland
P.O. Box 27
Lowell, Fl 32663

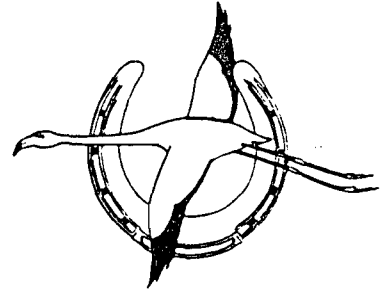


Mr. Bill Thomas
Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2600



REC-50
SEP 15 1989

Dept. of Environmental Reg.
Office of General Counsel



Flamingo Farm THOROUGHBRED HORSES P.O. BOX 125, LOWELL, FLORIDA 32663

13 September 1989

Office of General Counsel
Florida Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Fl.

Gentlemen:

I hereby petition for an Administrative Proceeding (Hearing) in reference to DER's intent to issue a permit to Mid-Florida Mining Co. of Lowell, for construction of an afterburner and its associated usage.

a.) Petitioner: Cornelius A, Link, D.D.S.
P.O. Box 125
Lowell, Fl. 32663 (904 591-1863)
Applicant: Mid-Florida Mining, Co.
P.O. Box 68
Lowell, Fl. 32663
Dept. File No: H T 42-68443 Marion County

b.) How and when I received notice of proposed action:
Legal notice in local newspaper, 5 September 1989
Numerous phone calls from concerned neighbors.

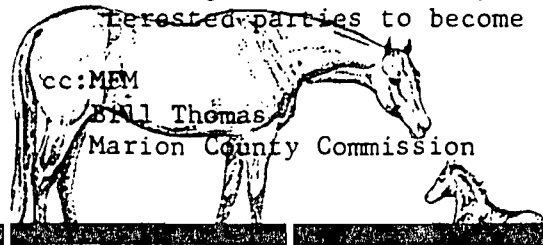
c.) I reside on 100 acres of prime, Karst-type, farmland within one mile from applicant's facility. I am concerned regarding protection of life, environment and the Aquifer.

d.) Disputed facts: Unauthorized fuels have been burned in past; Emissions have been noticeably "wrong" at times; disposal of unburned waste not addressed; No Department File Number published in legal notice.

e.) Facts warranting reversal: Past violations and improprieties; e.g. Consort Order: OGC File No: 88-0938. Past verbal assurances of no further expansion of activities at this site.

f.) Rules requiring reversal: Unknown at this time, but reserve right to submit.

g.) Relief sought by Petitioner: 1.) Copy of permit application. 2.) Public Hearing in Marion County not sooner than 180 days to allow time for interested parties to become informed.



Very truly yours,

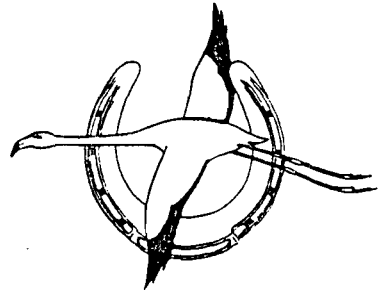
Cornelius A. Link, III

(904) 591-1863

Member Florida Thoroughbred Breeders Association

SEP 15 1989

Dept. of Environmental Reg.
Office of General Counsel



Flamingo Farm THOROUGHBRED HORSES P.O. BOX 125, LOWELL, FLORIDA 32663

13 September 1989

Office of General Counsel
Florida Dept. of Environmental Regulation
2600 Blair Stone Rd.
Tallahassee, Fl.

Gentlemen:

I hereby petition for an Administrative Proceeding (Hearing) in reference to DER's intent to issue a permit to Mid-Florida Mining Co. of Lowell, for construction of an afterburner and its associated usage.

a.) Petitioner: Cornelius A, Link, D.D.S.
P.O. Box 125
Lowell, Fl. 32663 (904 591-1863)
Applicant: Mid-Florida Mining, Co.
P.O. Box 68
Lowell, Fl. 32663
Dept. File No: H T 40-63443 Marion County

b.) How and when I received notice of proposed action:
Legal notice in local newspaper, 5 September 1989
Numerous phone calls from concerned neighbors.

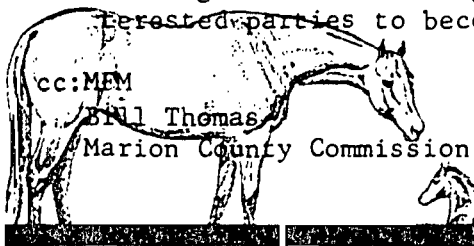
c.) I reside on 100 acres of prime, Karst-type, farmland within one mile from applicant's facility. I am concerned regarding protection of life, environment and the Aquifer.

d.) Disputed facts: Unauthorized fuels have been burned in past; Emissions have been noticeably "wrong" at times; disposal of unburned waste not addressed; No Department File Number published in legal notice.

e.) Facts warranting reversal: Past violations and improprieties; e.g. Consort Order: OGC File No: 88-0938. Past verbal assurances of no further expansion of activities at this site.

f.) Rules requiring reversal: Unknown at this time, but reserve right to submit.

g.) Relief sought by Petitioner: 1.) Copy of permit application. 2.) Public Hearing in Marion County not sooner than 180 days to allow time for interested parties to become informed.

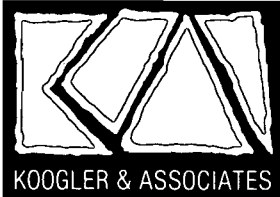


Very truly yours,

Cornelius A. Link, III

(904) 591-1863

Member Florida Thoroughbred Breeders Association



KOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 290-88-01

September 11, 1989

RECEIVED
SEP 12 1989
DER-BAQM

Mr. Mike Harley
Division of Air Resources
Management
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Mid-Florida Mining Company
Confirmation of Information
Related to Afterburner

Dear Mike:

Attached are copies of various materials that confirm information I have relayed to you previously regarding the afterburner that is being proposed by Mid-Florida Mining.

The first two sheets are revisions of material that I FAXed to you on August 24, 1989. The revisions relate to particulate matter emissions from the dryer/afterburner system and show hourly and annual emission rates based on a previously agreed to particulate matter emission limit of 0.08 grains per dry standard cubic foot of stack gas (corrected to 50 percent excess air) exiting the dryer/afterburner system. The maximum expected particulate matter mass emission rate will be 17.4 pounds per hour and 72.2 tons per year (based on an annual operating time of 8300 hours per year). Particulate matter emissions from the dryer, while processing clay the remaining 460 hours per year, will be 15.0 pounds per hour and 3.5 tons per year. The maximum total annual particulate matter emission rate will be 75.7 tons per year. Under present operating conditions, the maximum annual particulate matter emission rate from the clay dryer alone is 65.7 tons per year. Thus, the maximum expected increase in particulate matter emissions will be 10.0 tons per year.

The second set of information (pages 3-5) summarize the calculations for the emission rates of the various pollutants (except particulate matter) summarized on pages 1 and 2. These emission rates are based upon the assumption that the dryer/afterburner system will operate 8300 hours per year to process contaminated soil and that the existing dryer will operate the remaining 460 hours per year to process clay as presently permitted.

Sulfur dioxide emissions are based upon a sulfur content of fuel fired to the afterburner of 1.0 percent. Sulfur dioxide emissions from the dryer were estimated to be 52.5 pounds per hour; the presently permitted sulfur dioxide emission limit.

On pages 6-8, I summarize the expected air flow rate from the dryer/afterburner system and show the expected oxygen content and moisture content of the gas stream. The flow rate is then corrected to dry standard conditions with 50 percent excess air and the particulate matter mass emission rates of 17.4 pounds per hour and 72.2 tons per year are calculated. The corrected hourly and annual particulate matter mass emission rates should be used in Specific Condition 6a of proposed Permit AC42-162296.

On pages 9 and 10, I calculated expected lead emissions from the dryer/afterburner while processing soil and from the dryer alone while processing clay. Lead emissions from the dryer while processing soil are based on a maximum expected lead content in fuel of 500 parts per million (which includes an allowance for lead that may possibly be in soil) and an estimated 90 percent lead removal in the baghouse. Lead emissions from the afterburner system while processing soil were based on a maximum fuel oil lead content of 100 parts per million and the assumption that all of the lead in the fuel will be discharged to the atmosphere. With the dryer processing clay as presently permitted, the maximum expected lead emission rate was based on a permitted fuel lead content of 1000 parts per million and a 90 percent estimated baghouse efficiency. Based upon these estimates, it was determined that under presently permitted conditions, the maximum expected lead emission rate from the dryer system will 0.89 tons per year. Under proposed operating conditions (soil processing with the dryer/afterburner 8300 hours per year and clay processing with dryer alone for 460 hours per year), the maximum expected lead emissions will be 1.72 tons per year. Neither the magnitude of these expected lead emission rates nor the increase in lead emissions will trigger a PSD review.

On pages 11 and 12, I have revised the air quality impact analysis that I previously submitted to reflect the amended particulate matter and lead emission rates.

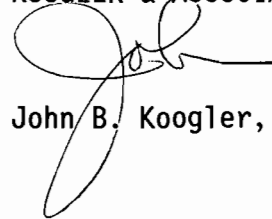
Mr. Mike Harley
Florida Department of
Environmental Regulation

September 11, 1989
Page 3

According to my notes, the information provided herein should tie up all of the loose ends associated with this permitting process. If you have any questions regarding this information, please do not hesitate to contact me.

Very truly yours,

KOGLER & ASSOCIATES



John B. Koogler, Ph.D, P.E.

JBK:wa
Enc.

cc: Mr. D. Kibler
C. Collins, CF Dist.
CHF/BT



(1)

Pollutant	Permitted Emissions		Applicable Rule	Allowable Emissions (lb/hr)	Uncontrolled Emissions		Reference on Flow Diagram
	(lb/hr)	(tpy)			(lb/hr)	(tons/yr)	
Particulate Matter							
Dryer (1)	15.0 ✓	15.8 3.5	(4)	15.0 ✓	3000 (6) ✓	9150 690 (6)	1
Dryer (2)					3000 ✓	3990 12,450	
Afterburner	17.4	72.2	(0.089 g/4scf @ 50% x 3.6) 17.4	17.4	7.5-0.8 ✓	1.1 31	
TOTAL (3)					3000 3008 ✓	3990 12481	
SO ₂							
Dryer (1)	52.5 ✓	160.1 12.1	(4)	52.5 ✓	70 ✓	213 16	1
Dryer (2)		70.5 217.9	(4)	52.5 ✓	70 ✓	44 291	
Afterburner	60.0	39.9 17-2.520	17-2.520	60.0	60.0 ✓	48 249	
TOTAL (3)		110.4 466.9		82.5	112.5 ✓	134 540	
NO _x							
Dryer (1)	29.4 ✓	89.7 6.8	(4)	29.4 ✓	29.4 ✓	90 7	1
Dryer (2)	29.4 ✓	39.5 122.0	(4)	29.4 ✓	29.4 ✓	39 122	
Afterburner	8.0	10.6 17-2.520	17-2.520	8.0	8.0 ✓	11 33	
TOTAL (3)	37.4	50.1 155.2		37.4	37.4 ✓	50 155	
CO							
Dryer (1)	0.8 ✓	2.4 0.2	(4)	0.8 ✓	0.8 ✓	2.4 <1	1
Dryer (2)	0.8 ✓	1.3 3.3	(4)	0.8 ✓	0.8 ✓	1.3 3	
Afterburner	2.0	2.7 17-2.520	17-2.520	2.0	2.0 ✓	2.7 8	
TOTAL (3)	2.8	4.0 11.6		2.8	2.8 ✓	4.0 12	
VOC							
Dryer (1)	0.1 ✓	<0.1	(4)	0.1 ✓	0.1 ✓	0.2 <0.1	1
Dryer (2)	-	-	(4)	-	8000 400 (5)	4512 (5) 33200	
Afterburner	-	-	17-2.520	-	0.1 ✓	0.1 <1	
TOTAL	0.8(7)	1.0(8) 3.3		0.8(7)	6400 ✓	4512 33200	
HCl							
Dryer (1)	19.2 ✓	58.6 4.4	(4)	19.2 ✓	19.2 ✓	58.6 4	1
Dryer (2)	8.2	10.9 34.0	17-2.520	8.2 ✓	8.2 ✓	10.9 34	
Afterburner	6.8+12.0=18.8	25.0 17-2.520	17-2.520	18.8	18.8 ✓	25.0 78	
TOTAL (3)	27.0	35.9 78.0		27.0	27.0 ✓	35.9 112	

- (1) Dryer operating as clay dryer for ~~6100~~ 460 hours per year under conditions of permit AC42-113787.
- (2) Dryer operating at a rate of 40 tons per hour and processing soil contaminated with various hydrocarbon products. Maximum annual operating time will not exceed ~~2660~~ 8300 hours.
- (3) Total emissions from dryer and afterburner when contaminated soil is being processed. There is no increase in emissions from the dryer. Emissions from the afterburner are combustion by-products from the fuel/hydrocarbons.
- (4) Permit condition of AC42-113787 or actual unpermitted emissions.
- (5) Uncontrolled hydrocarbons (VOC) from the dryer are based on a soil processing rate of 40 tons per hour and an eight percent contaminant level.
- (6) See Permit Application for AC42-1123787 for calculation of uncontrolled emissions.
- (7) Includes 0.1 lb/hr from fuel combustion in both dryer and afterburner plus 0.6 lb/hr from hydrocarbon incineration in afterburner.
- (8) Includes 0.1 tpy from fuel combustion in both dryer and afterburner plus ~~0.8~~ 3.2 tpy from hydrocarbon incineration in afterburner.

(2)

SUMMARY OF EMISSION INCREASES

Pollutant	Permitted Emissions			De minimis Increase (tpy) (1)
	(lb/hr)	Total (tpy)	Dryer (tpy) Afterburner (tpy) [Emission Increases]	
Particulate Matter Dryer	15.0 ✓	3.5 ⊙ 460 hr/yr	65.7 dryer ⊙ 8760 hr/yr	250 25/15 (2)
Dryer Afterburner TOTAL	17.4	72.2 ⊙ 8300 hr/yr	72.2 + 3.5 - 65.7 = 10.0	
SO ₂ Dryer	52.5 ✓	12.1 160.1	230.6 (160.1 + 70.5)	250 10
Dryer Afterburner TOTAL	52.5 ✓ 60.0 30.0 112.5	217.9 70.5 39.9 110.4	249.0 39.9 249.0	
NOx Dryer	29.4 ✓	6.8 89.7	129.2 (89.7 + 39.5)	250 10
Dryer Afterburner TOTAL	29.4 ✓ 8.0 ✓ 37.4 ✓	122.0 39.5 10.6 155.2	33.2 10.6 33.2	
CO Dryer	0.8 ✓	0.2 2.1	3.7 (2.1 + 1.3)	250 100
Dryer Afterburner TOTAL	0.8 ✓ 2.0 ✓ 2.8 ✓	3.3 1.7 2.7 11.6	8.3 2.7 8.3	
VOC Dryer	0.2 ✓	<0.1 0.6	0.9 (0.6 + 0.3)	250 10
Dryer Afterburner TOTAL	0.2 ✓ 0.8 ✓ 1.0 ✓	0.3 0.8 1.1 11.4	3.3 1.1 3.3	
HCl Dryer	19.2 ✓	4.4 58.6	38.4 (3) 69.5 (3) (58.6 + 10.9)	78.0 25.0 NA ✓
Dryer Afterburner TOTAL	8.2 ✓ 18.8 ✓ 27.0 ✓	34.0 10.9 25.0 112.0	78.0 25.0 78.0 [78.0 - 45.7 = 32.3]	

(1) Table 500-2, 17-2.500, FAC
 (2) Total particulate matter/PM10 particles
 (3) Represents a ~~14.6~~ tpy reduction from maximum permitted emissions while processing clay (19.2 lb/hr x 8760 hr/yr x 1/2000 = 84.1 tpy max possible).

3

Section V - Supplemental Information

1. Process Rate - Not applicable for afterburner.

2/3. Controlled and Uncontrolled Emissions:

Emission factors for particulate matter, NOx, VOC and CO are from AP-42, Section 1.3, Factors for an Industrial Boiler Burning Distillate Fuel.

NOx - Controlled and Uncontrolled:

$$\begin{aligned} \text{NOx} &= 20 \text{ lb/1000 gal} \times 400 \text{ gal/hr} \\ &= 8.0 \text{ lb/hr} \quad 8300 \\ &\quad \times 2660 \text{ hr/yr} \times 1/2000 \\ &= 10.6 \text{ tpy} \\ &\quad 33.2 \end{aligned}$$

Particulate Matter - Controlled and Uncontrolled: (~~AP 42, Sect. 1.1~~)

$$\begin{aligned} \text{P.M.} &= 2 \text{ lb/1000 gal} \times 400 \text{ gal/hr} = 75 (0.25\% \text{ each}) \text{ lb/1000 gal} \times 400 \text{ gal/hr} \\ &= 0.8 \text{ lb/hr} \\ &\quad \times 2660/2000 = 7.5 \text{ lb/hr} \quad 8300 \\ &= 7.1 \text{ tpy} \quad \times 2660/2000 \\ &\quad = 10.0 \text{ tpy} \\ &\quad 31.1 \end{aligned}$$

See Attached Calc. based on 0.08 gr/dscf @ 30% x 5 air

CO - Controlled and Uncontrolled:

$$\begin{aligned} \text{CO} &= 5 \text{ lb/1000 gal} \times 400 \text{ gal/hr} \\ &= 20 \text{ lb/hr} \quad 8300 \\ &\quad \times 2660/2000 \\ &= 2.7 \text{ tpy} \\ &\quad 8.3 \end{aligned}$$

SO₂ - Controlled and Uncontrolled:

400 gph fuel @ ~~0.5%~~^{1.0%} sulfur and 7.5 lb/gal

$$\begin{aligned} \text{SO}_2 &= 400 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times (0.005 \times 2) \text{ lb SO}_2/\text{lb fuel} \\ &= 30.0 \text{ lb/hr} \quad 60.0 \text{ lb/hr} \\ &\quad \times 2660/2000 \\ &= 39.9 \text{ tpy} \\ &\quad 249.0 \end{aligned}$$

Chlorides - Controlled and Uncontrolled:

Soil Contaminants

Assume 40 tpy soil with 100 mg/kg of chlorinated solvents at 85% chlorine.

4

$$\begin{aligned}
 \text{Cl} &= (40 \times 2000) \text{ lb/hr soil} \\
 &\quad \times (100 \times 10^{-6}) \text{ lb solvent/lb soil} \times 0.85 \\
 &= 6.8 \text{ lb/hr} \quad 8300 \\
 &\quad \times \frac{2660}{2000} \\
 &= \frac{9.0}{28.2} \text{ tpy}
 \end{aligned}$$

(NOTE: MFM is presently permitted to burn up to 272 gph of fuel with 0.94% chlorides. This could result in the emission of 19.2 lb/hr of chlorides. As an offset, MFM will not burn the spent solvent/used oil fuel blend when processing the soil containing low levels of chlorinated solvents. Thus, the chloride emission rate could be as much as 12.4 lb/hr less than presently permitted.)

Chlorides from Fuel Combustion - Controlled and Uncontrolled:

Dryer Fuel - Clay Processing

Presently permitted to burn 272 gal/hr fuel with up to 0.94 % chlorides when processing clay.

$$\begin{aligned}
 \text{Cl} &= 272 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times 0.0094 \\
 &= 19.2 \text{ lb/hr} \quad 460 \\
 &\quad \times \frac{6100}{2000} \\
 &= \frac{58.6}{4.4} \text{ tpy}
 \end{aligned}$$

Dryer Fuel - Soil Processing

Will burn used-oil fuel at 272 gal/hr with a maximum of 4000 ppm Cl.

$$\begin{aligned}
 \text{Cl} &= 272 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times (4000 \times 10^{-6}) \\
 &= 8.2 \text{ lb/hr} \quad 8300 \\
 &\quad \times \frac{2660}{2000} \\
 &= \frac{10.9}{34.0} \text{ tpy}
 \end{aligned}$$

Afterburner Fuel - Soil Processing

Will burn used-oil fuel at maximum rate of 400 gal/hr with a maximum of 4000 ppm Cl.

$$\begin{aligned}
 \text{Cl} &= 400 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times (4000 \times 10^{-6}) \\
 &= 12.0 \text{ lb/hr} \quad 8300 \\
 &\quad \times \frac{2660}{2000} \\
 &= \frac{16.0}{49.8} \text{ tpy}
 \end{aligned}$$

Total Chlorides

Clay Processing	19.2 lb/hr and $\frac{4.4}{58.6}$ tpy	$\frac{460}{6100}$ hr/yr
Soil Processing	8.2 lb/hr and $\frac{34.0}{10.9}$ tpy	49.8
Dryer Fuel	12.0 lb/hr and $\frac{16.0}{16.0}$ tpy	28.2
Afterburner Fuel	6.8 lb/hr and $\frac{9.0}{9.0}$ tpy	
Soil	27.0 lb/hr and $\frac{112.0}{35.9}$ tpy	$\frac{2660}{8300}$ hr/yr
TOTAL		

5

Hydrocarbons (VOC)

Soil - Uncontrolled:

40 tons per hour of soil at a maximum of 10% hydrocarbon contaminant. Assume no destruction in dryer.

$$\begin{aligned}
 \text{VOC} &= (40 \times 2000) \text{ lb/hr} \times 0.10 \text{ lb VOC/lb soil} \\
 &= 8000 \text{ lb/hr} \quad 8300 \\
 &\quad \times \frac{2660}{2000} \\
 &= \frac{10640}{33200} \text{ tpy}
 \end{aligned}$$

Soil - Controlled:

Residence time of 2 seconds at a temperature of 2000°F will provide a 99.99% destruction of VOC.

$$\begin{aligned}
 \text{VOC} &= 8000 \text{ lb/hr} \times (1 - 0.9999) \\
 &= 0.80 \text{ lb/hr} \quad 8300 \\
 &\quad \times \frac{2660}{2000} \\
 &= \frac{1.1}{3.3} \text{ tpy}
 \end{aligned}$$

Fuel - Controlled and Uncontrolled

Dryer

$$\begin{aligned}
 \text{VOC} &= 0.2 \text{ lb/1000 gal} \times 272 \text{ gal/hr} \\
 &= 0.1 \text{ lb/hr} \quad 460 \\
 &\quad \times \frac{6100}{2000} \\
 &= \frac{0.2}{20.1} \text{ tpy}
 \end{aligned}$$

Afterburner

$$\begin{aligned}
 \text{VOC} &= 0.2 \text{ lb/1000 gal} \times 400 \text{ gal/hr} \\
 &= 0.1 \text{ lb/hr} \quad 8300 \\
 &\quad \times \frac{2660}{2000} \\
 &= \frac{0.1}{0.3} \text{ tpy}
 \end{aligned}$$

4. Design Details of Afterburner - See Attachment 1.
5. Control Efficiency -

A control efficiency of at least 99.99% will be achieved by raising the temperature of the gases to 2000°F for a period of 2 seconds.

6. Flow Diagram - See Attachment 2.
7. Location Map - See Attachment 3.
8. Site Map - See Attachment 4.

9. Permit Fee - \$500 - Emission increase of between 25 tpy and 50 tpy (17-4.050, FAC).

10. Certificate of Completion of Construction - Not Applicable.



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JOB MFM dryer/afterburner
 CALCULATED BY JOHN B. KOOGLER, P.E. DATE 2/1/89
 SHEET NO. 1 OF 3

AIR FLOW RATE CALCULATIONS FOR MASS PARTICULATE MATTER LIMIT

Processing Rate - Dryer

40 tph soil @ 30% moisture (dry soil basis)
 Dryer Fuel use - 272 gph

Moisture leaving dryer soil:

$$40 \text{ tph} \times 2000 \text{ lb/tn} \times 0.30 / 1.30 = 18462 \text{ lb/hr}$$

(dry soil = 61538 lb/hr
 x 0.30 moisture = 18462 lb/hr)

Combustion products:

$$272 \text{ gph Fuel} \times 8.75 \text{ lb H}_2\text{O/gal} = 2380 \text{ lb/hr}$$

$$\text{Total Moisture} = 20842 \text{ lb/hr}$$

Stack Gas Flow (from tests)

$$= 23,000 \text{ dscfm @ } 14\% \text{ O}_2 \text{ (Vol)}$$

$$\times 60 \text{ min/hr} \times 0.075 \text{ lb/ft}^3 = 103500 \text{ lb/hr}$$

Oxygen

$$= 23,000 \text{ dscfm} \times 0.14$$

$$= 3220 \text{ dscfm}$$

$$\times 60 \text{ min/hr} \times 32/385 \text{ lb/ft}^3 = 16058 \text{ lb/hr}$$

Afterburner

Fuel Use - 400 gph

Combustion air @ 10% excess air

$$400 \text{ gph} \times 114.64 \text{ lb air/gal} = 45856 \text{ lb/hr}$$

$$\times 1/0.075 \text{ lb/ft}^3 = 611413 \text{ ft}^3/\text{hr}$$

$$\times 0.209 \text{ ft}^3 \text{ O}_2 / \text{ft}^3 \text{ air} = 127785 \text{ ft}^3 \text{ O}_2 / \text{hr}$$

$$\times 0.1 \text{ (10% XS air)} = 12,778 \text{ ft}^3 \text{ O}_2 / \text{hr}$$



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JOB _____
 CALCULATED BY JOHN B. KOOGLER, P.E. DATE 9/1/89
 SHEET NO. 2 OF 3

Combustion Products @ 10% excess air

Dry gas @ 115.115 lb/gal
 = 400×115.115 = 46046 lb/hr

Moisture @ 8.615 lb/gal
 = 400×8.615 = 3446 lb/hr

Oxygen (12,778 ft³/hr excess O₂)
 x 32/385) = 1062 lb/hr

Total Air Flow From Afterburner / Quench

Dry gas
 Dryer = 103500 lb/hr
 Afterburner = 46046 lb/hr
 Total = 149546 lb/hr (33,232 dscfm)

Moisture
 Dryer = 20842 lb/hr
 Afterburner = 3446 lb/hr
 Quench = 49980 lb/hr (@ 100 gpm)
 Total = 74,268 lb/hr (26,475 scfm, H₂O)

Oxygen
 Dryer = 16058 lb/hr
 Afterburner = 1062 lb/hr
 Total = 17120 lb/hr (3433 dscfm)
 (= 10.3% O₂ dry gas basis)



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JOB _____
CALCULATED BY JOHN B. KOGLER, P.E. DATE 2/1/89
SHEET NO. 3 OF 3

Stack Gas Moisture

$$= \left(\frac{26,475}{33,232 + 26,475} \right)$$

$$= 44.3\%$$

Total Stack Gas Flow (actual conditions)

$$= (33,232 + 26,475) \left(\frac{350 + 460}{528} \right)$$

$$= 91,596 \text{ Acfm } @ 44.3\% \text{ moist}$$

$$\quad \quad \quad @ 350^\circ \text{F}$$

Stack Gas Flow (dry standard conditions
@ 50% excess air)

$$= 33,232 \left(\frac{20.9 - 10.3}{20.9} \right) \left(\frac{20.9}{20.9 - 7.0} \right)$$

$$= 25,342 \text{ dscfm } @ 50\% \text{ excess air}$$

Particulate Matter Emissions

0.08 gr/dscf @ 50% excess air

$$= 25,342 \text{ ft}^3/\text{min} \times 60 \text{ min/hr}$$

$$\quad \quad \quad \times 0.08 \text{ gr/ft}^3 \times 1/7000 \text{ gr/lb}$$

$$= 17.4 \text{ lb/hr}$$

$$\times \frac{8300 \text{ lb/yr}}{2000 \text{ lb/hr}}$$

$$= 72.2 \text{ tpy}$$

} While processing
Contaminated Soil
for 8300 lb/yr



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JOB Lead Emissions - MFM

CALCULATED BY JOHN B. KOOGLER, P.E. DATE _____

SHEET NO. _____ 1 OF 2

LEAD EMISSIONS ANALYSIS WITH SOIL 8300 hr/yr AND CLAY 460 hr/yr

Dryer Fuel while Processing Soil
272 gal/hr @ 500 ppm lead (this
lead content will also cover any lead
that maybe present in the soil)

$$\begin{aligned} &= 272 \times 7.5 \text{ lb/gal} \times 500 / 10^6 \\ &= 1.02 \text{ lb/hr} \\ &\quad \times (1 - 0.90) \text{ control efficiency for baghouse} \\ &= 0.10 \text{ lb/hr} \\ &\quad \times 8300 \text{ hr/yr} \times 1/2000 \text{ lb/ton} \\ &= 0.42 \text{ tpy} \end{aligned}$$

Aftabinner Fuel while Processing Soil
400 gal/hr @ 100 ppm lead

$$\begin{aligned} &= 400 \times 7.5 \times 100 / 10^6 \\ &= 0.30 \text{ lb/hr} \\ &\quad \times 8300 \text{ hr/yr} \times 1/2000 \text{ lb/ton} \\ &= 1.25 \text{ tpy} \end{aligned}$$

Dryer while Processing Clay
272 gal/hr @ 1000 ppm (present permit limit)

$$\begin{aligned} &= 272 \text{ gph} \times 7.5 \text{ lb/gal} \times 1000 / 10^6 \\ &= 2.04 \text{ lb/hr} \\ &\quad \times (1 - 0.90) \text{ control efficiency for baghouse} \\ &= 0.20 \text{ lb/hr} \\ &\quad \times 460 / 2000 \\ &= 0.05 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{Total Lead Emissions while Processing Soil/Clay} \\ &= 0.42 + 1.25 + 0.05 = 1.72 \text{ tpy} \end{aligned}$$



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(10)

JOB _____

CALCULATED BY JOHN B. KOGLER, P.E. DATE _____

SHEET NO. _____ 2 OF 2

LEAD EMISSIONS ANALYSIS WITH CLAY 8760 hr/yr

Dryer Fuel @ 1000 ppm lead

$$= 272 \text{ gal} \times 7.5 \text{ lb/gal} \times 1000 / 10^6$$

$$= 2.04 \text{ lb/hr}$$

$$\times (1 - 0.90) \text{ baghouse efficiency}$$

$$= 0.20 \text{ lb/hr}$$

$$\times 8760 \text{ hr/yr} \times 1/2000 \text{ lb/ton}$$

$$= 0.89 \text{ tpy}$$

LEAD EMISSIONS SUMMARY

PRESENT

- 0.89 tpy

< 3.0 tpy, therefore
minor source

PROPOSED

- 1.72 tpy

< 3.0 tpy

$$\text{increase} = 1.72 - 0.89$$

$$= 0.83 \text{ tpy} < 3.0 \text{ tpy}$$



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JOB MFM ENVIRONMENTAL
 CALCULATED BY JOHN B. KOOGLER, P.E. DATE _____
 SHEET NO. 1 OF 2

AIR QUALITY IMPACT ANALYSIS

Modeled Emissions - 10.0 g/s (79.4 lb/hr)

Model Calculated Impacts

Avg Time	Impact ($\mu\text{g}/\text{m}^3$)	Distance (m)
1-hr	196	1000
3-hr	125	500
8-hr	68	500
24-hr	34	1000
Annual	3.1	1000
Quarterly	6.0 (estimated)*	1000 (est.)

* Interpolated on log-log plot of concentration vs. averaging time

Impact Analysis

Compound	Emissions (lb/hr)	Impact/Std ($\mu\text{g}/\text{m}^3$) [avg. time]
Part. Matter (PM ₁₀)	17.4 ✓	7.5/150 [24-hr]; 0.7/50 [Annual]
SO ₂	82.5 112.5 ✓	¹⁷⁷ 130/1300 [3-hr]; ⁴⁸ 35/260 [24-hr]; ^{4.4} 3.2/60 [Annual]
NO _x	37.4 ✓	✓1.5/100 [Annual]
HCl	27.0 ✓	✓109/150 [3-min]*; 1.0/7 [Annual]**
Lead	19.8 ^{***} 0.40 ✓	1.5/1.5 [Quarterly] 0.03

* 3-min impact = 1-hr impact x 1.64; acceptable impact of 150 $\mu\text{g}/\text{m}^3$ has been proposed by EPA

** Annual acceptable level of 7 $\mu\text{g}/\text{m}^3$ has been proposed by EPA in proposed Industrial Furnace Regulations for burning HWD fuel

*** See attached for calculation of lead emission rate. Assumes 500 ppm lead in dryer fuel with 90% removal in baghouse and 100 ppm lead in afterburner fuel with no control



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JOB MFM Env - Air Quality Impact
CALCULATED BY JOHN B. KOOGLER, P.E. DATE _____
SHEET NO. 2 OF 2

Impact Analysis (cont)

After burner
will meet
on-spec
used oil
requirements

Compound	Emission (1) Rate (lb/hr)	Conc in (2) Fuel (ppm)	Acceptable Amb (3) Impact (ug/m ³)
As	0.11	22 5	4.3×10^{-3} (annual)
Cd	0.05	9 2	1.8×10^{-3} (annual)
Cr ⁶⁺	0.31	21 10	1.2×10^{-2} (annual)
Organics (4)	0.018	180 lb/hr (5)	7.1×10^{-4} (annual)

- (1) Emission rate resulting in the Acceptable Ambient Level (AAL)
- (2) Concentration in afterburner and dryer fuel resulting in AAL
- (3) AAL established by EPA (see attached)
- (4) Organic (dibenz(a,h)anthracene) with most restrictive AAL
- (5) The firing rate of dibenz(a,h)anthracene that will result in an emission rate of 0.018 lb/hr assuming a 99.99% DRE in the afterburner

Example Calculation

Part. Matter - Actual emissions = $\frac{17.4}{22.5} \times 15.8$ lb/hr
 Modeled emissions = 79.4 lb/hr
 Modeled 24-hr impact = 34 ug/m³
 24-hr PM₁₀ Impact = $\frac{17.4}{79.4} \times 34 = \frac{7.5}{9.6} \times 34 < 150$ ug/m³

Cd - AAL (annual) = 1.8×10^{-3} ug/m³
 Modeled annual impact = 3.1 ug/m³
 Max acceptable emission rate = $\left(\frac{1.8 \times 10^{-3}}{3.1}\right) \times 79.4$
 = 0.046 lb/hr

Fuel firing rate = 400 gph (afterburner) + 272 gph (dryer)
 = 672 gph (5040 lb/hr)

Cd conc in fuel = $\left(\frac{10^6}{5000}\right) \times 0.046 = 9$ ppm

Best Available Copy



KOUGLER & ASSOCIATES
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Steve Smallwood
[Signature]

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DER-BAQM

FAX TRANSMITTAL FORM

TO: Mike Harley
FDER Tallahassee
904/487-4438 (Fax)

FROM: John Kougler
Re / MFM Afterburner

SENT BY: *[Signature]*
DATE: 8/24/89
FAX PHONE: 904-377-1158

The text being transmitted consists of 2 pages
PLUS this one.

REMARKS: Mike - The following will support our request
to use 1.0% sulfur in the afterburner and to use
the afterburner 8300 hours/yr; with the dryer being used
(8260-8300) 460 h/yr for clay drying. The following also
demonstrates 500ppm lead in the fuel will cause
no environmental problems. Call if questions

Regards
[Signature]

Best Available Copy

Pollutant	Permitted Emissions		Applicable Rule	Allowable Emissions (lb/hr)	Uncontrolled Emissions		Reference on Flow Diagram
	(lb/hr)	(tpy)			(lb/hr)	(tons/yr)	
Particulate Matter						690	
Dryer (1)	15.0 ✓	15.0 3.5	(4)	15.0 ✓	3000 (6)	3150 (6)	1
Dryer (2)	15.0 ✓	15.0 62.2	(4)	15.0 ✓	3000	3300 12,450	
Afterburner	7.5 ✓	7.5 17-2,520	17-2,520	7.5 ✓	7.5 ✓	10 11 31	
TOTAL (3)	22.5 ✓	22.5 93.3		22.5 ✓	3000 3000	3300 12481	
SO ₂							
Dryer (1)	52.5 ✓	52.5 12.1	(4)	52.5 ✓	70	77 16	1
Dryer (2)	52.5 ✓	52.5 217.9	(4)	52.5 ✓	70	77 291	
Afterburner	60.0 ✓	60.0 17-7,520	17-7,520	60.0 ✓	60.0 ✓	66 249	
TOTAL (3)	112.5 ✓	112.5 466.9		112.5 ✓	100	133 540	
NO _x							
Dryer (1)	29.4 ✓	29.4 6.8	(4)	29.4 ✓	29.4 ✓	30 7	1
Dryer (2)	29.4 ✓	29.4 122.0	(4)	29.4 ✓	29.4 ✓	31 122	
Afterburner	8.0 ✓	8.0 17-2,520	17-2,520	8.0 ✓	8.0 ✓	11 33	
TOTAL (3)	37.4 ✓	37.4 155.2		37.4 ✓	37.4 ✓	50 155	
CO							
Dryer (1)	0.8 ✓	0.8 0.2	(4)	0.8 ✓	0.8 ✓	1 <1	1
Dryer (2)	0.8 ✓	0.8 3.3	(4)	0.8 ✓	0.8 ✓	1 3	
Afterburner	2.0 ✓	2.0 17-2,520	17-2,520	2.0 ✓	2.0 ✓	2 8	
TOTAL (3)	2.8 ✓	2.8 11.6		2.8 ✓	2.8 ✓	4 12	
VOC							
Dryer (1)	0.1 ✓	<0.1	(4)	0.1 ✓	0.1	0.2 <0.1	1
Dryer (2)	-	-	(4)	-	0.0006400 (5)	0.1 (5) 33200	
Afterburner	-	-	17-2,520	-	0.1	0.1 <1	
TOTAL	0.8 (7)	0.8 3.3		0.8 (7)	6400	0.1 33200	
HCl							
Dryer (1)	19.2 ✓	19.2 4.4	(4)	19.2 ✓	19.2 ✓	58.6 4	1
Dryer (2)	8.2 ✓	8.2 36.0	17-2,520	8.2 ✓	8.2 ✓	10.7 34	
Afterburner	6.8 + 12.0 = 18.8 ✓	18.8 17-2,520	17-2,520	18.8 ✓	18.8 ✓	25.0 78	
TOTAL (3)	27.0 ✓	27.0 112.0		27.0 ✓	27.0 ✓	35.9 112	

- (1) Dryer operating as clay dryer for 460 hours per year under conditions of permit AC42-113787.
- (2) Dryer operating at a rate of 40 tons per hour and processing soil contaminated with various hydrocarbon products. Maximum annual operating time will not exceed 2660 hours. 8300
- (3) Total emissions from dryer and afterburner when contaminated soil is being processed. There is no increase in emissions from the dryer. Emissions from the afterburner are combustion by-products from the fuel/hydrocarbons.
- (4) Permit condition of AC42-113787 or actual unpermitted emissions.
- (5) Uncontrolled hydrocarbons (VOC) from the dryer are based on a soil processing rate of 40 tons per hour and an eight percent contaminant level.
- (6) See Permit Application for AC42-1123787 for calculation of uncontrolled emissions.
- (7) Includes 0.1 lb/hr from fuel combustion in both dryer and afterburner plus 0.6 lb/hr from hydrocarbon incineration in afterburner.
- (8) Includes 0.1 tpy from fuel combustion in both dryer and afterburner plus 0.2 tpy from hydrocarbon incineration in afterburner.

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SUMMARY OF EMISSION INCREASES

Pollutant	Permitted Emissions				De minimis Increase (tpy) (1)
	(lb/hr)	Total (tpy)	Dryer (tpy)	Afterburner (tpy) (Emission Increases)	
Particulate Matter					
Dryer	15.0 ✓	3.5 15.0	65.7 (15.0 + 15.0)	31.1 10.0 1.1	250 25/15 (2)
Dryer	15.0 ✓	62.2 14.9			
Afterburner	7.5 ✓	100.0 15.0	31.1		
TOTAL	22.5 ✓	22.5 11.0	99.3		
SO ₂					
Dryer	52.5 ✓	12.1 140.1	239.8 (160.1 + 70.0)	244.0 39.9	250 10
Dryer	52.5 ✓	217.9 70.5			
Afterburner	60.0 ✓	20.0 42.5	249.0		
TOTAL	112.5 ✓	110.1			
NO _x					
Dryer	29.4 ✓	6.8 89.7	129.2 (89.7 + 39.5)	33.2 10.6	250 10
Dryer	29.4 ✓	122.0 39.5			
Afterburner	8.0 ✓	10.6 50.1	33.2		
TOTAL	37.4 ✓	155.2			
CO					
Dryer	0.8 ✓	0.2 2.1	3.7 (2.1 + 1.3)	8.3 2.7	250 100
Dryer	0.8 ✓	3.3 1.1			
Afterburner	2.0 ✓	2.7 1.0	8.3		
TOTAL	2.8 ✓	11.6			
VOC					
Dryer	0.2 ✓	<0.1 0.6	0.9 (0.6 + 0.3)	3.3 1.1	250 10
Dryer	0.2 ✓	0.8 0.3			
Afterburner	0.8 ✓	1.1 1.1	3.3		
TOTAL	1.0 ✓	14.1			
HCl					
Dryer	19.2 ✓	4.4 58.6	38.4(3) 69.5(3)	78.0 25.0	NA ✓
Dryer	6.2 ✓	34.0 10.9	(58.6 + 10.9)	Increase = 25.0 - 11.6 = 10.4 tpyt	
Afterburner	18.8 ✓	25.0 25.0	78.0		
TOTAL	27.0 ✓	35.9 112.0		[78.0 - 45.7] = 32.3	

- (1) Table 500-2, 17-2.500, PAC
- (2) Total particulate matter/PK10 particles
- (3) Represents a ~~11.6~~ tpy reduction from maximum permitted emissions while processing clay [19.2 lb/hr x 8760 hr/yr x 1/2000 = 84.1 tpy max possible].

45.7

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Section V - Supplemental Information

1. Process Rate - Not applicable for afterburner.

2/3. Controlled and Uncontrolled Emissions:

Emission factors for particulate matter, NO_x, VOC and CO are from AP-42, Section 1.3, Factors for an Industrial Boiler Burning Distillate Fuel.

NO_x - Controlled and Uncontrolled:

$$\begin{aligned} \text{NO}_x &= 20 \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= 8.0 \text{ lb}/\text{hr} \quad \cancel{8300} \\ &\quad \times 2660 \text{ hr}/\text{yr} \times 1/2000 \\ &= \cancel{10.6} \text{ tpy} \\ &\quad 33.2 \end{aligned}$$

Particulate Matter - Controlled and Uncontrolled: (AP-42, Sect 1.11)

$$\begin{aligned} \text{P.M.} &= \cancel{2} \text{ lb}/\cancel{1000} \text{ gal} \times \cancel{400} \text{ gal}/\text{hr} &= 75 (0.25\% \text{ ash}) \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= \cancel{0.8} \text{ lb}/\text{hr} &= 7.5 \text{ lb}/\text{hr} \quad \cancel{8300} \\ &\quad \times \cancel{2660}/\cancel{2000} &\quad \times 2660/2000 \\ &= \cancel{3.1} \text{ tpy} &= \cancel{12.0} \text{ tpy} \\ & &\quad 31.1 \end{aligned}$$

CO - Controlled and Uncontrolled:

$$\begin{aligned} \text{CO} &= 5 \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= 20 \text{ lb}/\text{hr} \quad \cancel{8300} \\ &\quad \times 2660/2000 \\ &= \cancel{2.7} \text{ tpy} \\ &\quad 6.3 \end{aligned}$$

SO₂ - Controlled and Uncontrolled:

$$\begin{aligned} &400 \text{ gph fuel @ } \cancel{0.5\%}^{1.0\%} \text{ sulfur and } 7.5 \text{ lb}/\text{gal} \\ \text{SO}_2 &= 400 \text{ gal}/\text{hr} \times 7.5 \text{ lb}/\text{gal} \times \cancel{0.005}^{0.01} \times 2 \text{ lb SO}_2/\text{lb fuel} \\ &= \cancel{30.0} \text{ lb}/\text{hr} \quad 60.0 \text{ lb}/\text{hr} \\ &\quad \times \cancel{2660}/\cancel{2000} \\ \cancel{8300} &= \cancel{39.9} \text{ tpy} \\ &\quad 249.0 \end{aligned}$$

Chlorides - Controlled and Uncontrolled:

Soil Contaminants

Assume 40 tpy soil with 100 mg/kg of chlorinated solvents at 85% chlorine.

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- Cl = (40 X 2000) lb/hr soil
 X (100 X 10⁻⁶) lb solvent/lb soil X 0.85
- = 6.8 lb/hr ⁸³⁰⁰
- X ~~2660~~/2000
- = ~~9.0~~ tpy
- 28.2

(NOTE: MFM is presently permitted to burn up to 272 gph of fuel with 0.94% chlorides. This could result in the emission of 19.2 lb/hr of chlorides. As an offset, MFM will not burn the spent solvent/used oil fuel blend when processing the soil containing low levels of chlorinated solvents. Thus, the chloride emission rate could be as much as 12.4 lb/hr less than presently permitted.)

Chlorides from Fuel Combustion - Controlled and Uncontrolled:

Dryer Fuel - Clay Processing

Presently permitted to burn 272 gal/hr fuel with up to 0.94 % chlorides when processing clay.

- Cl = 272 gal/hr x 7.5 lb/gal x 0.0094
- = 19.2 lb/hr ⁴⁶⁰
- X ~~6100~~/2000
- = ~~58.6~~ tpy
- 4.4

Dryer Fuel - Soil Processing

Will burn used-oil fuel at 272 gal/hr with a maximum of 4000 ppm Cl.

- Cl = 272 gal/hr x 7.5 lb/gal x (4000 x 10⁻⁶)
- = 8.2 lb/hr ⁸³⁰⁰
- X ~~2660~~/2000
- = ~~10.9~~ tpy
- 34.0

Afterburner Fuel - Soil Processing

Will burn used-oil fuel at maximum rate of 400 gal/hr with a maximum of 4000 ppm Cl.

- Cl = 400 gal/hr x 7.5 lb/gal x (4000 x 10⁻⁶)
- = 12.0 lb/hr ⁸³⁰⁰
- X ~~2660~~/2000
- = ~~16.0~~ tpy
- 49.8

Total Chlorides

Clay Processing	19.2 lb/hr and ^{4.4} 58.6 tpy (⁴⁶⁰ 6100 hr/yr)
Soil Processing	^{34.0}
Dryer Fuel	8.2 lb/hr and ^{49.8} 10.9 tpy
Afterburner Fuel	12.0 lb/hr and ^{28.2} 16.0 tpy
Soil	6.8 lb/hr and 9.0 tpy
TOTAL	27.0 lb/hr and ^{112.0} 35.9 tpy (⁸³⁰⁰ 2660 hr/yr)

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Hydrocarbons (VOC)Soil - Uncontrolled:

40 tons per hour of soil at a maximum of 10% hydrocarbon contaminant. Assume no destruction in dryer.

$$\begin{aligned} \text{VOC} &= (40 \times 2000) \text{ lb/hr} \times 0.10 \text{ lb VOC/lb soil} \\ &= 8000 \text{ lb/hr} \quad \text{8000} \\ &\quad \times \frac{2660}{2000} \\ &= \frac{10640}{33200} \text{ tpy} \end{aligned}$$

Soil - Controlled:

Residence time of 2 seconds at a temperature of 2000°F will provide a 99.99% destruction of VOC.

$$\begin{aligned} \text{VOC} &= 8000 \text{ lb/hr} \times (1 - 0.9999) \\ &= 0.80 \text{ lb/hr} \quad \text{8000} \\ &\quad \times \frac{2660}{2000} \\ &= \frac{1.1}{3.3} \text{ tpy} \end{aligned}$$

Fuel - Controlled and UncontrolledDryer

$$\begin{aligned} \text{VOC} &= 0.2 \text{ lb/1000 gal} \times 272 \text{ gal/hr} \\ &= 0.1 \text{ lb/hr} \quad \text{460} \\ &\quad \times \frac{6100}{2000} \\ &= \frac{0.2}{20.1} \text{ tpy} \end{aligned}$$

Afterburner

$$\begin{aligned} \text{VOC} &= 0.2 \text{ lb/1000 gal} \times 400 \text{ gal/hr} \\ &= 0.1 \text{ lb/hr} \quad \text{8300} \\ &\quad \times \frac{2660}{2000} \\ &= \frac{0.1}{0.3} \text{ tpy} \end{aligned}$$

4. Design Details of Afterburner - See Attachment 1.
5. Control Efficiency -

A control efficiency of at least 99.99% will be achieved by raising the temperature of the gases to 2000°F for a period of 2 seconds.
6. Flow Diagram - See Attachment 2.
7. Location Map - See Attachment 3.
8. Site Map - See Attachment 4.
9. Permit Fee - \$500 - Emission increase of between 25 tpy and 50 tpy (17-4.050, FAC).
10. Certificate of Completion of Construction - Not Applicable.



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4014 NW THIRTEENTH STREET
 GAINESVILLE, FLORIDA 32609
 904/377-5822 • FAX 377-7158

JOB MFM ENVIRONMENTAL
 CALCULATED BY JOHN B. KOGLER, P.E. DATE _____
 SHEET NO. 1 OF 2

Revised 8/24/89

AIR QUALITY IMPACT ANALYSIS

Modeled Emissions = 10.5 lbs (79.4 lb/hr)

Model Calculated Impacts

Avg Time	Impact (ug/m ³)	Distance (m)
1-hr	196	1000
3-hr	125	500
8-hr	68	500
24-hr	34	1000
Annual	3.1	1000
Quarterly	6.0 (estimated)*	1000 (est.)

* Interpolated on log-log plot of concentration vs. averaging time

Impact Analysis

Compound	Emissions (lb/hr)	Impact/Std (ug/m ³) [avg. time]
Part. Matter (Phio)	15.8 22.5	2.6 177/150 [24-hr]; 0.9 0.9/50 [Annual]
SO ₂	82.5 112.5	177/1300 [3-hr]; 48 55/260 [24-hr]; 4.4 4.4/60 [Annual]
NO _x	37.4 ✓	✓ 1.5/100 [Annual]
HCl	27.0 ✓	✓ 1.09/150 [3-min]*; 1.0/7 [Annual]**
Lead	1.8 *** 2.52	0.2 0.2/1.5 [Quarterly]

* 3-min impact = 1-hr impact x 1.69; acceptable impact of 150 ug/m³ has been proposed by EPA

** Annual acceptable level of 7 ug/m³ has been proposed by EPA proposed Industrial Furnace Regulations for burning HWD fuel

*** This emission rate will result from 500 ppm lead in the after burner and dryer fuel. Assuming 400 gph of fuel in the afterburner and 272 gph of fuel in the dryer, the max fuel use will be 672 gph; or 5040 lb/hr. Further assuming no lead removal from dryer fuel in the baghouse, the 2.52 lb/hr of lead in 5040 lb/hr of fuel is equivalent to 500 ppm lead in the fuel.



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JOB MFM Env - Air Quality Impact
CALCULATED BY JOHN B. KOGLER, P.E. DATE _____
SHEET NO. 2 OF 2

Revised 8/24/89

Impact Analysis (cont)

intermittent
with
one spec
and
regulation

Compound	Emission Rate (lb/hr)	Concentration (ppm)	Acceptable Amb (3) Impact (ug/m ³)
As	0.11		4.3×10^{-3} (annual)
Cd	0.05		1.8×10^{-3} (annual)
Cr ₆	0.31		1.2×10^{-2} (annual)
Organics (4)	0.018	180 lb/hr (5)	7.1×10^{-9} (annual)

- (1) Emission rate resulting in the Acceptable Ambient Level (AAL)
- (2) Concentration in afterburner and dryer flue resulting in AAL
- (3) AAL established by EPA (see attached)
- (4) Organics (dibenz(a,h)anthracene) with most restrictive AAL
- (5) The firing rate of dibenz(a,h)anthracene that will result in an emission rate of 0.018 lb/hr assuming a 99.99% DRE in the afterburner

Example Calculation

Dust Matter - Actual emissions = $\frac{22.5}{1.8} = 12.5$ lb/hr
 Modeled emissions = 79.4 lb/hr
 Modeled 24-hr impact = 3.4 ug/m³

$$24\text{-hr P.M. Impact} = \frac{22.5}{79.4} \times 3.4 = \frac{9.6}{107} \text{ ug/m}^3 < 150 \text{ ug/m}^3$$

Cd - AAL (annual) = 1.8×10^{-3} ug/m³
 Modeled annual impact = 3.1 ug/m³
 Max acceptable emission rate = $\left(\frac{1.8 \times 10^{-3}}{3.1}\right) \times 79.4 = 0.046$ lb/hr
 Fuel firing rate = 400 gph (afterburner) + 272 gph (dryer) = 672 gph (5040 lb/hr)

$$\text{Cd conc in flue} = \left(\frac{106}{5040}\right) \times 0.046 = 9 \text{ ppm}$$

PATTY - FILE MFM

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DER-BAQM



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August 10, 1989

Department of Environmental Regulation
Air Resources Management
Bureau of Air Quality Mgt.
Central Air Permitting
2600 Blair Stone Road
Tallahassee, Fl. 32399-2400

Attn: Mr. Bill Thomas

Dear Bill:

David asked me to send you a copy of the suggestions MFM sent to John Gentry on April 24, 1989. That these types of common sense requirements for siting are not part of the present soil treatment permitting process was a surprise for all of us. There is a huge gap between "is" and "should be;" thus, you'll find MFM a great ally of those who wish to set fair minimal requirements for all facilities.

I look forward to seeing you soon.

Cordially:

A handwritten signature in cursive script, appearing to read 'R. Butler'.

William H. "Rusty" Butler
General Manager
MFM Environmental

cc: David Kibler
Mike Harley
file

COPY



ENVIRONMENTAL

April 24, 1989

Department of Environmental Regulation
Division of Waste Management
Bureau of Waste Cleanup
Office of Technical Support
2600 Blair Stone Road
Tallahassee, Fl. 32399-2400

Dear John:

MFM appreciates the opportunity to make the suggestions you requested concerning the siting of soils decontamination facilities and requisite operating procedures. We fully understand that adding these requirements to air permits may be awkward, but the growing consensus is that requirements must be added to some existing permitting structure. As this is done, it would seem prudent to follow the general guidelines of a proven system of siting and operating procedure requirements. Specifically, we feel that the cost effective "general" requirements of 40 CFR 264 B through E could be directly applicable. The following summaries outline the essentials of those requirements:

I. General Waste Analysis:

General Waste Analysis sets reasonable criteria for the acceptance of materials. Important keystones are: 1) criteria for representative sampling, 2) identification and classification criteria, 3) criteria for on site verification that the received material matches the samples, 4) time periods set for reverification of waste stream constituents, and 5) a specific "waste analysis plan" which explains how the personnel at the specific facility will implement the keystones.

II. Security, Signs, Notices to Landowners and the Public:

Site security protects the public for unnoticed or unrecorded delivery of materials to treatment facilities. Fences, locked areas, and limited access areas may be required according to specific conditions.

Signs protect the public from inadvertent harm and remind facility personnel of good operating practices. Presently, few sites post no smoking signs around materials which could support combustion or materially increase the smoke and emissions from an already existing fire.

III. General Inspection Requirements:

Time periods between inspections of equipment and facility structures need to be included in permits. Some areas need inspection daily and records of these inspections should be kept; particular areas of concern are 1) containment areas, 2) drums of materials on site, 3) roofed structures, 4) hardware containing liquid including pipes, lines, vats, or air control equipment, and 5) compliance control equipment.

IV. Personnel Training:

Personnel should be fully knowledgeable of their job responsibilities for protecting the environment which supercede the employer job responsibilities. A trained employee is one with the general background knowledge and specific application knowledge required to make decisions concerning 1) normal operations and 2) foreseeable abnormal circumstances. The idea that personnel are totally uninformed concerning the particulars of soils handling, containment, and processing seems unthinkable to most reasonable persons. However, we are fully aware that this is the norm for many facilities in Florida handling contaminated soils.

MFM suggests that all personnel take an orientation course prior to beginning work in a soils decontamination facility and that these individuals should not work unsupervised until they finish site specific training. Employees should not be allowed to work indefinitely under "supervision;" 90 days should be more than adequate to complete specific training. Annual training reviews should also be required.

The specific training required should, at a minimum, include:

- 1) The specific conditions of the operating permit
- 2) DER guidelines for soils decontamination and handling procedures, etc ...
- 3) Emergency response procedures for the company, and
- 4) The company's record keeping forms and requirements

V. General Requirements for Ignitable Wastes:

Usually contaminated soils are not ignitable; however, these soils can be ignitable and facilities should be prepared to handle those situations routinely. Incompatibility may at first seem to be an obscure inclusion in this list of requirements until one realizes that there is a realistic potential for mishandling of incompatibles: heavily contaminated diesel spills mixed with ammonium phosphate could be potentially troublesome.

VI. Location Standards:

It seems sensible not to have these facilities in: 1) 100 year flood plain areas, 2) areas with faults or other evidence of seismic activity, and 3) environmentally sensitive areas such as sand mines or limestone pits. Presently there are no siting requirements at all and some facilities are sited in highly questionable areas.

VII. Facility Design requirements and Operating Requirements

These requirements are usually both site and equipment specific. The general equipment requirements cover fire fighting and alarm equipment. This equipment must be adequately maintained and requirements for periodic testing and maintenance is needed. The general operating requirements require space for emergency equipment access and movement. Further requirements stipulate that these facilities must notify local authorities (fire, police, and hospital) of their activities so that preparations for emergencies can be made.

Facilities must have adequate storage areas with covered roofs and protection from run on and run off.

VIII. Contingency Plans and Emergency Procedures:

Contingency plans give required, organized response in concert with local authorities to emergencies. The emphasis should be on coordination and cooperation. These plans should cover specific response patterns for 1) fires, 2) spills, 3) explosions, and 4) extreme weather conditions (hurricane, tornado, flood). Emergency equipment lists, evacuation routes, and lists of authorities and agencies which may help in an emergency need to be included.

IX. Records Keeping:

MFM firmly believes that a "non-hazardous" manifesting standard for contaminated soils must be implemented immediately. There seem to be incidences where soils may not be reaching their required destination. Furthermore, records of the disposition of treated (or partially treated soils) must be required if gross misconduct is to be controlled. At a minimum, each facility should be required to keep (and allow the inspection of) an operating record including: 1) quantity of waste received and its disposition, 2) the location of each waste within the facility, 3) results of required analyses, 4) records of all incidents that required implementation of the contingency plan, 5) records of required internal inspections as well as agency inspections, 6) records of required notices to generators, 7) all closure cost estimates and financial

responsibility requirement satisfactions, and 8) records of the disposition of treated materials. These records should be required to be kept for a lengthy, but reasonable, time.

X. Specific Operating Requirements:

Site specific operating procedures include: 1) handling criteria for dust and vapor controls, 2) procedures for start up and shut down and requirements that these procedures not occur during treatment, 3) general groundwater protection standards including well placement and BTEX monitoring periods, 4) aisle space requirements for incoming and treated product so that inspection may reasonably be accomplished, 5) treated and untreated soils should be segregated, and 6) any other site specific criteria which may be applicable (such as periodic filter changes of compliance equipment).

XI. Notes on: Decontamination Permit: A Right or Privilege?

There is concern that there is a new class of businesses which effectively operate "outside the system" on soils decontamination. Untrained and irresponsible "consultants" and "brokers" can sponsor sham soils treatment facilities, handle materials which never reach treatment sites, and counsel both treatment facilities and waste generators with impunity. MFM believes that all parties in the system must be held accountable. It is suggested that all "brokers" or "consultants" of disposal services be licensed or better yet, that they be employees of the companies they serve. These individuals should have the same financial responsibility obligations as landowners.

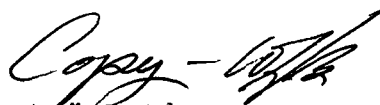
There should be reasonable standards set for ownership of facilities handling waste disposal. The reasonable protection of the environment demands that "owners" with dubious background or criminal pasts should be carefully investigated prior to receiving licenses.

Lastly, the area of financial responsibility for soils decontamination facilities is discussed: MFM suggests that every company decontaminating soils be held financially responsible in perpetuity for contaminations resulting from these activities. MFM recommends that a 5 million dollar financial responsibility instrument be implemented for both the land owners and for the "brokers" and "consultants" of each soils decontamination facility. The less financially stable a company is (or its brokers), the greater the need for this type of instrument, whether it be a bond, a trust fund, or insurance policy. If companies cannot meet these responsibilities, how could they meet the obligations caused by even the smallest accident?

John, this letter does not cover all applicable criteria but gives an overview of the items which we feel can make a very efficient, positive contribution to permit requirements. We do not feel that these general requirements, even the ground water monitoring, need be excessively expensive compliance issues. If wells are monitored for BTEX only, reasonable early warning of ground contamination should be available at a reasonable monthly cost. Likewise, financial responsibility can be any of a number of instruments including bonds, insurance, or trust. We feel that the issue is not so much a single item on this list of "required action areas" as it is the overall requirement for specific answers concerning sensible equipment requirements, sensible operating procedures, and common sense bans on placing these facilities in areas where severe degradation of environmental quality is likely.

Should your office decide to incorporate these general guidelines, we would be glad to work with you on the details of how they could be directly applied to soils decontamination facilities. However, if it seems that you will not be able to accomplish anything reasonable through the existing permit system, we would like to know as early as possible so that we may resume legislative initiatives. Thanks again for the opportunity to contribute to your efforts in tackling the task of defining guidelines for decontamination and assessment.

Cordially:



William "Rusty" Butler
General Manager

cc: David B. Kibler, IV
Governor Claude Kirk
Mike Wilkinson

C O P Y



ENVIRONMENTAL

April 24, 1989

Department of Environmental Regulation
Division of Waste Management
Bureau of Waste Cleanup
Office of Technical Support
2600 Blair Stone Road
Tallahassee, Fl. 32399-2400

Dear John:

MFM would like to take the opportunity you offered to suggest some technical solutions to various problems associated with soils decontamination by rotary dryer. Our suggestions fall into two broad categories: 1) technical requirements regarding equipment performance or operating procedures and 2) general siting requirements which I feel have been virtually ignored. Certainly this is not an all inclusive list, but it does represent many items which should be reviewed by individuals considering soils decontamination.

I. Key Parameters for Dryer Equipment Specification:

Rotary dryer decontamination involves one of two basic procedures: 1) driving hydrocarbons out of the soil by heat and oxidizing these materials into relatively harmless compounds or 2) driving hydrocarbons off by heat and to be dispersed into the atmosphere. The first option is probably optimal but at very low concentrations, the second may be acceptable. To accomplish either option there are two principal controlling factors: time (sojourn is the technical term) and temperature (heat). Neither of these factors is sufficient in itself. To explain:

High temperature for short times can literally char the outside of some soils without "cooking" the heavier products out of the center. Soils with high clay content or soils bound in grass "clods" are highly susceptible to this "burnt biscuit" phenomenon.

Likewise, a seemingly adequate sojourn time at low temperatures is useless for removing the heavier contaminants from soil. Operating kilns are most susceptible to this problem on start up and shut down. No contaminated soils should be in the drum of a rotary kiln during warm up and cool down periods.

Note: Sojourn calculations are a function of variables concerning drum flighting pattern, drum rotation speed, and drum declination angle. Once baseline measurements have been taken, extrapolation of sojourn time can be estimated from drum rotation; other variables don't change.

Lastly, we would like to mention problems associated with "rock size." Decontamination of materials which are extremely thick takes long periods of time at elevated temperatures. MFM has found that material sizes 5/8" or less are optimum for drying. Very large lumps of clay (over 6") and similarly sized grass clods are often found in the incoming materials. MFM crushes this material before decontamination because we have found it almost impossible to get acceptable post treatment levels otherwise. We feel that permits should specify maximum "grain sizes" for material which will be treated.

To summarize: experience at MFM indicates that sojourn times less than 20 minutes or with exit "rock" temperatures less than at least 650 degrees, yield poor decontamination results. Decontamination results from a combination of processes. Just keeping exit gas temperatures high does NOT guarantee any level of decontamination; solely maintaining high exit gas temperatures and some arbitrary residence time does NOT guarantee decontamination. But, by keeping exit gas temperatures consistently high, by keeping sojourn time at adequate length, by limiting the size of material going into the kiln, and by specifying minimum exit rock temperatures decontamination will be guaranteed.

II. Limits on the storage of partially decontaminated materials:

Florida allows 200 ppm material to be used in roadbed, and allows 500 ppm material to be used in asphalt. Often, however, these partially decontaminated soils are stored as if they have no contamination. Some time limit, possibly 48 hours, should be set for the use or storage of these partially decontaminated soils. We suggest that a time limit of 48 hours be set for the use of any material decontaminated to higher concentrations than that allowed for clean soil. Storage, for any period of time, should be on impermeable surfaces, with roof, and protection from run on and run off of water.

III. Problems associated with sampling and testing procedures:

Initial rules in Florida were drafted with the huge number of gas station tank removals in mind; no one could have foreseen the tremendous number of industrial, commercial, and government sites which have cross contaminations of other materials. This cross contamination from hazardous wastes is an which many decontamination sites are ignoring. MFM suggests the requirements for pre-testing of soils could be better implemented (and examined for compliance) if requirements concerning adequate "representative" sampling technique are included in permits. Representative sampling to MFM means that the number and placement of the samples is adjusted upwards as

1) the area of a site increases or 2) as the depth of contamination (total tonnage) increases. We feel that minimum numbers of samples should be set for area at a minimum of 100 sq. ft., or 1000 cubic feet. This translates to sampling (which may be allowed to be composited) every 10 x 10 x 10 feet. Larger distances are difficult to argue as "representative."

Likewise, there are presently no requirements that incoming shipments of material "match" (within reason) the materials which were approved by "representative sample." MFM has been doing this for some time and found that there is a great potential for receipt of materials other than those "approved" by incoming samples. Usually, the problem is one of poor sampling technique yielding great differences in concentrations in contaminants but sometimes the problem can be cross contamination by hazardous wastes. We feel that permits should require checking of composite samples of the incoming shipments from each site so that this problem does not escape the operator of a facility. These samples should follow the same rule of 1000 cubic feet (10 x 10 x 10) to be arguably representative. These samples need not receive the entire test protocol but only an abbreviated protocol which guarantees that the identity of the incoming material matches the approved sample material.

Lastly, MFM believes that it should be a requirement of the annual "compliance tests" of soils decontamination facilities to examine the decontaminated material on a basis which emphasizes the liabilities of "start up and shut down." We feel that composites should be "built" in the following manner: 1) a sample every fifteen minutes for the first hour of operation, 2) every half hour (or 15 tons) thereafter until, 3) a sample every fifteen minutes for the last hour of operation. This protocol will emphasize two key parameters in a more realistic "risk weighted" model: a) tonnage processed needs to be examined on a realistic volume and b) the greatest chances for poor decontamination occur during start up and shut down. Compliance tests should also take into account two different key factors 1) soil type, and 2) hydrocarbon molecular weight. Each facility should be allowed to choose the upper limit of the variables which they want to be permitted for and then tested for a "realistic worst case" of this material. An example may be a facility which requests "clay and sand soil with #6 fuel contamination at 10% saturation by weight." If the facility passes, these criteria set the upper limit of the permitted hydrocarbon-soil mixture allowed.

IV. Presentation of an inexpensive GW monitoring approach:

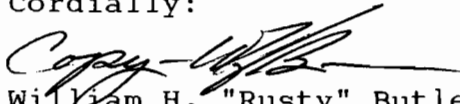
Because ground water contamination is the greatest risk of a petroleum soils decontamination facility, it would seem logical to monitor ground water of those operations which handle incoming materials or partially decontaminated materials in contact with the ground or a soil layer. Any facility storing soils and handling soils on impervious surfaces would be exempt from ground water monitoring requirements. GW monitoring as done for other types of facilities can be expensive unless some sort of abbreviated protocol is used. MFM would like to suggest BTEX as such an abbreviated initial protocol. BTEX are the most mobile constituents of petroleum contaminations as well as the most soluble. These chemicals should reach the monitoring wells first. The test is easy to do and inexpensive. Virtually every approved lab in the state has the equipment to perform such a test. Monthly monitoring of a reasonable number of wells seems to be a sensible approach to the problem.

V. Utilities and Utilities contractor sites:

Utilities and utilities contractor sites are as likely to have petroleum contaminations as any other industrial sites. The problem arises in that these sites (and possibly many other types of sites) are also likely to have cross contamination from PCB's. Often these contaminations are at trace levels below regulatory concern of the federal EPA but Florida doesn't have a consistent policy concerning such trace levels. That severe petroleum contaminations may remain until the soil can be treated as if PCB contaminated seems counterproductive where the concentrations are in the ranges of 2 - 50 ppm. There is unanimity that somewhere in the 2 - 50 ppm range there lies a level at which it is more important to remove the petroleum contamination than focus attention on very low PCB concentrations. MFM recommends that the State adopt as its PCB "level of regulatory concern" as 5 ppm in soil. This figure is derived as follows: Soils coming to most facilities rarely contain more than 10% by weight of petroleum products. If the upper acceptable PCB concentration in the petroleum contaminant were assumed to be 50 ppm then the overall concentration would be 5 ppm. This simple set of assumptions would lead to processing of contaminants of less than 50 ppm. Because PCB is a carcinogen and not a toxic and because carcinogens are most often harmful due to concentration, MFM feels that 5 ppm represents a conservative trace level below which regulatory concern should not be focused.

Hopefully, these summaries will be of some assistance in putting the subtle, but critical problems of soils decontamination into clear perspective. MFM appreciates the opportunity to make these comments thereby contributing to the rapid progression from present status to a fair and even playing field for all who wish to responsibly handle soils decontamination. We look forward to working with you.

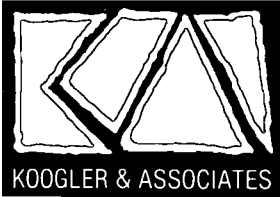
Cordially:


William H. "Rusty" Butler
General Manager

cc: David B. Kibler, IV
Governor Claude Kirk
Mike Wilkinson

PM
8-4-89
Gainesville, FL

file copy



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ■ FAX 377-7158

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AUG 7 1989

DER-BAQM

KA 290-88-01

August 4, 1989

Mr. Mike Harley
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Afterburner Permit

Dear Mike:

Attached is the information that MFM has available on lead levels in fuels that will be used in the rotary kilns, along with a copy of a section of an emissions test at MFM reporting lead emissions, per your request. No information is available from MFM on concentrations of antimony, mercury or thallium in fuels.

Based on my discussions with Mr. Barry Byrd of MFM and the review of some old EPA data, I am requesting the following limits for fuels fired to the MFM rotary kiln while the kiln is used for soil processing:

Lead	-	1000 ppm,
Antimony	-	100 ppm,
Mercury	-	100 ppm, and
Thallium	-	100 ppm.

With the exception of lead, these limits are lower than the already low levels that we arrived at during our meeting in your office on August 3, 1989.

I would also appreciate it if you will review my suggestion for establishing emission limits for hexavalent chromium, arsenic and cadmium as related to Specific Condition 6 b-d.



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ■ FAX 377-7158

TO:

Mr. Mike Harley
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, Fl 32399-2400

FIRST CLASS MAIL

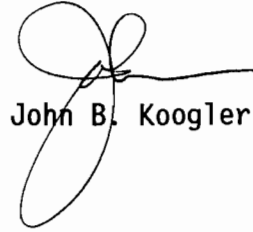
Mr. Mike Harley
Re: MFM Afterburner Permit

August 4, 1989
Page 2

I trust that this is all the information that will be required for you to complete your review of the application.

Very truly yours,

KOGLER & ASSOCIATES



John B. Koogler, Ph.D, P.E.

JBK:mab

cc: Mr. David Kibler, MFM

Copies: M. Harley
C. Collins
CHF/BT



3300 S.W. 34th Avenue, Suite 152
Ocala, Florida 32674
(904) 854-0070

MFM
MFM

MFM Environmental, Inc.

August 4, 1989

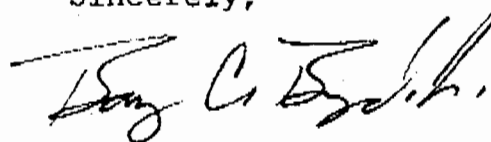
Dr. John Koogler
Koogler & Associates
Environmental Services
1213 N.W. 6th Street
Gainesville, Florida 32601

Dear John:

As per your request, I have reviewed our records for analytical data on the metals antimony (Sb), lead (Pb), mercury (Hg) and thallium (Tl) in fuel oil/blends. We have not been analyzing the fuel oils/blends for Sb, Hg or Tl. We have been analyzing a fuel oil/terpene blend, for several years for Pb. Immediately available data for the last 20 months revealed the Pb content in this blend to average 148.65 ppm \pm 38.13 ppm (1SD). The maximum blend Pb concentration was 195 ppm. This concentration (195 ppm) would equate to a waste oil Pb concentration of 240 ppm the originating oil for the blend.

Since we have not been analyzing the fuel oils/blends for the other metals, I do not have data available. I am investigating some literature for the data of interest. Any found will accompany this letter.

Sincerely,



Barry C. Byrd, Jr. MS
Laboratory Director-Chief Chemist

EMISSION MEASUREMENTS
FOR METALS AND
SEMI-VOLATILE ORGANIC COMPOUNDS
DURING THE THERMOPROCESSING
OF SOIL CONTAMINATED WITH
CREOSOTE AND PENTACHLOROPHENOL

MFM INDUSTRIES, INC.
LOWELL, FLORIDA

Permit No. AC42-113787

July 15, 1988

KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 N.W. 13TH STREET
GAINESVILLE, FLORIDA 32609
(904) 377-5822



TABLE 1

SUMMARY OF DRYER OPERATING CONDITIONS

MFM INDUSTRIES, INC.
LOWELL, FLORIDA

7/15/88

Run No.	Time (1)	Process Weight Rate (Tons/Hr)	Soil Discharge Temp. (°F)	Fuel Use (gph)	Stack Gas Flow Rate (SCFMD)	Stack Gas Temp. (°F)	Stack Gas Moisture (%)
1	1042-1203	20-30	730	205	21622	204	17.8
2	1447-1742 (2)	20-30	805	185	21042	230	15.5
AVG:		20-30	768	195	21332	217	16.6

(1) Test time - 72 minutes.

(2) Delay of 93 minutes due to severe rain.

TABLE 2

METALS EMISSION RATES
DURING SOIL DECONTAMINATION

MFM INDUSTRIES, INC.
LOWELL, FLORIDA

7/15/88

Metal	Emission Rate (lb/hr)		
	Run 1	Run 2	Avg
Arsenic	0.00328	0.00019	0.00174
Chromium (1) (Trivalent)	0.00772	0.00854	0.00813
Copper	0.00374	0.00216	0.00295
Lead	0.00239	0.00117	0.00178
Mercury	0.00004	0.00006	0.00005
Zinc	0.05918	0.00531	0.03220

(1) Total chromium emission rate was 0.00813 lb/hr; all was assumed to be trivalent chromium based on the analysis of similar samples.

DATE: 8/3/89

TO: David B. Kibler, IV, President

MFM Industries, Inc.

C/O Bill Thomas and Mike Harley
3rd Floor Air Quality Conference Room

FROM: Jim Nettles

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MFM INDUSTRIES
3300 S.W. 34th Avenue
Suite 152
Ocala, Fla. 32674

AUG 3 1989

DER-BAQM

NUMBER OF PAGES TRANSMITTED (NOT INCLUDING COVER PAGE)

1

IN CASE MESSAGE IS NOT RECEIVED AS INDICATED, PLEASE

CALL: 904-854-0070

OR FAX #: 904-854-1576

THANK YOU.

OPERATING STATUS	NAME	COUNTY	DISTRICT	AQ #	EXPIRATION DATE	DRYER MOBILITY	DRYER TYPE
OPERATING	ASPHALT PAVERS	HERNANDO	SOUTHWEST	A027-140282	02/02/93	FIXED	ASPHALT
OPERATING	ALAD CONSTRUCTION dba STS	OSCEOLA	CENTRAL	A035-132816	12/15/92	FIXED	ASPHALT
OPERATING	FLORIDA PETROLEUM	STATEWIDE	TALLAHASSEE	AC-48-150360	10/15/89	PORTABLE	
OPERATING	RESOURCE RECOVERY	POLK	SOUTHWEST	AC53-147169	12/31/88	FIXED	
OPERATING	O H MATERIALS	BREVARD	SOUTHEAST	AC05-141459	06/01/89	PORTABLE	ROTARY KILN
OPERATING	MFM	MARION	CENTRAL	AC42-113787		FIXED	CLAY -ROTARY KILN
OPERATING	GULF PAVING	LEE	SOUTH	52PIM360004		FIXED	ASPHALT
OPERATING	RINKER MATERIALS	DADE	SOUTHEAST			FIXED	CEMENT KILN
TESTING	ANDERSON-COLUMBIA-TEST 7/28	CLAY	NORTHEAST			FIXED	ASPHALT
OPERATING	SITE RECLAMATION SYSTEMS	STATEWIDE	TALLAHASSEE	AC 35-149332	07/01/89	PORTABLE	ROTARY KILN
OPERATING	HARDDRIVERS	BROWARD	SOUTHEAST			FIXED	ASPHALT
OPERATING	INDUSTRIAL WASTE	ESCAMBIA	NORTHWEST			PORTABLE	ROTARY KILN

CONSTRUCTION	SOUTHERN SOIL SERVICE	OSCEOLA	CENTRAL			FIXED	ASPHALT
NOT OPERATING	FLORIDA PETROLEUM	STATEWIDE	TALLAHASSEE	AC48-150356	10/15/89	PORTABLE	ROTARY KILN
NOT OPERATING	FLORIDA PETROLEUM	STATEWIDE	TALLAHASSEE	AC48-150-358	10/15/89	PORTABLE	ROTARY KILN
CONSTRUCTION	SITE RECLAMATION SYSTEMS	STATEWIDE	TALLAHASSEE	AC 35-149333	07/01/89	PORTABLE	ROTARY KILN
CONSTRUCTION	ENVIRONMENTAL TECH SOUTHEAST	DUVAL	NORTHEAST			FIXED	ASPHALT

CLOSED	ALAD CONSTRUCTION dba STS	LAKE	CENTRAL	A035-132816	12/15/92	FIXED	ASPHALT
UNKOWN	FLORIDA PETROLEUM	POLK	SOUTHWEST	A053-146094	04/01/93	PORTABLE	
NOT OPER	DENARD & MOORE ****	LAKE	TAMPA	AC53-136714	TEST 12/20/	PORTABLE	ROTARY KILN
NOT OPER	BOUTWELL CONSTRUCTION ****			ON HOLD		FIXED	
UNKOWN	BREWER ASPHALT	MARTIN	SOUTHEAST	50DAD13208201			ASPHALT
NOT OPER	ENVIRONMENTAL PETROLEUM	BROWARD	SOUTHEAST				ROTARY KILN
NOT OPER	HOWCO ENVIRONMENTAL****	PINELLAS	SOUTHWEST	AC52-138172		FIXED	ASPHALT

**** TEMPORARY EXPERIMENTAL UNITS -WILL HAVE ADDITIONAL RESTRICTIONS AFTER TEST BURN

TEST BURN WAS HELD LAST FRIDAY BY ANDERSON-COLUMBIA
 ENVIRONMENTAL TECH SOUTHEAST HAS AN AZTEC UNIT SCHEDULED FOR DELIVERY NEXT WEEK

8/1/89

To: Bill Thomas
From: DBK^{III}

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AUG 1 1989 F, 12

SPECIFIC CONDITIONS:

DER-BAQM

1. The rotary kiln/afterburner system is a two-chamber rotary kiln incinerator that is permitted to operate 8,760 hrs./yr.

2. The rotary kiln/afterburner system shall be used to thermally process only those materials that are not listed in 40 CFR 261.31, 261.32, 261.33 (revised as of July 1, 1989 and as revised from time-to-time by the U.S. EPA through public notification in the (Federal Register) and do not show the hazardous characteristics of corrosivity, reactivity, EP Toxicity, and ignitability. Prior to the acceptance of contaminated materials for processing, MFM shall obtain certification from the generator that the material is not a classified hazardous waste.

3. Once afterburners are required for any and all Florida facilities decontaminating materials, MFM shall only process contaminated materials at those times when the emissions from the rotary kiln are vented to the atmosphere through the baghouse and afterburner; and, both the baghouse and afterburner are operating properly. Once afterburners are required for any and all Florida facilities decontaminating materials, Specific Conditions Nos. 23-28 of construction permit No. AC 42-113787, the February 15, 1989 amendment to construction permit No. AC 42-113787, and the March 28, 1989 change to the February 15, 1989 amendment to construction permit No. AC 42-113787 ~~are now~~ ^{will be} null and void. Prior to the statewide requirement of afterburners, Specific Conditions Nos. 23-28 of construction permit No. AC 42-113787 ^{..... to construction permit No. A} shall remain in effect.

4. The maximum hourly feed rate of unprocessed material to the rotary kiln/afterburner system shall not exceed 40 tons/hr. The unprocessed material shall neither contain more than 10% hydrocarbon material nor more than 100 ppm by weight organic chlorides.

5. The afterburner system shall only be fired with virgin fuel oil No. 2-5 or used oil meeting the specifications listed in the table in 40 CFR 266.40 (revised as of July 1, 1988). The maximum fuel input rate to the afterburner shall not exceed 400 gallons/hr. (50 MMBtu/hr.). Coal shall not be burned when the rotary kiln/afterburner system is in operation.

6. The following emission limitations shall apply to the rotary kiln/afterburner system:

h. The rotary kiln/afterburner system shall not emit objectionable odors. In this case, the Department will consider objectionable odors as defined in F.A.C. Rule 17-2.100(132) [Definitions-Objectionable Odors] to be those which result in verifiable, valid and legitimate environmental complaints that originate with Department personnel, county health officials, or surrounding residents.

SPECIFIC CONDITIONS

11.

d. Compliance test reports shall be submitted within 45 days after completion of the testing, or as soon as possible, but within 14 days of receipt of laboratory results.

Draft8/1:300

SPECIFIC CONDITION N^o 1

Operating time - 8760 hr/yr

Impact Analysis (See 4/28/89 letter with basis for impact analysis)

Modeled Emissions - 79.4 lb/hr

Max impact at modeled emission rate

3-hr - 125 $\mu\text{g}/\text{m}^3$
24-hr - 34 $\mu\text{g}/\text{m}^3$
annual - 3.1 $\mu\text{g}/\text{m}^3$

SO₂ emissions

Dryer

$$272 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times (0.013 \times 2) \text{ lb SO}_2/\text{lb fuel} \\ = 52.5 \text{ lb/hr (per existing permit)}$$

Afterburner

$$400 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times (0.005 \times 2) \text{ lb SO}_2/\text{lb fuel} \\ = 30.0 \text{ lb/hr @ 0.5\% sulfur}$$

Total

$$52.5 + 30.0 = 82.5 \text{ lb/hr}$$

$$\times 8760 / 2400$$

$$= 361 \text{ tpy}$$

Max SO₂ impact @ 82.5 lb/hr

$$3\text{-hr} = 125 \times \frac{82.5}{79.4} = 130 \mu\text{g}/\text{m}^3 < 1300$$

$$24\text{-hr} = 34 \times \frac{82.5}{79.4} = 35 \mu\text{g}/\text{m}^3 < 260$$

$$\text{annual} = 3.1 \times \frac{82.5}{79.4} = 3.2 \mu\text{g}/\text{m}^3 < 60$$

SPECIFIC CONDITION No 6

C_r^{+6} and As emission limits

$$A_s = 0.015 \text{ lb/hr}$$

Annual Impact

$$= \frac{0.015}{79.4} \times 3.1 = 0.00059 \text{ mg/m}^3$$

$$AAL = 0.00233 \text{ mg/m}^3$$

$$C_r^{+6} = 0.015 \text{ lb/hr}$$

Annual Impact

$$= \frac{0.015}{79.4} \times 3.1 = 0.00059 \text{ mg/m}^3$$

$$AAL = 0.00083 \text{ mg/m}^3$$

Ratio

$$= \frac{A_s}{AAL} + \frac{C_r^{+6}}{AAL}$$
$$= \frac{0.00059}{0.00233} + \frac{0.00059}{0.00083}$$

$$= 0.25 + 0.71$$

$$= 0.96 < 1.0 ; \text{ therefore proposed emission limits are O.K.}$$

Patty

To: Judy Rogers TT 338C - 7010
From: Iris A. Littleton
Subject: Memo Info Date: 07/25/89

Distribution:

Not Requested

TO: Patty Adams

FROM: Iris - OGC - Tallahassee

Received 7/21/89 request for time extension from Mid-Florida Mining Company concerning permit #AC42-162996.

Received 7/21/89 request for time extension from Tampa Electric Co. concerning permit #A029-163823 and received 7/24/89 from Tampa Electric Co. Big Bend Coal Bunkers 1-3 concerning permit #A029-163788.

8-4-89

Called Harry Kerns - TPA -
He is aware of TECO extension

LAW OFFICES

HOLLAND & KNIGHT

1401 MANATEE AVENUE WEST
P. O. Box 241
BRADENTON, FLORIDA 34206
(813) 747-5550
TELECOPIER (813) 748-6945

92 LAKE WIRE DRIVE
P. O. Box 32092
LAKELAND, FLORIDA 33802
(813) 682-1161
TELECOPIER (813) 688-1186

CABLE ADDRESS
HND KNIGHT TPA
H&K Mia
TELEX 5-2630-TAMPA
TELEX 52-2233-MIAM1

1200 BRICKELL AVENUE
P. O. Box 015441
MIAMI, FLORIDA 33101
(305) 374-8500
TELECOPIER (305) 374-1164

PLEASE REPLY TO:

Tallahassee
July 21, 1989

800 NORTH MAGNOLIA AVENUE
P. O. Box 1526
ORLANDO, FLORIDA 32802
(407) 425-8500
TELECOPIER (407) 423-3397

BARNETT BANK BLDG
P. O. DRAWER 810
TALLAHASSEE, FLORIDA 32302
(904) 224-7000
TELECOPIER (904) 224-8332

ONE EAST BROWARD BLVD.
P. O. Box 14070
FORT LAUDERDALE, FLORIDA 33302
(305) 525-1000
TELECOPIER (305) 463-2030

400 NORTH ASHLEY
P. O. Box 1288
TAMPA, FLORIDA 33601
(813) 227-8500
TELECOPIER (813) 229-0134

888 SEVENTEENTH STREET, N.W.
SUITE 900
WASHINGTON, D. C. 20006
(202) 955-5550
TELECOPIER (202) 955-5564

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JUL 24 1989

DER-BAQM

Clerk
Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32399-2400

RE: Mid-Florida Mining Company -
DER File No. AC42-162996

Dear Sir or Madam:

Enclosed for filing is Mid-Florida Mining's request for an extension of time to petition for an administrative hearing on the referenced intent to issue a construction permit.

Please let me know if anything further is required at this time.

Sincerely,

HOLLAND & KNIGHT

Lawrence N. Curtin
Lawrence N. Curtin

LNC/rt
Enclosure
cc: Mr. Clair Fancy
Mr. David B. Kibler, III
Dr. John Koogler
(with enclosure)

14633-51L7/21:311

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

IN THE MATTER OF:

Application For Permit By
Mid-Florida Mining Company
P. O. Box 68
Lowell, Florida 32663

DER File No. AC42-162996
OGC File No. _____

REQUEST FOR EXTENSION OF TIME

Mid-Florida Mining Company, by and through its undersigned counsel, and pursuant to Rule 17-103.070, Florida Administrative Code (F.A.C.), hereby requests that the Secretary grant it an extension of time in which to petition for an administrative hearing on the Department of Environmental Regulation's intent to issue permit number AC42-162996, and as grounds therefor states:

1. By letter dated July 5, 1989, filed with the Department's clerk on July 6, 1989, and received by Mid-Florida Mining Company on July 7, 1989, the Department transmitted its intent to issue a permit for the construction of an afterburner to be added to an existing rotary kiln type clay dryer. The intent to issue contains a number of proposed specific conditions

that would be applicable to the construction and operation of the facility.

2. After review of the intent to issue and proposed conditions, it was determined that several of the conditions needed modification or clarification and representatives of Mid-Florida Mining contacted representatives of the Department's Air Quality Division to discuss the conditions.

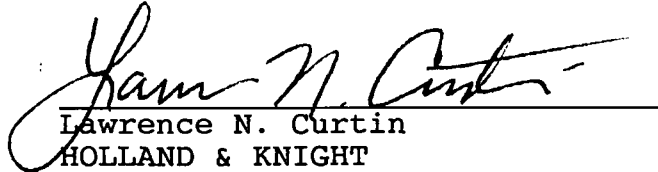
3. On July 20, 1989, representatives of Mid-Florida Mining met with representatives of the Air Quality Division and discussed the matters in some detail. At that meeting it was determined that the clarifications and possible modifications to these specific conditions may be capable of being handled informally without the necessity of an administrative hearing. It was determined that a period of 90 days would be the outside limit and would provide sufficient time to accomplish any modifications that are capable of being made.

4. The undersigned has been authorized to represent that Clair Fancy, Mike Harley, and Bill Thomas of the Air Quality Division in Tallahassee have all stated that they have no objection to this request being granted.

WHEREFORE, based upon the foregoing, Mid-Florida Mining Company respectfully requests that the Secretary grant an exten-

sion of time to petition for an administrative hearing on the referenced intent to issue to, and including, October 20, 1989.

Respectfully submitted,



Lawrence N. Curtin
HOLLAND & KNIGHT
Post Office Drawer 810
Tallahassee, Florida 32302
(904) 224-7000

Attorneys for Mid-Florida
Mining Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct of the foregoing Request for Extension of Time has been served upon Mr. Clair Fancy, Department of Environmental Regulation, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400 by Hand Delivery this 21st day of July, 1989.



Lawrence N. Curtin

14633-51P7/21:311
07/21/89

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LAW OFFICES

HOLLAND & KNIGHT JUL 19 1989

DER-BAQM

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TELECOPIER (813) 748-6945

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TELEX 52-2233-MIAMI

1200 BRICKELL AVENUE
P.O. BOX 015441
MIAMI, FLORIDA 33101
(305) 374-8500
TELECOPIER (305) 374-1164

PLEASE REPLY TO:

Tallahassee
July 18, 1989

800 NORTH MAGNOLIA AVENUE
P.O. BOX 1526
ORLANDO, FLORIDA 32802
(407) 425-8500
TELECOPIER (407) 423-3397

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TELECOPIER (813) 229-0134

888 SEVENTEENTH STREET, N.W.
SUITE 900
WASHINGTON, D.C. 20006
(202) 955-5550
TELECOPIER (202) 955-5564

Mr. C. H. Fancy, P.E.
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Mid-Florida Mining Company -
DER File No. AC 42-162996

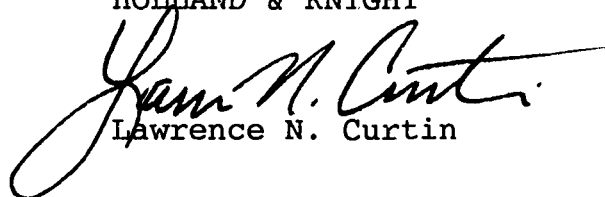
Dear Clair:

This will confirm that John Koogler and I will meet with you and others of the Department of Environmental Regulation at 1:30 p.m. on July 20, 1989, to discuss issues involving the referenced construction permit for the MFM afterburner addition to the existing rotary kiln. We are confident that our discussions can result in an expeditious resolution of these issues.

We look forward to seeing you on Thursday. In the meantime, please let me know if you have any questions.

Sincerely,

HOLLAND & KNIGHT



Lawrence N. Curtin

LNC/rt

cc: Mr. David B. Kibler, IV
Dr. John Koogler

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. David B. Kibler IV Executive Director Mid-Florida Mining Company P.O. Box 68 Lowell, FL 32663	4. Article Number P 938 762 610 Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
5. Signature - Address X	Always obtain signature of addressee or agent and DATE DELIVERED.
6. Signature - Agent X <i>[Signature]</i>	8. Addressee's Address (ONLY if requested and fee paid)
7. Date of Delivery	

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1986-212-885 DOMESTIC RETURN RECEIPT

938 762 610

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

Sent to Mr. David B. Kibler IV, MFM	
Street and No. P.O. Box 68	
P.O., State and ZIP Code Lowell, FL 32663	
Postage	\$
Certified Fee	2
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: 7-6-89 Permit: AC 42-162996	

PS Form 3800, June 1985

Patty,

904/094-1191
Wade Varndon
David Townsend

These are attachments 2-7 to the MFM amendment. You will find attachment 6 in the MFM file. It is June 18, 1988 letter from Koogler. Send one public display package:

Attention: David Townsend
P.O. Box 2409
32678
Director of Environmental Health
Macon County Health Dept.
3230 Southeast Macicamp Rd
Ocala, Florida 32671.

Tell him you are sending pursuant to his 12/15/88 discussion with me.

Public notice goes out if Clair says so.

Make a copy of no. 7 attachment for me. It is the original.

Thank you,

Mike

You and Clair may catch me at home if necessary. 878-1898.



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, 1989

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

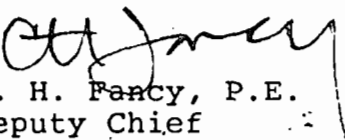
Mr. David B. Kibler IV, Executive Director
Mid-Florida Mining Company
P. O. Box 68
Lowell, Florida 32663

Dear Mr. Kibler:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for the addition of a 50 million Btu/hr. afterburner to the existing rotary kiln type clay dryer. The afterburner will be used to destroy volatile and semi-volatile organic compounds in the exhaust gases from the rotary kiln when the rotary kiln/afterburner system is operated as a two-chamber incinerator during the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing hydrocarbon products. The hydrocarbon products in the materials to be processed may include but are not limited to gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other non-hazardous halogenated and non-halogenated hydrocarbons. The rotary kiln type clay dryer will still be considered a clay dryer when it is used to dry soils that do not contain hydrocarbon products.

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

Sincerely,


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

CHF/mdh

Attachments

cc: J. Koogler, P.E.
W. Butler
C. Collins

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Mid-Florida Mining Co.
P. O. Box 68
Lowell, Florida 32663

DER File No. AC 42-162²996

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, Mid-Florida Mining Company applied on March 8, 1989 to the Department of Environmental Regulation for a permit to add an afterburner to the existing rotary kiln type clay dryer. The afterburner will be used to destroy organic compounds in the exhaust gases from the rotary kiln when the rotary kiln/afterburner system is operated as a two-chamber incinerator for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing non-hazardous halogenated and non-halogenated hydrocarbon products. The rotary kiln type clay dryer will still be considered a clay dryer when it is used to dry soils that do not contain hydrocarbon products. The proposed modification is expected to result in minor increases in pollutant emissions. If the source is responsibly operated within the constraints of the proposed permit and state regulations, no violations of applicable air quality standards are expected to occur.

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 is required for the proposed work.

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

publication within the allotted time may result in the denial of the permit.

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

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

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

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

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

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

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

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

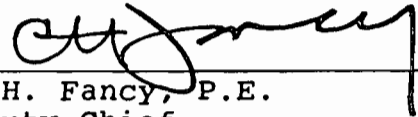
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the applicant have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to

participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

J. Koogler, P.E.
W. Butler
C. Collins

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 7-6-89.

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

Martha J. Wise
Clerk

7-6-89
Date

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

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Mid-Florida Mining Company, P. O. Box 68, Lowell, Florida, 32663, to add an afterburner to the existing rotary kiln type clay dryer. The afterburner will be used to destroy organic compounds in the exhaust gases from the rotary kiln when the rotary kiln/afterburner system is operated as a two-chamber incinerator for the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing non-hazardous halogenated and non-halogenated hydrocarbon products. The rotary kiln type clay dryer will still be considered a clay dryer when it is used to dry soils that do not contain hydrocarbon products. Mid-Florida Mining Company's facility is located on SR 329 at Seaboard Coast Line (now CSX) R. R., Lowell, Marion County, Florida. The proposed modification is expected to result in minor increases in pollutant emissions. If the source is responsibly operated within the constraints of the proposed permit and applicable regulations, no violations of applicable air quality standards are expected to occur. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

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

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

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

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

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

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

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

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

Marion County Health Department
3230 Southeast Maricamp Road
Ocala, Florida 32671

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

Mid-Florida Mining Company

Addition Of An Afterburner To A Rotary Kiln Clay Dryer

Permit No. AC 42-162296

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

July 5, 1989

I. Project Description

A. Applicant

Mid-Florida Mining Company
Post Office Box 68
Lowell, Florida 32663

B. Project and Location

The applicant proposes to add a 50 million Btu/hr. afterburner to an existing rotary kiln type clay dryer (35 million Btu/hr. heat input and 40 tons/hr. of raw material feed) to destroy volatile and semi-volatile organic compounds in the exhaust gases from the kiln when the rotary kiln/afterburner system is operated as a two-chamber incinerator during the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing hydrocarbon products. The hydrocarbon products may include but are not limited to gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other non-hazardous halogenated and non-halogenated hydrocarbons. The rotary kiln is considered to be simply a clay dryer when it is used to dry soils that do not contain hydrocarbon products.

The Standard Industrial Classification Codes are Major Group 14, Industry 1459, Clay, Ceramic, and Refractory Minerals, Not Classified Elsewhere. The Source Classification Codes are 5-03-001-01, Incineration-Multiple Chamber, and 5-03-005-06, Incineration-Sludge, when the rotary kiln/afterburner system is operated as a two chamber incinerator. The Source Classification Codes are 3-90-004-99, In-Process Fuel Use-Residual Oil-General, and 3-05-040-33, Mining and Quarrying of Nonmetallic Minerals-Ore Dryer, when the rotary kiln is used to dry soils that are not contaminated with hydrocarbon products.

Mid-Florida Mining Company's project is located at their facility on State Road 329 adjacent to the Seaboard Coast Line railroad (now CSX), Lowell, Marion County, Florida. The universal transverse mercator (UTM) coordinates of the project are Zone 17, 384.5 km East, and 3245.3 km North.

The application was received on March 8, 1989 and the Department determined that it was complete on June 13, 1989.

C. Project Description and Controls

Mid-Florida Mining Company operates a facility that has been used to produce grease absorbents and cat litter. The product is produced by the drying of montmorillonite clays in a rotary kiln type clay dryer that has been fired with No. 2-5 oil and waste solvents. Particulate emissions from the rotary kiln

are controlled by a baghouse. The rotary kiln type clay dryer is presently subject to construction permit AC 42-113787, which authorizes the installation of the equipment that will enable the applicant to burn coal in the rotary kiln. The Department previously amended that permit to allow the company to decontaminate soils that are contaminated with on-specification hydrocarbon products. The permit was also been amended on two occasions to allow the applicant to decontaminate soils that were contaminated with coal tar and creosote. The Department authorized the decontamination of the soils contaminated with coal tar and creosote in order to allow the applicant to develop the parameters needed to design an afterburner. The proposed construction of that afterburner is the subject of this permit application.

The applicant plans to modify the rotary kiln by installing an afterburner system. The proposed afterburner system consists of a combustion chamber, quench section, burner and fuel supply system, ducts and fans, electrical system, and a 135-ft. stack. The proposed system will also include a by-pass stack that will be located between the afterburner and the 135-ft. stack. Mid-Florida Mining Company proposes to install the afterburner system such that the gases from the rotary kiln will be vented to the baghouse and then either to the afterburner system or directly to the stack. If the rotary kiln is being used for the purpose of drying soils that are not contaminated with hydrocarbon products, then the gases are to be vented directly from the baghouse to the 135-ft. stack. If soils contaminated with hydrocarbon products are being fed to the rotary kiln, then the gases from the baghouse are to be vented directly to the afterburner system. In the latter case, the rotary kiln/afterburner system becomes a classic two-chamber rotary kiln incinerator. The volatile and semi-volatile organic compounds that contaminate the soil are vaporized and, in some cases, partially combusted in the rotary kiln. The gas stream is vented from the rotary kiln to the baghouse which removes some of the entrained particulate matter. The gas stream is then vented from the baghouse to the afterburner system where the volatile and semi-volatile organic compounds are burned. The gases from the afterburner system are ducted to a quench chamber and then to a stack. The applicant proposes to increase the stack height to and elevation of 135 ft., the good engineering practice stack height, in order to prevent downwash.

The 50 million Btu per hour afterburner system has been custom designed. The information provided by the applicant indicates that the afterburner system is designed to destroy 99.99% of the volatile and semi-volatile organic compounds in the gas stream. The 250°F gas stream from the baghouse will be exposed to a temperature of about 2,000°F for 2 seconds in the afterburner. The gases will be cooled from 2,000°F to 350°F by direct contact with water sprays in the quench chamber. The

applicant is of the opinion that the design of the afterburner is such that emissions of dioxins should not be a problem.

The applicant proposes to ensure the proper operation of the rotary kiln/afterburner system by installing instruments to monitor a number of operational variables. The applicant proposes to monitor the following parameters:

- soil feed rate,
- fuel firing rate,
- cumulative fuel use,
- fuel use per ton of soil processed,
- fuel pressure,
- oxygen content of gas leaving the dryer,
- gas temperature leaving the dryer,
- gas temperature entering the baghouse,
- gas temperature entering the afterburner,
- afterburner temperature,
- total air flow rate to the afterburner,
- stack gas temperature, and
- oxygen content of the stack gas.

Mid-Florida Mining Company will develop a set of surrogate parameters that provide an indication that the rotary kiln/afterburner system is being operated in a way that minimizes emissions.

The proposed system is being installed so that the company can safely decontaminate soils. Mid-Florida Mining Company plans to use the rotary kiln/afterburner system to thermally process (incinerate) hydrocarbons that are not listed in 40 CFR 261.31 thru 40 CFR 261.33 and that do not show hazardous characteristics of corrosivity, reactivity, EP Toxicity and ignitability. The applicant further proposes to limit the chloride content of the soil to be processed to 100 ppm total organic chlorides.

Mid-Florida Mining Company has agreed to limit the fuel burned in the rotary and the supplementary fuel burned in the afterburner to No. 2-6 virgin oil and on-specification used oil when the rotary kiln/afterburner system is being used to process soils that contain hydrocarbon products. The sulfur content of the fuel will be no greater than 0.5% and the fuel will not be mixed with any solvents. Also, coal is not to be burned when the rotary kiln/afterburner system is being used for the decontamination of soils.

The applicant proposes to implement the practice of soil blending in order to ensure that the soils to be processed contain a uniform concentration of contaminants. Mid-Florida Mining Company believes this practice will enable the company to operate the system at a uniform rate and to achieve uniform decontamination of the soils being processed.

II. Rule Applicability

Mid-Florida Mining Company's plant is a major facility pursuant to Florida Administrative Code (F.A.C.) Rule 17-2.100(112) [Definitions-Major Facility]. The facility is not one of the 28 major facility categories listed in Table 500-1 of F.A.C. Rule 17-2.500 [Prevention of Significant Deterioration].

The proposed project is a modification pursuant to F.A.C. Rule 17-2.100(119) [Definitions-Modification] because an increase in actual emissions is expected to occur. Based on the applicant's statements, the Department presently does not believe that the proposed project is subject to the preconstruction review requirements of F.A.C. Rule 17-2.500(5) [PSD-Preconstruction Review Requirements]. The Department has relied upon the applicant's presentation that: (1) The facility does not emit 250 tons/yr. of any pollutant (except lead) listed in Table 500-2 of F.A.C. Chapter 17-2.500 [PSD] and, (2) The facility does not emit more than 5 tons/yr. of lead. Pursuant to F.A.C. Rule 17-2.500(1)(d) [Prevention of Significant Deterioration-General Prohibitions], the Department is required to condition each permit to insure that the provisions of F.A.C. Rule 17-2.500 [Prevention of Significant Deterioration] are not violated. The source is also subject to the provisions of F.A.C. Rules 17-2.520 [Sources Not Subject to Prevention of Significant Deterioration Requirements and 17-4.070(3) [Standards of Issuing or Denying Permits].

Pursuant to the definitions in F.A.C. Rule 17-2.100(179) [Definitions-Source or Stationary Source] the proposed rotary kiln/afterburner system will be a source of air pollution. Pursuant to the definition in F.A.C. Rule 17-2.100(64) [Definitions-Emission or Discharge Point], the emission or discharge points include the 135-ft. stack and the "emergency" by-pass stack. [Note: The applicant proposes to operate the "emergency" bypass stack only in the event that the temperature of the gas flow to the main stack exceeds 500°F.] The rotary kiln/afterburner system is a classic two-chamber incinerator pursuant to F.A.C. Rule 17-2.100(91) [Definitions-Incinerator] when the system is used to decontaminate soils. The operation of the associated systems for unloading, mixing, storing, handling (limited to conveyors and drop points), and loading contaminated and decontaminated soils may result in unconfined emissions as defined in F.A.C. Rule 17-2.100(205) [Definitions-Unconfined Emissions]. The unconfined emissions may consist of particulate matter, hydrocarbons, and objectionable odor pursuant to F.A.C. Rule 17-2.100(205) [Definitions-Unconfined Emissions].

The particulate emissions from the operation of the proposed rotary kiln/afterburner system will be subject to the particulate emission limiting standards in F.A.C. Rule 17-2.600(1) [Specific Source Emission Limiting

Standards-Incinerators]. Particulate emissions from the rotary kiln/afterburner system will be limited to 0.08 grains/standard cubic foot of dry gas corrected to 50% excess air, 13.4 lbs./hr., 63.6 tons/yr. The rotary kiln/afterburner system will not be allowed to emit any compounds that produce objectionable odors as defined pursuant to F.A.C. Rule 17-2.100(132) [Definitions-Objectionable Odor]. In this case, the Department will consider objectionable odors to be those which result in verifiable complaints that originate with Department personnel, county health officials, or surrounding residents.

The applicant has proposed to achieve a destruction efficiency of 99.99% for volatile and semi-volatile organic compounds. The proposed destruction efficiency is consistent with that required for hazardous waste incinerators pursuant to 40 CFR 264.343(a)(1). The Department believes the applicant's proposed destruction efficiency is adequate, especially in view of the fact that the facility will not be used to process hazardous waste.

The Department has placed additional limitations upon the proposed rotary kiln/afterburner system pursuant to F.A.C. Rules 17-2.500(1)(c) [Prevention of Significant Deterioration-General Prohibitions], 17-2.520 [Sources Not Subject to Prevention of Significant Deterioration Requirements, and 17-4.070(3) [Standards of Issuing or Denying Permits]. Limitations have been placed on the operation rate; the hours of operation; the type and rate of fuel use; emissions of sulfur dioxide, nitrogen oxides, volatile organic compounds, arsenic, hexavalent chromium (Cr⁺⁶) and hydrogen chloride; and, the contaminants in the soil to be processed.

Mid-Florida Mining Company's facility is subject to the applicable provisions of F.A.C. Rules 17-2.610(3) [Unconfined Emissions of Particulate Matter], 17-2.620(1) [Volatile Organic Compound Emissions or Organic Solvent Emissions], and 17-2.620(2) [Objectionable Odor Prohibited]. Unconfined emissions of particulate matter shall be controlled pursuant to F.A.C. Rule 17-2.610(3). The applicant will be required to develop a set of reasonable measures, acceptable to the Department, for the control of unconfined emissions of particulate matter, volatile organic compounds, and objectionable odor.

The applicant's proposed project will also be subject to the applicable provisions of F.A.C. Rules 17-2.240 [Circumvention], 17-2.250 [Excess Emissions], and 17-4.130 [Plant Operation Problems]. Mid-Florida Mining Company proposes to monitor and record the variables described in the preceding section [Section I.C.] of this document. The applicant will be required to develop a set of surrogate parameters, acceptable to the Department, which demonstrate that the rotary

kiln/afterburner is being properly operated and maintained in compliance with the conditions of the permit during those times that soil is being decontaminated.

The applicant will be required to install source sampling facilities to demonstrate compliance with the emission limitations established by this permit and construction permit AC 42-113787 pursuant to F.A.C. Rule 17-2.700 [Stationary Point Source Emissions Test Procedures].

The Department has also included a specific condition in this construction permit (AC 42-162296) that makes specific conditions Nos. 23-28 of construction permit No. AC 42-113787, the February 15, 1989 amendment to construction permit No. AC 42-113787, and the March 28, 1989 change to the February 15, 1989 amendment to construction permit No. AC 42-113787 null and void. The decontamination of soils contaminated with hydrocarbon products, whether on-specification or off-specification products, would constitute circumvention pursuant to F.A.C. Rule 17-2.240 [Circumvention].

III. Summary of Emissions and Air Quality Analysis

A. Summary of Emissions

Based on the information supplied by the applicant, the Department expects the following emissions to occur.

SUMMARY OF ESTIMATED EMISSIONS FOR PSD PURPOSES

Pollutant	Clay Processing ¹		Soil Decontamination ²		Emissions Change	
	lbs./hr.	TPY	lbs./hr.	TPY	lbs./hr.	TPY
Particulate ³	15.0	65.7	13.4	63.6	-1.6	-2.1
SO ₂	52.5	230.0	82.5	269.9	+30.5	+39.9
NO _x	29.4	129.2	37.4	139.8	+8.0	+10.6
CO	0.8	3.7	2.8	6.4	+2.0	+2.7
VOC	0.2	0.9	1.0	2.0	+0.8	+1.1
Lead	0.02	0.1	0.3	0.5	+0.28	+0.4
HCl	19.2	84.1	33.8	103.6	+14.6	+19.5
Mercury ⁴	0.0	0.0	0.02	0.03	+0.02	+0.03

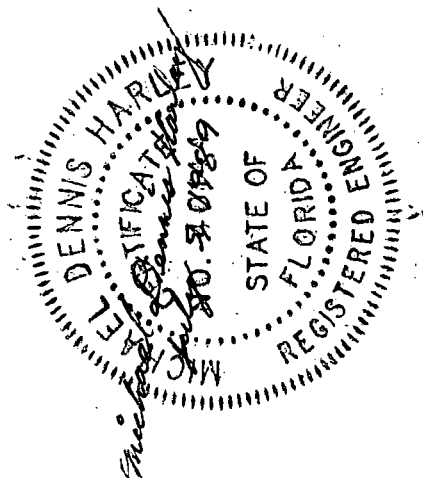
1. Considers clay processing 8760 hrs./yr.
2. Considers clay processing-6100 hrs./yr. and soil decontamination-2660 hrs.yr.
3. All Particulate Matter Assumed To Be PM₁₀.
4. Emission Rate Substantially Less Than That Required For Sludge Incinerators By NESHAP, 40 CFR 61.52

B. Air Quality

An ambient air quality analysis was not required, because the applicant predicted that there would not be any increase in mass emissions above the significance levels listed in Table 500-2 of F.A.C. Rule 17-2.500 [PSD]. But, the applicant and the Department agreed that the nature of the proposed activity justified an analysis of the impacts of both criteria and noncriteria pollutants. The results of the analysis indicate that the emissions from the proposed activity will not result in a violation of the state or federal ambient air quality standards. The results of the analysis further indicate that emissions of noncriteria pollutants are not expected to produce concentrations that would adversely affect surrounding residents if the source is operated within the constraints of the proposed permit.

IV. Conclusion

Based on the information provided by Mid-Florida Mining Company the Department has reasonable assurance that the proposed rotary kiln/afterburner system as described in this evaluation and subject to the conditions proposed herein, will not cause or contribute to a violation of any ambient air quality standard or PSD increment, or violate any other technical provision of Chapter 17-2 of the Florida Administrative Code.





Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

PERMITTEE:
Mid-Florida Mining Co.
P. O. Box 68
Ocala, Florida 32663

Permit Number: AC 42-162296
Expiration Date: Dec. 31, 1989
County: Marion
Latitude/Longitude: 29°19'52"N
82°11'28"W

Project: Gaseous Incinerator
For Soil Processor (Rotary Kiln
AC 42-113787)

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

The addition of a 50 million Btu/hr. afterburner to an existing rotary kiln type clay dryer (capable of 35 million Btu/hr. and 40 tons/hr. of feed) to destroy volatile and semi-volatile organic compounds in the exhaust gases from the rotary kiln when the rotary kiln/afterburner system is operated as a two-chamber incinerator during the thermal processing of soils, sludges (excluding wastewater treatment sludges), and still bottoms containing hydrocarbon products. The hydrocarbon products in the materials to be processed may include but are not limited to gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other non-hazardous halogenated and non-halogenated hydrocarbons. The rotary kiln type clay dryer is considered to be simply a clay dryer when it is used to dry soils that do not contain hydrocarbon products.

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

Attachments to the permit are listed below:

1. Permit application for Afterburner for Soil Processor, received March 8, 1989.
2. C. H. Fancy's letter to D. B. Kibler, dated May 19, 1989.

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

Attachments to the permit (Continued):

3. J. B. Koogler's letter to M. D. Harley, dated April 28, 1989, received May 1, 1989.
4. J. B. Koogler's letter to C. H. Fancy, dated May 19, 1989, received May 23, 1989.
5. J. B. Koogler's FAX to M. D. Harley, dated June 13, 1989, received June 13, 1989.
6. Technical Evaluation and Preliminary Determination dated July 5, 1989.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

GENERAL CONDITIONS:

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 therefor 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.

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

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

GENERAL CONDITIONS:

and provide the Department with the following information:

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

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

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

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

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

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

GENERAL CONDITIONS:

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.
- b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

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

SPECIFIC CONDITIONS:

1. The rotary kiln/afterburner system is a two-chamber rotary kiln incinerator that is permitted to operate 2,660 hrs./yr.

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

SPECIFIC CONDITIONS:

2. The rotary kiln/afterburner system shall be used to thermally process only those materials that are not listed in 40 CFR 261.31, 261.32, 261.33 (revised as of July 1, 1989 and as revised from time-to-time by the U.S. EPA through public notification in the Federal Register) and do not show the hazardous characteristics of corrosivity, reactivity, EP Toxicity, and ignitability. Prior to the acceptance of contaminated materials for processing, the materials shall be tested for the characteristics of hazardous waste pursuant to 40 CFR 261 Subpart C.

3. Contaminated materials shall only be processed at those times when the emissions from the rotary kiln are vented to the atmosphere through the baghouse and afterburner; and, both the baghouse and afterburner are operating properly. Specific Conditions Nos. 23-28 of construction permit No. AC 42-113787, the February 15, 1989 amendment to construction permit No. AC 42-113787, and the March 28, 1989 change to the February 15, 1989 amendment to construction permit No. AC 42-113787 are now null and void.

4. The maximum hourly feed rate of unprocessed material to the rotary kiln/afterburner system shall not exceed 40 tons/hr. The unprocessed material shall neither contain more than 10% hydrocarbon material nor more than 100 ppm by weight organic chlorides.

5. The rotary kiln/afterburner system shall only be fired with virgin fuel oil No. 2-5 or used oil meeting the specifications listed in the table in 40 CFR 266.40 (revised as of July 1, 1988). The maximum fuel input rate to the rotary kiln shall not exceed 272 gallons/hr. (35 MMBtu/hr.). The maximum fuel input rate to the afterburner shall not exceed 400 gallons/hr. (50 MMBtu/hr.). Coal shall not be burned when the rotary kiln/afterburner system is in operation.

6. The following emission limitations shall apply to the rotary kiln/afterburner system:

- a. Particulate emissions from the rotary kiln/afterburner system shall neither exceed 0.08 grain/DSCF corrected to 50% excess air, nor 13.4 lbs./hr., nor 17.8 tons/yr. Particulate emissions shall be determined by EPA Methods 1, 2, 3, and 5 (40 CFR 60 revised as of July 1, 1988).

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

SPECIFIC CONDITIONS:

- b. Hexavalent chromium (Cr^{+6}) emissions from the rotary kiln/afterburner shall neither exceed 0.020 lbs./hr. nor 0.026 tons/yr. Hexavalent chromium (Cr^{+6}) emissions shall be determined by using EPA Methods 1, 2, 3, and 5 (40 CFR 60 revised as of July 1, 1988); sodium hydroxide extraction; and, ion chromatography.
- c. Arsenic emissions from the rotary kiln/afterburner system shall neither exceed 0.059 lbs./hr. nor 0.078 tons/yr. Arsenic emissions shall be determined by EPA methods 1, 2, 3, and 108 (40 CFR 60 and 61 revised as of July 1, 1988).
- d. Sulfur dioxide emissions from the rotary kiln/afterburner system shall neither exceed 82.5 lbs./hr. nor 109.7 tons/yr. Sulfur dioxide emissions shall be determined by EPA Methods 1, 2, 3, and 6 (40 CFR 60 revised as of July 1, 1988).
- e. Nitrogen oxide emissions from the rotary kiln/afterburner system shall neither exceed 37.4 lbs./hr. nor 49.7 tons/yr. Nitrogen oxide emissions shall be determined using EPA Methods 1, 2, 3, and 7 (40 CFR 60 revised as of July 1, 1988).
- f. Hydrogen chloride emissions from the rotary kiln/afterburner system shall neither exceed 34.7 lbs./hr. nor 46.2 tons/yr. Hydrogen chloride emissions shall be determined using EPA Methods 1, 2, and 3 (40 CFR 60 revised as of July 1, 1988); and Draft Method For The Determination Of HCl Emissions From Municipal And Hazardous Waste Incinerators.
- g. The afterburner shall achieve a minimum destruction efficiency of 99.99% by weight for each volatile and semi-volatile organic compound that is in the feed stream to the afterburner. Emissions of semi-volatile organic compounds shall be measured at points ahead of and after the afterburner using EPA's Modified Method 5 (Method No. 0010) in SW-846 (September 1986). The destruction efficiency may be determined using one or more surrogate compounds approved by the Department.

Bill,

12/11/89

Hewitt

Mike left this for
you. Clair says it's

O.K. for you to go to
the meeting on Wed.

If Betsey can, she should go
too. Jim P.

PERMITTEE:
Mid-Florida Mining Co.

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SPECIFIC CONDITIONS:

- c. The sulfur content of each shipment of oil that is to be burned in the rotary/kiln afterburner system.
 - d. The temperature of the flue gases entering and exiting the afterburner.
 - e. The flow rate of gases entering the afterburner.
 - f. The oxygen content of gases exiting the afterburner.
 - g. The types, dates, and quantities of materials processed; and, the results of the analyses required by Specific Condition No. 2.
9. The permittee shall develop a set of recommended surrogate parameter limits that will be continuously monitored to show that the rotary kiln/afterburner system is being operated and maintained in way that minimizes emissions. The proposed limits shall be submitted to the Department's Central Florida District office for approval with the application for an operation permit. If approved, the specific limits shall become an amendment to this construction permit.
10. All monitoring and recording systems shall be regularly calibrated and maintained in proper working condition pursuant to written procedures and schedules based on the recommendations of the instrument manufacturer.
11. All excess emissions from the rotary kiln/afterburner system shall be subject to the applicable requirements of F.A.C. Rules 17-2.240 [Circumvention], 17-2.250 [Excess Emissions], and 17-4.130 [Plant Operation Problems]. The rotary kiln/afterburner system (except fans and water quench system) shall be shutdown immediately upon the activation of the by-pass stack.
12. The rotary kiln/afterburner system shall be equipped with the point source sampling facilities required by F.A.C. Rule 17-2.700.
13. Point source compliance testing shall be conducted pursuant to the following requirements:
- a. Compliance testing shall initially be conducted prior to the expiration date of this permit and annually, thereafter.

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

SPECIFIC CONDITIONS:

- b. Point source compliance testing shall be conducted with all sources operating at 90 to 100 percent of the operation rates allowed by Specific Conditions Nos. 4 and 5.
- c. Compliance test reports shall include all of the information required by F.A.C. Rule 17-2.700(7).
- d. Compliance test reports shall be submitted within 45 days after completion of the testing.
- e. Notification of testing shall be furnished to the DER Central Florida District office at least 15 days prior to the date that testing is to commence.
- f. Emission testing for the purpose of demonstrating compliance with Specific Condition No. 6 shall not be required if the rotary kiln/afterburner system was operated as a two-chamber incinerator for less than 40 hours during the year prior to the required testing.

14. The following emission data shall be used for PSD purposes in the absence of actual emissions data except where the Department elects to require or the permittee elects to provide actual emission measurements using the appropriate federal reference methods:

SUMMARY OF ESTIMATED EMISSIONS FOR PSD PURPOSES

Pollutant	Clay Processing ¹		Soil Decontamination ²		Emissions Change	
	lbs./hr.	TPY	lbs./hr.	TPY	lbs./hr.	TPY
Particulate ³	15.0	65.7	13.4	63.6	-1.6	-2.1
SO ₂	52.5	230.0	82.5	269.9	+30.5	+39.9
NO _x	29.4	129.2	37.4	139.8	+8.0	+10.6
CO	0.8	3.7	2.8	6.4	+2.0	+2.7
VOC	0.2	0.9	1.0	2.0	+0.8	+1.1
Lead	0.02	0.1	0.3	0.5	+0.28	+0.4
HCl	19.2	84.1	33.8	103.6	+14.6	+19.5
Mercury ⁴	0.0	0.0	0.02	0.03	+0.02	+0.03

- 1. Considers Clay Processing 8760 hrs./yr.
- 2. Considers Clay Processing-6100 hrs./yr. And Soil Decontamination-2660 hrs.yr.

PERMITTEE:
Mid-Florida Mining Co.

Permit Number: AC 42-162296

Expiration Date: Dec. 31, 1989

SPECIFIC CONDITIONS:

3. All Particulate Matter Assumed To Be PM₁₀.
4. Emission Rate Substantially Less Than That Required For Sludge Incinerators By NESHAP, 40 CFR 61.52.

15. The permanent source identification number assigned to the permitted source is 30ORL42001702, Clay Dryer. Please cite this number on all test reports and other correspondence for each permitted point source.

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

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

Issued this _____ day
of _____, 1989

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

July 7, 1989

Mr. David Townsend
Director of Environmental Health
Marion County Health Department
3230 Southeast Maricamp Road
Ocala, Florida 32671

Dear Mr. Townsend:

Re: Mid-Florida Mining Company
Air Construction Permit Application

The Bureau of Air Quality Management needs to make the enclosed information available for public inspection pursuant to Chapter 17-2, Florida Administrative Code. A notice directing people to your office will be published in a local newspaper in the near future. The information should be available upon request for a period of at least 14 days from the notice date.

We appreciate your help in providing this valuable public service, and your assistance does not necessarily constitute an endorsement of the project. Should you have any questions, please call me at (904)488-1344.

Sincerely,

Patricia G. Adams

Patricia G. Adams
Planner
Bureau of Air Quality
Management

PA/ks

enclosure



KOOZLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

RECEIVED

JUN 13 1989

DER-BAQM

FAX TRANSMITTAL FORM

TO: Mike Harley
FDER Tallchasse
290-88-01

FROM: John Kocyle

SENT BY: _____
DATE: 6/13/89
FAX PHONE: 904-377-7158

The text being transmitted consists of 1 pages
PLUS this one.

REMARKS: Mike - air flow @ 50%
excess air from MEM after burner
(to stack) per your request.
Call if you have questions
John



4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

JOB

MEM

CALCULATED BY JOHN B. KOGLER, P.E. DATE 6/12/89

SHEET NO. 1 OF 1

Stack Gas Flow @ 50% excess air

Design flow rate

= 55836 acfm @ 5% moist @ 350°F

= 15650 dscfm (10% moist @ 68°F)
@ 3.5% O₂

= 17,578 dscfm @ 50% excess air

RECEIVED

JUN 13 1989

DER-BAQM

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. David B. Kibler, Ex. Dir. MFM Environmental, Inc. 3300 Southwest 34th Ave. Suite 152 Ocala, Florida 32674	4. Article Number P 274 010 387
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Address X <i>Marie Scaglione</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery <i>MS</i>	

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

P 274 010 387

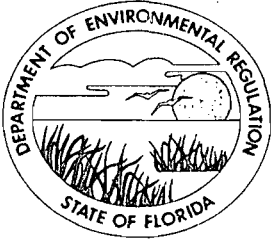
RECEIPT FOR CERTIFIED MAIL

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

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

Sent to Mr. David B. Kibler, MFM	
Street and No. 3300 Southwest 34th Ave.	
P.O., State and ZIP Code Ocala, FL 32674	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 5-19-89 Permit: AC 42-162296	

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

May 19, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David B. Kibler, Executive Director
MFM Environmental, Inc.
3300 Southwest 34th Avenue
Suite 152
Ocala, Florida 32674

Dear Mr. Kibler:

RE: MFM Environmental's Construction Permit Application Number
AC 42-162296 For A Waste Gas Incinerator

We wish to extend our thanks to you and the other representatives of MFM Environmental for meeting with us on the afternoon of May 10, 1989. I believe the meeting enabled us to better understand the issues associated with your proposed project and define the information that is still needed to complete your application. Your continuing efforts to help us address the issues associated with projects proposed by MFM Environmental have been instrumental in the establishment of a good rapport. We will continue the processing of your application upon receipt of the information requested at our meeting of May 10.

If we may be of further assistance, please call Bill Thomas at (904) 488-1344 or write to me at the address above.

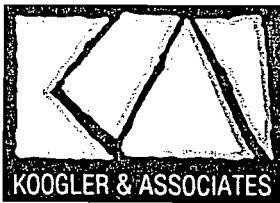
Sincerely,

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

Bureau of Air Quality Management

CHF/mdh

cc: C. Collins
J. Koogler, P.E.
W. Butler



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 290-88-01

May 19, 1989

Mr. C. H. Fancy
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Supplemental Information for Afterburner
Construction Permit Application
Mid-Florida Mining Company
Lowell, Florida

Dear Clair:

The attached information is provided to supplement the application for the subject afterburner submitted to your office under cover of our letter dated March 7, 1989. The information provided herein addresses issues that were raised during a meeting between you and your staff and MFM representatives in Tallahassee on May 10, 1989.

1. USE OF OFF-SPECIFICATION USED OIL FUEL

In the original construction permit application and in supplementary information provided to the Department on April 28, 1989, MFM proposed the use of either on-specification or off-specification used oil fuel in both the dryer and the afterburner when the system is used for the thermal processing of contaminated soil. In our letter of April 28, 1989, we reviewed the Department's policies related to the use of used oil fuel and demonstrated that MFM met all of the requirements for burning either on-specification or off-specification used oil fuel. Furthermore, we demonstrated that the discharge of contaminants potentially present in used oil fuel will not result in unacceptable environmental impacts.

During our meeting in your office on May 10, 1989, a statement was made that EPA had recently revised its policy related to used oil fuel and, as a result, the Department would be hesitant to allow MFM to fire the afterburner with off-specification used oil fuel. On May 19, 1989, MFM contacted Ms. Angelia Wilkes of EPA's Office of Waste Management (202-382-7917) and asked about recent changes in EPA's

policies regarding used oil fuel. MFM was informed that there had been no policy changes since November 1985 and that the rules set forth in 40CFR266, Subpart E-Used Oil Burned for Energy Recovery, were still in effect. Ms. Wilkes further stated that no policy changes were anticipated in the near future. I have attached a copy of 40CFR266, Subpart E as Attachment 1 and included with my letter of April 28, 1989, all of the current Department policies related to burning used oil as a fuel.

Based upon all information available to us, the burning of on-specification and off-specification used oil fuel for energy recovery is acceptable to both EPA and the Department. Furthermore, the impact analysis that we have performed has demonstrated that the burning of neither on-specification nor off-specification used oil fuel in the afterburner and dryer during the thermal processing of contaminated soil will result in unacceptable environmental impacts. As a result, MFM still requests approval to use either on-specification or off-specification used oil fuel in both the dryer and afterburner while processing contaminated soils.

2. AIR FLOW MEASUREMENT

In my letter of April 28, 1989, the monitoring and control system proposed for the dryer/afterburner was described. This system included the measurement of the air flow rate entering the afterburner. During our meeting on May 10, 1989, information was requested on the type of device that would be used for measuring the air flow.

The air flow will be measured with a thermal dispersion type mass flow meter. I have included as Attachment 2, a brochure describing a mass flow meter manufactured by one particular company. The flow meter that will be selected by MFM will be equivalent to those described in Attachment 2.

3. BY-PASS STACK ACTIVATION TEMPERATURE

As described in information previously submitted to the Department, a by-pass stack has been designed between the quench chamber following the afterburner and the stack. The purpose of the by-pass stack is to release hot gases directly to the atmosphere in case of an emergency and, thus, prevent damage to the main stack.

The damper that will allow the release of hot gases to the by-pass stack will be activated at a temperature of 500°F, measured at the base of the main stack. If this temperature is reached, the damper



will shutoff air flow to the main stack and dump the hot air to the atmosphere through the by-pass stack. When the damper activates, interconnects will be activated; shutting the entire system down (except for the water quench system and fans necessary to remove heat from the system).

4. SOIL BLENDING

In various information submitted to the Department, MFM has discussed its intentions to blend contaminated soils to assure the safe and effective processing of the soil in the dryer/afterburner system. It has been stated that the blending will be required only to facilitate the handling of contaminated soil and/or to assure the uniform operation of the dryer/afterburner system and the uniform decontamination of soil.

The distribution of hydrocarbon contaminants in most soils is not uniform and the variability could cause inconsistent performance in the processing system. To minimize the potential for inconsistent performance, it is a MFM policy to precondition all contaminated soil prior to processing. Methods used to achieve this are:

1. Soils containing lower levels of hydrocarbons are premixed with soils containing higher levels of hydrocarbons,
2. Soils containing higher levels of hydrocarbons are preconditioned by adding calcium montmorillinite clays, and/or
3. Soils which may have a potential for product drainage during handling or storage are mixed with calcium montmorillinite absorbents.

These mixing procedures are considered within the purview of MFM because MFM is a designated and permitted soils treatment facility.

5. PARTICULATE MATTER EMISSION RATE

In the information provided in my letter of April 28, 1989, I increased the estimated particulate matter emission rate associated with burning used oil fuel in the afterburner from 0.8 to 7.5 pounds per hour. The particulate matter emission rate from the dryer (preceding the afterburner) is permitted at, and will remain at, 15.0 pounds per hour. This will result in a total maximum particulate matter emission

rate from the afterburner stack of 22.5 pounds per hour; 15.0 pounds per hour from the dryer and 7.5 pounds per hour from the afterburner.

During our meeting on May 10, 1989, it was stated that the particulate matter concentration in the stack gas would exceed 0.08 grains per dry standard cubic foot; the particulate matter emission limit currently in effect for hazardous waste incinerators and municipal waste incinerators. MFM's position both at the meeting on May 10, 1989, and now is that the dryer/afterburner system is neither a hazardous waste incinerator nor a municipal waste incinerator. Therefore, it is irrelevant that the particulate matter concentration in the gas stream discharged from the system may exceed 0.08 grains per dry standard cubic foot.

The dryer is currently permitted to operate (processing either contaminated soils or clay) with a stack gas particulate matter concentration in the range of 0.11 grains per dry standard cubic foot. Particulate matter from the ash in the used oil fuel that will fire the afterburner will result in a stack gas particulate matter concentration of approximately 0.08 grains per dry standard cubic foot. This concentration will be independent of the type of used oil burned; i.e., on-specification or off-specification.

Regarding the burning of either on-specification or off-specification used oil fuel, both the state and federal rules and guidelines permit on-specification used oil fuel to be burned in any fuel burning source (subject to agency approval) and allow off-specification used oil fuel to be burned in industrial boilers. Many of the fuel burning devices in which on-specification used oil fuel can be burned have no air pollution control devices (boilers, heaters, and non-contact dryers, for example). Similarly, many industrial boilers in which off-specification used oil fuel can be burned do not have air pollution control devices (steam boilers, for example). As a result, many of the sources that burn used oil fuel can have particulate matter emission rates in excess of 0.08 grains per standard cubic foot, depending upon the ash content of the oil.

As stated previously, the MFM dryer is currently permitted to operate with a particulate matter emission rate in excess of 0.08 grains per dry standard cubic foot and the afterburner could operate with stack gas particulate matter concentrations in excess of 0.08 grains per dry standard cubic foot (depending upon the ash content of the fuel). Just because the proposed MFM afterburner will operate in series with the dryer for the express purpose destroying volatile hydrocarbon products stripped from the contaminated soil, there is no justification for applying a particulate matter emission limiting standard to the combined system that will be more stringent than the

particulate matter emission standard applied to either part of the system when operated alone.

6. AIR QUALITY IMPACT ANALYSIS

The calculations associated with the air quality report analysis provided under cover in my letter dated April 28, 1989, have been amended to reflect the increased particulate matter emission rate (22.5 pounds per hour) and the corrected risk-based acceptable ambient levels for various compounds that could be present in the used oil fuel (Attachment 3). The analysis demonstrates that particulate matter, sulfur dioxide, nitrogen oxides, and hydrogen chloride when emitted from the afterburner stack at the rates set forth in the permit application and supplemental materials, will result in ambient impacts that are below applicable ambient air quality standards or acceptable ambient levels. The analysis further demonstrates that lead in used oil fuel fired to the system can be present in concentrations greater than 3900 ppm without causing a violation of the quarterly ambient air quality standard for lead (1.5 micrograms per cubic meter). Acceptable concentrations of arsenic, cadmium, and hexavalent chromium in the fuel have been calculated based on a risk assessment and an air toxics assessment. Acceptable concentrations of arsenic, cadmium and hexavalent chromium in the fuels are 12, 28, and 4 ppm, respectively. The analysis also demonstrates that the discharge of organic compounds from the afterburner stack are not expected to create unacceptable ambient impacts. (The potential for PCDD emissions is addressed in the following section).

Regarding the risk that was used in preparing the risk-based impact analysis, I would like to address your attention to your interoffice memo dated October 22, 1987, related to used oil burning (a copy of this memo was attached to my letter dated April 28, 1989). In this memo, guidelines are set forth for permitting facilities requesting to burn off-specification used oil fuel. The technical basis of the memo was derived from EPA's proposed industrial furnace regulations published on May 5, 1987. The risk selected by EPA for the proposed regulations and hence, the risk implicit in your memo, is 1 in 100,000.

You may also recall that I corresponded with you on June 1, 1988 (Attachment 4), and pointed out to you that if the guidelines of your October 22, 1987 memo were applied to facilities requesting to burn on-specification used oil fuel, the guidelines (based on a risk of 1 in 100,000) would not allow the use of this fuel. In other words, the risk associated with burning on-specification used oil fuel is greater than 1 in 100,000.

Since the acceptable concentrations of arsenic, cadmium, and hexavalent chromium in on-specification used oil fuel were set at limits that were consistent with concentrations of these compounds found in virgin fuel, it follows that the risk associated with burning virgin oil fuel will also be somewhat greater than 1 in 100,000. I am also sure that you realize concentrations of arsenic, cadmium and chromium in coal can be much higher than the concentrations of these compounds in oil. Thus, the risk associated with coal burning is greater than the risk associated with burning virgin fuel oil (greater than 1 in 100,000).

During our meeting on May 10, 1989, it was stated that the Department is now considering a risk of 1 in 1,000,000 as an acceptable risk. I find this risk over conservative and totally inconsistent with risks associated with all oil and coal burning activities in the state and the other risks that the general public is exposed to day after day. I also feel that it is inappropriate for the Department to impose an "acceptable risk" that is unpublished and one that was arrived at without a public hearing or public comment.

Based upon the above considerations, MFM has based the risk analysis portion of the impact study on a risk of 1 in 100,000. We feel that this risk is reasonably conservative and is consistent with the risk associated with other fuel burning activities in the state.

7. DIOXINS FORMATION AND DESTRUCTION

The production of dioxins in any combustion system is a function of three primary factors:

1. Precursors contained in the material being burned,
2. The temperature at which combustion occurs, and
3. Inadequate oxygen during a combustion process.

Precursors for dioxin formation are generally not present in the soils that MFM will process. A possible exception will be the coal tar and creosote contaminated soils. Even when these soils are being processed, however, it is anticipated that the formation of dioxins will be minimized because of the temperature ranges experienced in the dryer and the available oxygen in the dryer.

The temperatures that are reported to be optimal for dioxin formation are in the range of 900-1000°F. MFM has found that soils can adequately be decontaminated without reaching these temperatures. Under some conditions, however, it may be desirable to heat the soil



to these temperatures. These soil temperatures will be reached only near the discharge end of the dryer. Temperatures in the 900-1000°F temperature range can also be expected in the gas stream within the dryer somewhere between the flame zone (2000°F plus) and the back end of the kilns where the flue gases exit (350°F).

Even where temperatures are in the range of 900-1000°F, excess oxygen is present. Under normal operating conditions, the oxygen content of the gases leaving the dryer are in the range of 12-16 percent. The soil is exposed to these high oxygen levels due to the tumbling action within the dryer drum and the gases are exposed to the high oxygen levels due to the turbulence within the dryer.

If dioxins are formed in the dryer system, they will be efficiently and effectively destroyed in the afterburner proposed by MFM. Mr. Don Oberacker of EPA's hazardous waste incinerator group in Cincinnati, Ohio, and Dr. Barry Dellinger, a contract researcher for EPA at the University of Dayton (Ohio), were contacted regarding the afterburner design parameters. Both were of the opinion that a temperature of 2000°F and a residence time of two seconds will result in the effective destruction of dioxins if adequate turbulence and oxygen are present. Both turbulence and excess oxygen have been designed into the MFM afterburner.

8. FLUORIDE EMISSIONS

To confirm the information that we relayed verbally during our meeting of May 10, 1989, MFM does not anticipate that any of the contaminated soil that it will process will contain fluorides; either naturally occurring or as an anthropogenic contaminant. As a result, no fluoride emissions are anticipated from the dryer/afterburner system.

9. STACK GAS OXYGEN MEASUREMENTS

MFM has looked into the feasibility of measuring the flue gas oxygen concentration in the stack following the afterburner and quench section. Based upon information presently available, it appears technically feasible to measure the oxygen concentration in the stack gas.

10. SURROGATE ORGANIC COMPOUND FOR DRE EVALUATION

Based upon information presently available, it appears that a chlorinated benzene will be the most likely surrogate compound for evaluating the destruction/removal efficiency (DRE) of the



afterburner. This class of compounds was recommended by EPA and EPA's contract researchers at the University of Dayton. The compounds are resistant to pyrolytic destruction and are also resistant to high temperature oxidation.

This matter will be addressed in more detail and the specific compound(s) that will propose as a surrogate will be addressed in the test protocol that will be prepared for Department approval prior to conducting the compliance test on the dryer/afterburner system.

11. FLUE GAS TEMPERATURE MEASUREMENTS

The gas temperature in the dryer/afterburner system will be measured at the following points:

- At the kiln exit
- At the baghouse entrance
- Fan inlet (baghouse exit)
- Afterburner inlet
- Afterburner
- At the base of the stack
- Stack top

12. SAMPLING PORTS FOR EVALUATING DRE OF AFTERBURNER

In addition to the sampling ports that will be placed in the main stack following the afterburner, sampling ports will be placed in the ductwork upstream of the afterburner so that flue gas samples can be collected upstream and downstream of the afterburner. The samples collected at these two locations can be used to evaluate the DRE of the afterburner.

13. PROCESS DESCRIPTION

The general description of the afterburner system suggested by MFM is as follows:

A 50 MMBTU/hr afterburner is to be added to an existing clay dryer (AC42-113787) to destroy volatile and semi-volatile organic compounds in the exhaust gases from the dryer when the dryer is used to thermally process soils, sludges, still bottoms, and other material containing hydrocarbon products including, but not limited to, gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other halogenated and non-

Mr. C. H. Fancy
Florida Department of
Environmental Regulation

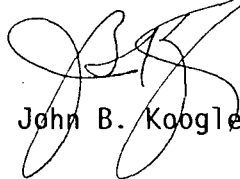
May 22, 1989
Page 9

halogenated hydrocarbons not specifically restricted by
applicable regulations.

The information provided herein should adequately address all of the issues
raised during our meeting of May 10, 1989. If there are any further
questions, please do not hesitate to contact me.

Very truly yours,

KOOGLER & ASSOCIATES



John B. Koogler, Ph.D, P.E.

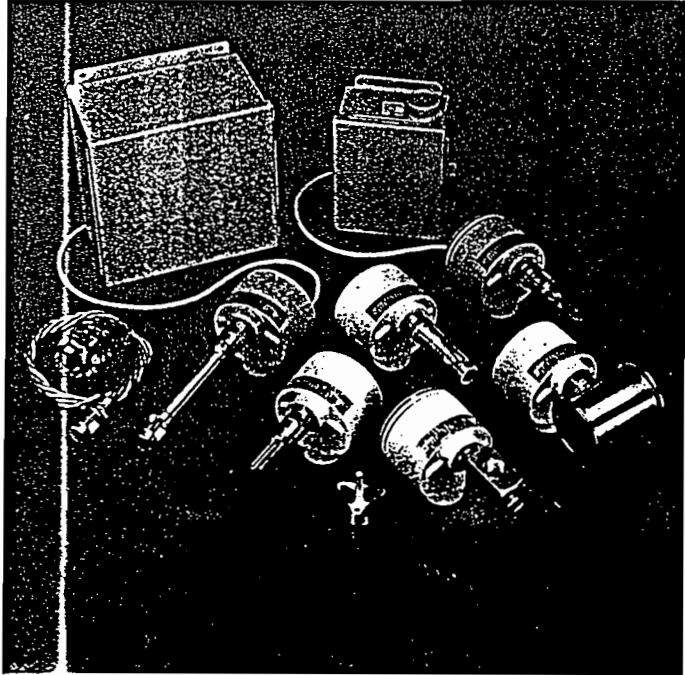
JBK:wa
Enc.

cc: Mr. Mike Harley
Mr. David Kibler
Mr. Rusty Butler
Mr. Larry Curtin



ATTACHMENT 1
FLOW MONITORS

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Mass Flowmeter

Flow Switch/Monitors

Liquid Level/Interface Controllers

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Flowm

Available in the Insertion type LT81A Series, LT87 Low-Flow In-Line Series, and MT86 Multi-Point Series, FCI Mass Flowmeters can be calibrated to provide highly precise and reliable flow rate measurement of virtually any gas or gas mixture—with repeatability of $\pm 1\%$ over 100:1 turndown and accuracy of $\pm 1\%$ of full scale.

The standard instrument configuration has the sensor probe mounted to a NEMA 4 enclosure which houses the modular solid-state electronics. A Remote Electronics Package is also offered for separation of the sensor probe and control electronics by up to 1000' (304m). Explosion-proof electrical enclosures are available.

The special Temperature Compensation option maintains instrument accuracy in applications where large changes in process temperature occur.

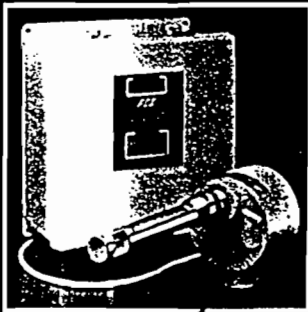
The LT81A—with 1" or 1½" MNPT threaded connection, flanged or packing gland connection—will perform accurately and reliably over exceptionally wide flow ranges, at pressures from vacuum to 1250 psig (86.2 bar). A special High-Temperature model is available for process temperatures up to 850°F (458°C).

The LT87 is designed for easy in-line mounting in pipes and tubing using 1" NPT. With the optional ⅛" injection tube, it will accurately measure air and gas mass flow rates as low as 2 cc/sec.

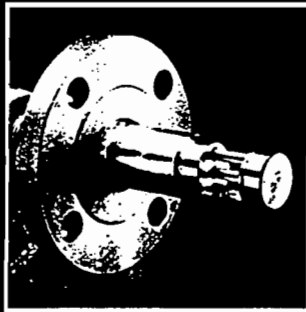
For large duct and pipe applications characterized by unpredictable flow profiles, FCI offers the MT86 Multi-Point Mass Flowmeter. Using advanced digitally-based electronics to survey output signals, the instrument provides a high-resolution averaged reading of flow rate.

All three models offer a choice of linearized signal outputs, including the standard 4-20mA, or optional 10-50mA, 0-10VDC, 0-5VDC, or 1-5VDC. Digital Flow Rate Indicators and Totalizers—which can be scaled in mass flow, volumetric, or velocity values—are available for real-time and total flow indication.

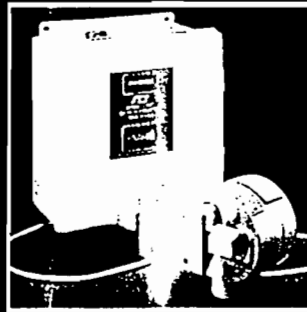
LT81A with Remote Electronics Package



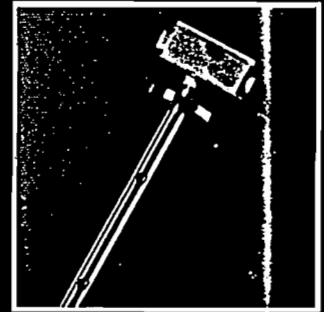
LT81A Sensor Probe with Flanged Connection



LT87 Low-Flow, In-Line Model



MT86 Multi-Point Mass Flowmeter



	Insertion Flowmeter	LT81AHT High Temperature Insertion Mass Flowmeter	LT87 Low-Flow In-Line Model	MT86HT High Temperature Multi-Point Mass Flowmeter	MT86 Low-Temperature Multi-Point Mass Flowmeter	MT86 Multi-Point Mass Flowmeter	MT86 Multi-Point Mass Flowmeter
Flow Element	0.25 to 200 + SFPS (0.08 to 61 m/sec)	0.25 to 200 + SFPS (0.08 to 61 m/sec)	0.25 to 200 + SFPS (0.08 to 61 m/sec)	0.25 to 200 + SFPS (0.08 to 61 m/sec)	2 to 20,000 cc/sec	2 to 20,000 cc/sec	Water: .004-5 fps (.011-1.5 m/sec) Oil: .002-10 fps (.0006-3 m/sec) Air: .03-500 fps (.009-152 m/sec)
Stable Response	N/A	N/A	N/A	N/A	N/A	N/A	10-300 seconds 5-150 seconds
Process Connection	1" or 1½" MNPT Option: Flange connection or retractable probe assembly	1" or 1½" MNPT Option: Flange connection or retractable probe assembly	2" 150 lb. Carbon Steel RF Flange	2" 150 lb. Carbon Steel RF Flange	¾ FNPT Option: Flange, 1" MNPT and tubing fitting connections	¾ FNPT Option: Flange, 1" MNPT and tubing fitting connections	1" or 1½" MNPT Option: ¾" MNPT, 1½" MNPT or larger flanged connection Option: Flange connection or retractable probe assembly
Insertion Depth or In-Line Sensor Assembly Length	2¾" (6.7cm) U dimension Option: Customer specified U dimension	2¾" (6.7cm) U dimension Option: Customer specified U dimension	Customer specified U dimension	Customer specified U dimension	7.25" (18cm) Option: customer specified variations	7.25" (18cm) Option: customer specified variations	2" (5 cm) U dimension Option: Customer specified U dimension Option: Customer specified U dimension
Enclosure Classification	NEMA 4 Option: Remote NEMA 4 or NEMA 7	Electronics: Remote NEMA 4 Sensor: NEMA 7	NEMA 4	NEMA 4	Electronics: Remote NEMA 4 Option: Remote NEMA 7 Sensor: NEMA 7	Electronics: Remote NEMA 4 Option: Remote NEMA 7 Sensor: NEMA 7	NEMA 7BCD, NEMA 4 or 4X Option: Epoxy coated Remote NEMA 4 Option: NEMA 7, NEMA 4X
Operating Conditions	Temp: -50° to +350°F (-45° to +178°C) Pressure: to 1250 PSIG (86.2 bar)	Temp: -50° to +850°F (-45° to +458°C) Pressure: to 1250 PSIG (86.2 bar)	Temp: -50° to +350°F (-45° to +178°C) Pressure: to 1250 PSIG (86.2 bar)	Temp: -50° to +850°F (-45° to +458°C) Pressure: to 1250 PSIG (86.2 bar)	Temp: -50° to +350°F (-45° to +178°C) Pressure: to 1250 PSIG (86.2 bar)	Temp: -100° to +850°F (-73° to +458°C) Pressure: to 1250 PSIG (86.2 bar)	Temp: -100° to +350°F (-78° to +178°C) Pressure: to 4000 PSIG (276 bar)

Flow Switch

Because of their no-moving-parts Thermal Dispersion design, FCI Flow Switch/Monitors can be used in virtually all media—liquids, gases, slurries, etc.—regardless of temperature, pressure or viscosity.

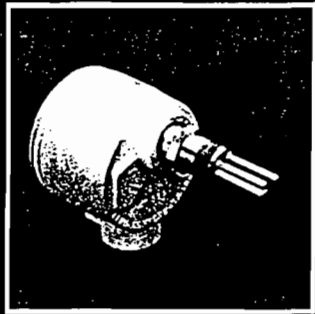
Switch Points can be field- or factory-calibrated for a single instrument over a wide 100:1 range, with repeatability better than 1.0% of full signal at constant temperature and pressure.

Available for insertion or in-line mounting—with threaded, flanged, or retractable connections—FCI Flow Switch/Monitors offer detection capability as low as 1 gallon/month in liquids, 2 cc/min in gases; and as high as 10 ft/sec in liquids, 500 ft/sec in gases. Response to specified flow rate change is variable down to 1 second.

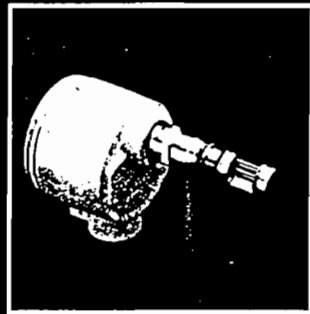
Most models come with the sensor probe and control electronics integrated into an FM/CENELEC-approved explosion-proof cast aluminum enclosure. Remote Electronics configurations, including special High-Temperature units, are also available.

For sanitary applications, FCI offers two Flow Switch/Monitors with specially polished 316 Stainless Steel sensor probes and "T" fittings (permanently welded or clamped on) that comply with the stringent requirements of the Food, Beverage, Pharmaceutical and Chemical industries.

General Purpose Model 12-64



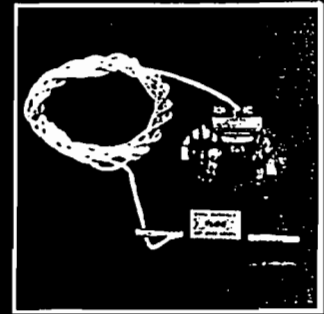
FR72 Fast Response Model



FR70 Low-Flow Model



FR78 Compact Low-Flow Model



General Purpose Model 12-64	FR72 Fast Response Model	FR70 Low-Flow Model	FR78 Compact Low-Flow Model
01-5 fpm (.003-1.5 m/sec) 1-10 fpm (.002-3 m/sec) 500 fpm (3-152 m/sec)	Water: .01-5 fpm (.003-1.5 m/sec) Oil: .01-10 fpm (.003-3 m/sec) Air: 1-500 fpm (3-152 m/sec)	Water: .015-.5 fpm (.005-.2 m/sec) Syrup: .01-2 fpm (.003-.6 m/sec) Air: 1-100 fpm (3-30 m/sec)	Water: .025-35 cc/sec Oil: .01-90 cc/sec Air: .5-10M cc/sec
1-150 seconds	5-150 seconds	10-300 seconds	1-150 seconds
1/2" MNPT 1/4" MNPT, mounting	3/8" MNPT Option: 1/2" 18 UNF 3A similar to MS33656 with O-ring seal	1" or 1 1/2" MNPT Option: Flanged connection or retractable probe assembly	RC: 1 1/2" Tri-Clamp ferrule. Option: Other size and style ferrules CIP: Tri-Clamp ferrule or butt weld mounting on in line tubing connection
2" (5.1 cm) U dimension Option: Customer specified U dimension	2 1/2" (6.4 cm) U dimension Option: Customer specified U dimension	2" (5.1 cm) U dimension	2.5" (6.4 cm) Option: 2.5" (6.4 cm) or larger with flanged connection.
NEMA 7BCD, NEMA 4 or 4X Option: Epoxy coated	Remote NEMA 4 Option: NEMA 7, NEMA 4X	NEMA 7BCD, NEMA 4 or 4X Option: Remote NEMA 7, epoxy coated	NEMA 7BCD, NEMA 4 or 4X Option: Epoxy coated
Temp: -100° to +350°F (-178° to +178°C) Pressure: to 2000 PSIG (138 bar)	Temp: -325° to +850°F (-200° to +458°C) Pressure: to 2000 PSIG (138 bar)	Temp: -150° to +850°F (-100° to +458°C) Pressure: to 2000 PSIG (138 bar)	Temp: -100° to +350°F (-78° to +178°C) Pressure: to 2000 PSIG (138 bar)

Performance & Reliability Proven in the Harshest Environments

I Oil refining, chemical processing, wastewater treatment, nuclear power generation ... In hundreds of environments like these—where harsh conditions combine with strict process control requirements—FCI instruments have established an unmatched record of performance and reliability.

FCI's Proprietary No-Moving-Parts Design

Each of the instruments offered—including Flow/Switch Monitors, Mass Flowmeters, and Liquid Level/Interface Controllers—is an implementation of FCI's proprietary Thermal Dispersion technology.

This proven technology involves no moving parts or orifices. So it not only offers a highly reliable and repeatable indication of flow rate and liquid level/interface change, it also enables the instruments to perform dependably in virtually any type of media—liquids, gases,

and slurries—even those which are highly viscous, abrasive or corrosive.

Durability is also enhanced by the instruments' rugged construction. Standard 316 Stainless Steel/Nickel braze sensor probe assemblies are hydrostatically pressure tested to 2,000-3,000 PSIG on most models. And many units can be provided with exotic-alloy probes and special brazes for added protection in excessively corrosive media.

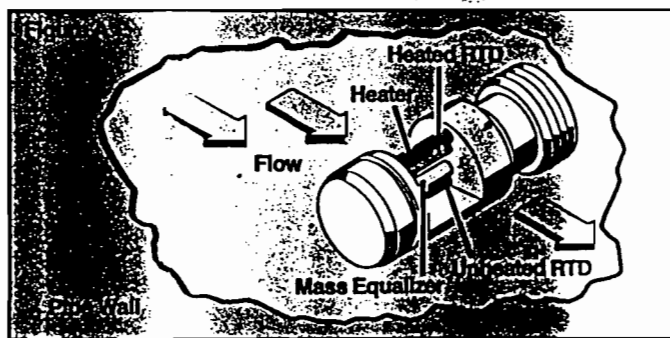
Summary Of Thermal Dispersion Technology

FCI's Thermal Dispersion technology offers a unique method of sensing flow and liquid level/interface change as a function of related changes in the heat transfer ability of the media involved.

The standard sensor probe portion of the instruments consists of three thermowells, housing two matched Resistance Temperature Detectors (RTDs) and a low-power heater that preferentially heats one of the RTDs.

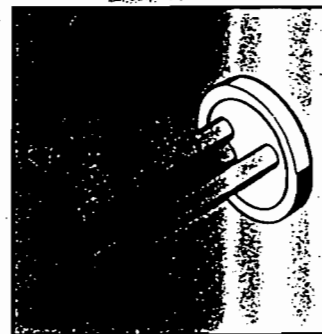
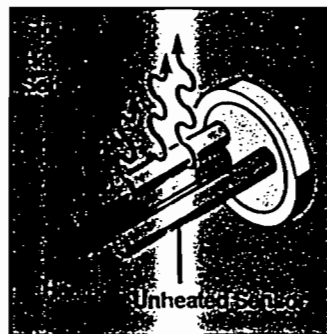
Mass Flowmetering: Because the relationship between flow rate and heat transfer is directly related to mass in gas applications, this same sensing technique—combined with advanced signal linearizing circuitry—is used by FCI's Thermal Dispersion Mass Flowmeters.

As shown in Figure A, the Mass Flowmeter sensor probe includes a fourth thermowell, the "Mass Equalizer." This configuration assures that changes in media temperature affect the "Heater/Heated RTD" thermowell set at the same rate as the "Unheated RTD," thus maintaining the instruments' accuracy even in the presence of transient process temperature fluctuations.



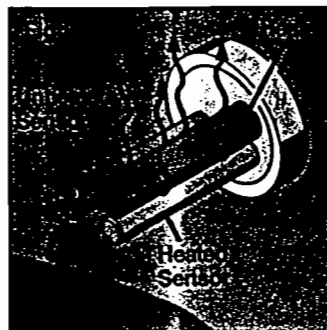
Flow Detection: The Flow/Switch Monitor sensor probe configuration, shown in Figure B, creates a temperature differential between the two RTDs that is greatest in a no-flow condition and lessens as flow increases, cooling the "Heated RTD."

Changes in flow velocity directly affect the extent to which heat is dissipated and, in turn, the magnitude of the temperature differential between the RTDs. This differential is electronically converted into a Millivolt output signal that can be used to trip the instrument's on-board relay at any customer-specified velocity point.



Liquid Level/Interface Detection: In the detection of liquid level, the temperature differential between the two RTDs is greatest in the absence of the liquid and decreases when the probe becomes submerged, cooling the "Heated RTD" as shown in Figure C.

Since all process media exhibit different heat transfer ability, the instrument can be specifically calibrated to sense an interface between any immiscible products—including liquids, gases, slurries, and foam—regardless of their other physical properties.



Rate: .01-5 m/sec
 Accuracy: ±.007-1 m/sec
 Range: 0.1-50 m/sec
 Response: 1-150 sec

Probe: 1/4" or 1/2"
 Option: 3/4"
 Thread: 1/2" NPT

Probe: 3/8" (6.7 cm)
 Dimension: 1/2"
 Option: 3/4"
 Specified: 1/2"

Temp: -100 to 780°F
 Pressure: 1-3000 PSIG (38 bar)

Monitoring & Calibrating Accessories

FM71A/D Monitor/Calibrator

The FM71—available with analog or digital display—is an extremely useful tool for calibrating and monitoring FCI Flow Switch/Monitors and Liquid Level/Interface Controllers.

In the monitoring mode, the FM71 displays a precise readout of the signal produced by the instrument. This readout can be used to interpret flow velocity when the unit is used with a Flow/Switch Monitor, or to determine the media present at the sensor probe when used with a Liquid Level/Interface Controller.

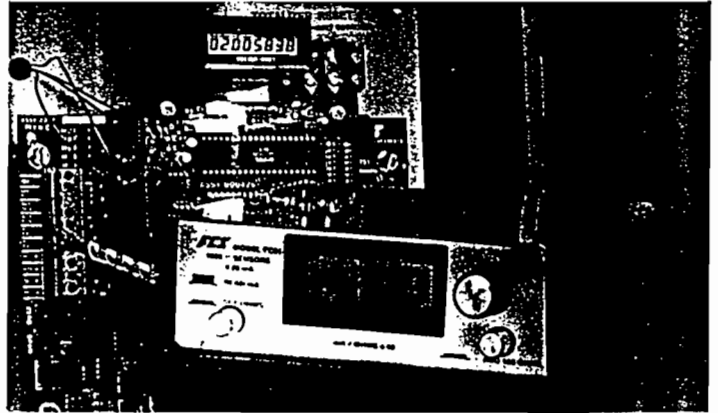
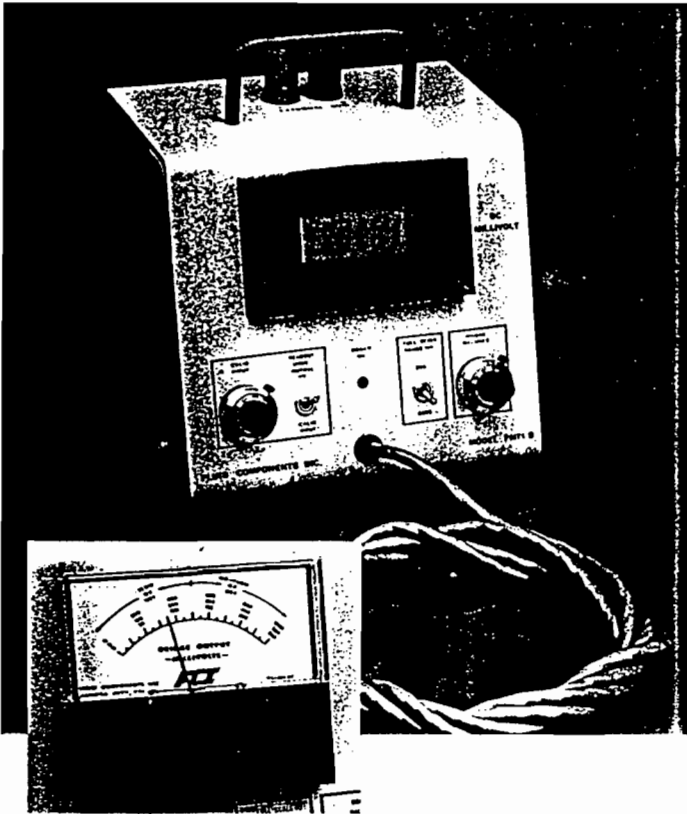
Using the special Calibration Circuit, different process conditions can be simulated so that the instrument's Switch Point can be set at the desired signal level. The Calibration mode can also be used to verify Switch Points at any time after the initial setting is made.

FC81 Calibrator

Designed for easy in-field operation, the compact FC81 Calibrator is used for verifying the calibration of LT81A, LT87 and MT86 Mass Flowmeters and for adjustment of the instruments' output.

The FC81 simulates and digitally displays the signal produced by the Flowmeter's sensors at specific flow rates. This output can then be compared to the factory-supplied calibration chart to verify performance of the instrument.

The unit also permits Zero and Span adjustment of the instruments' output without degrading the linearity of the signal. After field adjustments are made, the FC81 enables the user to create a new calibration table.



FCI

FLUID COMPONENTS, INC.

ATTACHMENT 2
EPA USED OIL REGULATIONS

(e) *Required notices.* (1) Before a marketer initiates the first shipment of hazardous waste fuel to a burner or another marketer, he must obtain a one-time written and signed notice from the burner or marketer certifying that:

[266.34(e)(i) and (ii) amended by 52 FR 11821, April 13, 1987]

(i) The burner or marketer has notified EPA and identified his waste-as-fuel activities; and

(ii) If the recipient is a burner, the burner will burn the hazardous waste fuel only in an industrial furnace or boiler identified in § 266.31(b).

(2) Before a marketer accepts the first shipment of hazardous waste fuel from another marketer, he must provide the other marketer with a one-time written and signed certification that he has notified EPA under section 3010 of RCRA and identified his hazardous waste fuel activities; and

(f) *Recordkeeping.* In addition to the applicable recordkeeping requirements of Parts 262, 264, and 265 of this chapter, a marketer must keep a copy of each certification notice he receives or sends for three years from the date he last engages in a hazardous waste fuel marketing transaction with the person who sends or receives the certification notice.

(The notification requirements contained in paragraph (b) of this section were approved by OMB under control number 2050-0028. The storage requirements contained in paragraph (c) of this section were approved by OMB under control number 2050-0009. The manifest and invoice requirements contained in paragraph (d) of this section were approved by OMB under control numbers 2050-0039 and 2050-0047, respectively. The certification requirements contained in paragraph (e) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (f) of this section were approved by OMB under control number 2050-0047.)

§ 266.35 Standards applicable to burners of hazardous waste fuel.

Owners and operators of industrial furnaces and boilers identified in § 266.31(b) that burn hazardous waste fuel are "burners" and are subject to the following requirements:

[266.35 introductory paragraph amended by 52 FR 11821, April 13, 1987]

(a) *Prohibitions.* The prohibitions under § 266.31(b);

(b) *Notification.* Notification of hazardous waste fuel activities. Even if a burner has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA Identification Number, he must renotify to identify his hazardous waste fuel activities.

[266.35(b) amended by 52 FR 11821, April 13, 1987]

(c) *Storage.* (1) For short term accumulation by generators who burn their hazardous waste fuel on site, the applicable provisions of § 262.34 of this chapter;

(2) For existing storage facilities, the applicable provisions of Subparts A through L of Part 265, and Parts 270 and 124 of this chapter; and

(3) For new storage facilities, the applicable provisions of Subparts A through L of Part 264, and Parts 270 and 124 of this chapter;

[266.35(c)(3) amended by 52 FR 11821, April 13, 1987]

(d) *Required notices.* Before a burner accepts the first shipment of hazardous waste fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) He has notified EPA and identified his waste-as-fuel activities; and

[266.35(d)(1) amended by 52 FR 11821, April 13, 1987]

(2) He will burn the fuel only in a boiler or furnace identified in § 266.31(b).

(e) *Recordkeeping.* In addition to the applicable recordkeeping requirements of Parts 264 and 265 of this chapter, a burner must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives hazardous waste fuel from that marketer.

(The notification requirements contained in paragraph (b) of this section were approved by OMB under control number 2050-0028. The storage requirements contained in paragraph (c) of this section were approved by OMB under control number 2050-0009. The certification requirements contained in paragraph (d) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (e) of this section were approved by OMB under control number 2050-0047.)

Subpart E—Used Oil Burned for Energy Recovery

[Subpart E added by 50 FR 49202, November 29, 1985]

§ 266.40 Applicability.

(a) The regulations of this subpart apply to used oil that is burned for energy recovery in any boiler or industrial furnace that is not regulated under Subpart O of Part 264 or 265 of this chapter, except as provided by paragraphs (c) and (e) of this section. Such used oil is termed "used oil fuel". Used oil fuel includes any fuel produced from used oil by processing, blending, or other treatment.

(b) "Used oil" means any oil that has been refined from crude oil, used, and, as a result of such use, is contaminated by physical or chemical impurities.

(c) Except as provided by paragraph (d) of this section, used oil that is mixed with hazardous waste and burned for energy recovery is subject to regulation as hazardous waste fuel under Subpart D of Part 266. Used oil containing more than 1000 ppm of total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subpart D of Part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Part 261 of this chapter.

(d) Used oil burned for energy recovery is subject to regulation under this subpart rather than as hazardous waste fuel under Subpart D of this part if it is a hazardous waste solely because it:

(1) Exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of this chapter, provided that it is not mixed with a hazardous waste; or

(2) Contains hazardous waste generated only by a person subject to the special requirements for small quantity generators under § 261.5 of this chapter.

(e) Except as provided by paragraph (c) of this section, used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or other treatment, is sub-

[Sec. 266.40(e)]

ject to regulation under this subpart unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specification shown in the following table. Used oil fuel that meets the specification is subject only to the analysis and recordkeeping requirements under § 266.43(b) (1) and (6). Used oil fuel that exceeds any specification level is termed "off-specification used oil fuel".

USED OIL EXCEEDING ANY SPECIFICATION LEVEL IS SUBJECT TO THIS SUBPART WHEN BURNED FOR ENERGY RECOVERY *

Constituent/property	Allowable level
Arsenic	5 ppm maximum.
Cadmium	2 ppm maximum.
Chromium	10 ppm maximum.
Lead	100 ppm maximum.
Flash Point	100 °F minimum.
Total Halogens	4,000 ppm maximum.*

* The specification does not apply to used oil fuel mixed with a hazardous waste other than small quantity generator hazardous waste.

* Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under § 266.40(c). Such used oil is subject to Subpart D of this part rather than this subpart when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

§ 266.41 Prohibitions.

(a) A person may market off-specification used oil for energy recovery only:

(1) To burners or other marketers who have notified EPA of their used oil management activities stating the location and general description of such activities, and who have an EPA identification number; and

(2) To burners who burn the used oil in an industrial furnace or boiler identified in paragraph (b) of this section.

(b) Off-specification used oil may be burned for energy recovery in only the following devices:

(1) Industrial furnaces identified in § 260.10 of this chapter; or

(2) Boilers, as defined in § 260.10 of this chapter, that are identified as follows:

(i) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(ii) Utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale; or

(iii) Used oil-fired space heaters provided that:

(A) The heater burns only used oil that the owner or operator generates or used oil received from do-it-yourself oil changers who generate used oil as household waste;

(B) The heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and

(C) The combustion gases from the heater are vented to the ambient air.

§ 266.42 Standards applicable to generators of used oil burned for energy recovery.

(a) Except as provided in paragraphs (b) and (c) of this section, generators of used oil are not subject to this subpart.

(b) Generators who market used oil directly to a burner are subject to § 266.43.

(c) Generators who burn used oil are subject to § 266.44.

§ 266.43 Standards applicable to marketers of used oil burned for energy recovery.

(a) Persons who market used oil fuel are termed "marketers". Except as provided below, marketers include generators who market used oil fuel directly to a burner, persons who receive used oil from generators and produce, process, or blend used oil fuel from these used oils (including persons sending blended or processed used oil to brokers or other intermediaries), and persons who distribute but do not process or blend used oil fuel. The following persons are not marketers subject to this subpart:

[266.43(a) introductory text revised by 52 FR 11821, April 13, 1987]

(1) Used oil generators, and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery. However, persons who burn some used oil fuel for purposes of processing or other treatment to produce used oil fuel for marketing are considered to be burning incidentally to processing. Thus, generators and collectors who market to such incidental burners are not marketers subject to this subpart;

(2) Persons who market only used oil fuel that meets the specification under § 266.40(e) and who are not the first person to claim the oil meets the specification (i.e., marketers who do not receive used oil from generators or ini-

tial transporters and marketers who neither receive nor market off-specification used oil fuel).

(b) Marketers are subject to the following requirements:

(1) *Analysis of used oil fuel.* Used oil fuel is subject to regulation under this subpart unless the marketer obtains analyses or other information documenting that the used oil fuel meets the specification provided under § 266.40(e).

(2) *Prohibitions.* The prohibitions under § 266.41(a);

(3) *Notification.* Notification to EPA stating the location and general description of used oil management activities. Even if a marketer has previously notified EPA of his hazardous waste management activities under section 3010 of RCRA and obtained a U.S. EPA Identification Number, he must renotify to identify his used oil management activities.

(4) *Invoice system.* When a marketer initiates a shipment of off-specification used oil, he must prepare and send the receiving facility an invoice containing the following information:

(i) An invoice number;

(ii) His own EPA identification number and the EPA identification number of the receiving facility;

(iii) The names and addresses of the shipping and receiving facilities;

(iv) The quantity of off-specification used oil to be delivered;

(v) The date(s) of shipment or delivery; and

(vi) The following statement: "This used oil is subject to EPA regulation under 40 CFR Part 266";

NOTE: Used oil that meets the definition of combustible liquid (flash point below 200 °F but at or greater than 100 °F) or flammable liquid (flash point below 100 °F) is subject to Department of Transportation Hazardous Materials Regulations at 49 CFR Parts 100 through 177.

(5) *Required notices.* (i) Before a marketer initiates the first shipment of off-specification used oil to a burner or other marketer, he must obtain a one-time written and signed notice from the burner or marketer certifying that:

(A) The burner or marketer has notified EPA stating the location and general description of his used oil management activities; and

(B) If the recipient is a burner, the burner will burn the off-specification used oil only in an industrial furnace or boiler identified in § 266.41(b); and

(ii) Before a marketer accepts the first shipment of off-specification used oil from another marketer subject to

the requirements of this section, he must provide the marketer with a one-time written and signed notice certifying that he has notified EPA of his used oil management activities; and

(6) *Recordkeeping—(i) Used Oil Fuel That Meets the Specification.* A marketer who first claims under paragraph (b)(1) of this section that used oil fuel meets the specification must keep copies of analysis (or other information used to make the determination) of used oil for three years. Such marketers must also record in an operating log and keep for three years the following information on each shipment of used oil fuel that meets the specification. Such used oil fuel is not subject to further regulation, unless it is subsequently mixed with hazardous waste or unless it is mixed with used oil so that it no longer meets the specification.

(A) The name and address of the facility receiving the shipment;

(B) The quantity of used oil fuel delivered;

(C) The date of shipment or delivery; and

(D) A cross-reference to the record of used oil analysis (or other information used to make the determination that the oil meets the specification) required under paragraph (b)(6)(i) of this section.

(ii) *Off-Specification Used Oil Fuel.* A marketer who receives or initiates an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received or prepared. In addition, a marketer must keep a copy of each certification notice that he receives or sends for three years from the date he last engages in an off-specification used oil fuel marketing transaction with the person who sends or receives the certification notice.

(The analysis requirements contained in paragraph (b)(1) of this section were approved by OMB under control number 2050-0047. The notification requirements contained in paragraph (b)(3) of this section were approved by OMB under control number 2050-0028. The invoice requirements contained in paragraph (b)(4) of this section were approved by OMB under control number 2050-0047. The certification requirements contained in paragraph (b)(5) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (b)(6) of this section were approved by OMB under control number 2050-0047.)

§ 266.44 Standards applicable to burners of used oil burned for energy recovery.

Owners and operators of facilities that burn used oil fuel are "burners" and are subject to the following requirements:

(a) *Prohibition.* The prohibition under § 266.41(b);

(b) *Notification.* Burners of off-specification used oil fuel, and burners of used oil fuel who are the first to claim that the oil meets the specification provided under § 266.40(e), except burners who burn specification oil that they generate, must notify EPA stating the location and general description of used oil management activities.

Burners of used oil fuel that meets the specification who receive such oil from a marketer that previously notified EPA are not required to notify. Owners and operators of used oil-fired space heaters that burn used oil fuel under the provisions of § 266.41(b)(2) are exempt from this notification

requirement. Even if a burner has previously notified EPA of his hazardous waste management activities under Section 3010 of RCRA and obtained an identification number, he must renotify to identify his used oil management activities.

[266.44(b) amended by 52 FR 11821, April 13, 1987]

(c) *Required notices.* Before a burner accepts the first shipment of off-specification used oil fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) He has notified EPA stating the location and general description of his used oil management activities; and

(2) He will burn the used oil only in an industrial furnace or boiler identified in § 266.41(b); and

(d) *Used oil fuel analysis.* (1) Used oil fuel burned by the generator is subject to regulation under this subpart unless the burner obtains analysis (or other information) documenting that the used oil meets the specification provided under § 266.40(e).

(2) Burners who treat off-specification used oil fuel by processing, blending, or other treatment to meet the specification provided under § 266.40(e) must obtain analyses (or

other information) documenting that the used oil meets the specification.

(e) *Recordkeeping.* A burner who receives an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received. Burners must also keep for three years copies of analyses of used oil fuel as may be required by paragraph (d) of this section. In addition, he must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives off-specification used oil from that marketer.

(The notification requirements contained in paragraph (b) of this section were approved by OMB under control number 2050-0028. The certification requirements contained in paragraph (c) of this section were approved by OMB under control number 2050-0047. The analysis requirements contained in paragraph (d) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (e) of this section were approved by OMB under control number 2050-0047.)

Subpart F—Recyclable Materials Utilized for Precious Metal Recovery

§ 266.70 Applicability and requirements.

(a) The regulations of this subpart apply to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these.

(b) Persons who generate, transport, or store recyclable materials that are regulated under this subpart are subject to the following requirements:

(1) Notification requirements under section 3010 of RCRA;

(2) Subpart B of Part 262 (for generators), §§ 263.20 and 263.21 (for transporters), and §§ 265.71 and 265.72 (for persons who store) of this chapter;

(c) Persons who store recycled materials that are regulated under this subpart must keep the following records to document that they are not accumulating these materials speculatively (as defined in § 261.1(c) of this chapter):

(1) Records showing the volume of these materials stored at the beginning of the calendar year;

[Sec. 266.70(c)(1)]

ATTACHMENT 3
REVISED AIR QUALITY IMPACT ANALYSIS



4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

JOB MFM ENVIRONMENTAL
CALCULATED BY JOHN B. KOOGLER, P.E. DATE _____
SHEET NO. _____ OF 2

Revised 5/19/89

AIR QUALITY IMPACT ANALYSIS

Modeled Emissions - 10.0 g/s (79.4 lb/hr)

Model Calculated Impacts

Avg Time	Impact ($\mu\text{g}/\text{m}^3$)	Distance (m)
1-hr	196	1000
3-hr	125	500
8-hr	68	500
24-hr	34	1000
Annual	3.1	1000
Quarterly	6.0 (estimated)*	1000 (est.)

* Interpolated on log-log plot of concentration vs. averaging time

Impact Analysis

Compound	Emissions (lb/hr)	Impact/Std ($\mu\text{g}/\text{m}^3$) [avg. time]
Part. Matter (PM ₁₀)	22.5	9.5/150 [24-hr]; 0.9/50 [Annual]
SO ₂	82.5	130/1300 [3-hr]; 35/260 [24-hr]; 3.2/60 [Annual]
NO _x	37.4	1.5/100 [Annual]
HCl	27.0	109/150 [3-min]*; 1.0/7 [Annual]**
Lead	19.8***	1.5/1.5 [Quarterly]

* 3-min impact = 1-hr impact $\times 1.64$; acceptable impact of 150 $\mu\text{g}/\text{m}^3$ has been proposed by EPA

** Annual acceptable level of 7 $\mu\text{g}/\text{m}^3$ has been proposed by EPA in proposed Industrial Furnace Regulations for burning HWD fuel

*** This emission rate will result in the maximum allowable quarterly impact. Assuming 400 gph of fuel in the afterburner and 272 gph of fuel in the dryer, the max fuel use will be 672 gph; or 5040 lb/hr. Further assuming no lead removal from dryer fuel in the baghouse, the 19.8 lb/hr of lead in 5040 lb/hr of fuel is equivalent



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Revised 5/19/89

Impact Analysis (cont)

Compound	Emission (1) Rate (lb/hr)	Conc in (2) Fuel (ppm)	Risk Based Acceptable Amb (3) Impact ($\mu\text{g}/\text{m}^3$)
As	0.06	12	2.3×10^{-3} (annual)
Cd	0.14	28	5.6×10^{-3} (annual)
Cr ⁺⁶	0.02	4	8.3×10^{-4} (annual)
Organics (4)	0.018	180 lb/hr (5)	7.1×10^{-4} (annual)

- (1) Emission rate resulting in the Acceptable Ambient Level (AAL)
 (2) Concentration in afterburner and dryer fuel resulting in AAL
 (3) AAL established by EPA (see attached)
 (4) Organic (dibenz(a,h)anthracene) with most restrictive AAL
 (5) The firing rate of dibenz(a,h)anthracene that will result in an emission rate of 0.018 lb/hr assuming a 99.99% DRE in the afterburner

Example Calculation

Part. Matter - Actual emissions = 22.5 lb/hr
 Modeled emissions = 79.4 lb/hr
 Modeled 24-hr impact = 34 $\mu\text{g}/\text{m}^3$

$$24\text{-hr P.M. Impact} = \frac{22.5}{79.4} \times 34 = 9.6 \mu\text{g}/\text{m}^3 < 150 \mu\text{g}/\text{m}^3$$

$$\begin{aligned} \text{Cd - AAL (annual)} &= 5.6 \times 10^{-3} \mu\text{g}/\text{m}^3 \\ \text{Modeled annual impact} &= 3.1 \mu\text{g}/\text{m}^3 \\ \text{Max acceptable emission rate} &= \left(\frac{5.6 \times 10^{-3}}{3.1} \right) \times 79.4 \\ &= 0.14 \text{ lb/hr} \end{aligned}$$

$$\begin{aligned} \text{Fuel firing rate} &= 400 \text{ gph (afterburner)} + 272 \text{ gph (dryer)} \\ &= 672 \text{ gph (5040 lb/hr)} \end{aligned}$$

$$\text{Cd conc in fuel} = \left(\frac{10^6}{5040} \right) \times 0.14 = 28 \text{ ppm}$$



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 SHEET NO. _____ OF _____

Appended 5/19/89

Impact Analysis (Cont)

Compound	Toxic Based AAL (ug/m ³)	Max Acceptable Emission Rate (3) (lb/hr)
As		
8-hr(1)	2.0	2.3(4)
24-hr(2)	0.5	1.2(4)
Cd		
8-hr(1)	0.5	0.6(4)
24-hr(2)	0.1	0.2(4)
Cr ⁺⁶		
8-hr(1)	0.5	0.6(4)
24-hr(2)	0.1	0.2(4)

- (1) TLV/100
- (2) TLV/420
- (3) Emission rate resulting in toxic based AAL (see sample calculations from preceding page)
- (4) Risk based max acceptable emission rate from previous page is lower; and hence is the controlling emission rate

ATTACHMENT 4

MEMO TO CLAIR FANCY FROM JOHN KOGLER



KOOGLER & ASSOCIATES, *Environmental Services*

4014 N.W. 13th Street • Gainesville, Florida 32609 • 904/377-5822

June 1, 1988

Mr. Clair Fancy
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Department Memo of October 22, 1987, Stating
Department's Policy to Regulate Used Oil Burning

Dear Clair:

I have just had the opportunity to apply your memo of October 22, 1987, stating the Department's policy on used oil burning, and would like to point out a problem with the policy that you may already be aware of. The problem has to do with the feed rate limitations on arsenic, cadmium and chromium in off-specification used oil; a combined feed rate limit as these compounds are classified carcinogenic and their effects are considered cumulative.

The problem with the policy is that the arsenic/cadmium/chromium limit for burning off-specification used oil fuel is more stringent than the limit for burning on-specification fuel. This certainly is not reasonable in that the on-specification used oil fuel can be burned by any facility burning virgin fuel oil so long as the air permit for the facility does not specifically prohibit the burning of used oil fuel. This includes small boilers, many of which are in close proximity to the general public and have no air pollution control devices. On the other hand, off-specification used oil fuel can only be burned in industrial boilers; or facilities recognized for high combustion temperatures, long residence time and the requirement to have air pollution control devices.

To illustrate the inconsistency in the policy, consider a typical asphalt plant burning on-specification used oil fuel at the rate of 500 gallons per hour. Further assume that the heating value of the fuel is 120,000 BTU per hour and the density of the fuel is 7.5 pounds per gallon. If we assume that the arsenic, cadmium, and chromium concentrations in the on-specification fuel burned by the hypothetical plant are the maximum allowed by the on-specification used oil criteria, the feed rate of arsenic will be

Mr. Clair Fancy
Re: Policy on Used Oil Burning

June 1, 1988
Page 2

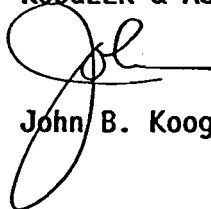
0.000313 pounds per million BTU, the cadmium feed rate will be 0.000125 pounds per million BTU and the chromium feed rate will be 0.000625 pounds per million BTU. If these feed rates, which are allowed during the burning of on-specification used oil fuel, are input to the emission limiting equation on page 3 of your referenced memo for off-specification used oil fuel, we find that the equation yields a value which exceeds the limit of 1.0 (see attached calculations).

This exercise points out that the off-specification used oil fuel limits are approximately 1.4 times more stringent than the on-specification used oil limits as the limits apply to arsenic, cadmium and chromium. I recognize that the basis of your October 22, 1987, memo is the regulation proposed by EPA in May of 1987. Regardless, a discrepancy does exist and it should be addressed by the Department and resolved. For your information, I have also pointed out this discrepancy to EPA during the comment period following the issuance of the proposed regulations in May 1987.

I would appreciate hearing your thoughts on this matter.

Very truly yours,

KOGLER & ASSOCIATES



John B. Koogler, Ph.D, P.E.

JBK:wa

Assume spec used oil fuel is burned in an asphalt plant at the rate of 500 gal/hr. Heating value of fuel is 120,000 BTU/gal or 16,000 BTU/lb (@ 7.5 lb/gal density)

Metal Feed Rates

$$A_s = (5 \text{ ppm})(500 \text{ gal/hr} \times 7.5 \text{ lb/gal})(10^{-6}) / (500 \times 120,000 \times 10^{-6})$$

$$= 3.13 \times 10^{-4} \text{ lb } A_s / \text{MM BTU}$$

$$Cd = (2 \text{ ppm})(3750 \text{ lb/hr fuel})(10^{-6}) / 60 \text{ MM BTU/hr}$$

$$= 1.25 \times 10^{-4} \text{ lb Cd} / \text{MM BTU}$$

$$Cr = (10 \text{ ppm})(3750)(10^{-6}) / 60$$

$$= 6.25 \times 10^{-4} \text{ lb Cr} / \text{MM BTU}$$

$$\frac{A_s}{3.9 \times 10^{-4}} + \frac{Cd}{9.8 \times 10^{-4}} + \frac{Cr}{1.4 \times 10^{-3}} \leq 1.0$$

$$\frac{3.13 \times 10^{-4}}{3.9 \times 10^{-4}} + \frac{1.25 \times 10^{-4}}{9.8 \times 10^{-4}} + \frac{6.25 \times 10^{-4}}{1.4 \times 10^{-3}} \leq 1.0$$

$$0.80 + 0.13 + 0.45 > 1.0$$

therefore on-spec fuel cannot be burned because of $A_s / Cd / Cr$

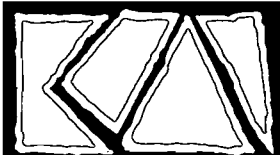
$$Pb = (100 \text{ ppm})(3750)(10^{-6}) / 60$$

$$= 0.63 \times 10^{-2} \text{ lb Pb} / \text{MM BTU}$$

$$< 1.6 \times 10^{-2} \quad \underline{\underline{O.K.}}$$

HCl Emission

$$\begin{aligned} CI &= (4000 \mu\text{m})(3750)(10^{-6}) / 60 \\ &= 0.25 \text{ lb Cl} / \text{MMBTU} \\ &< 0.70 \text{ lb} / \text{MMBTU} \quad \underline{\underline{OK}} \end{aligned}$$



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

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KA 290-88-01

April 28, 1989

RECEIVED
MAY 1 1989
DER-BAQM

Mr. Mike Harley
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Supplemental Information for Afterburner
Construction Permit Application
Mid-Florida Mining Co.
Lowell, Florida

Dear Mike:

The following information is provided to supplement the application that we submitted to your office under letter dated March 7, 1989 for a permit to construct an afterburner to destroy volatile organic compounds generated during the thermoprocessing of hydrocarbon contaminated soil at the Mid-Florida Mining Co. in Lowell, Florida. The information provided is in accordance with our meeting on March 14, 1989 and the telephone conversations that you and I have had subsequent to that time.

1. EMISSION FACTORS FOR USED OIL FUEL

In the original permit application, particulate matter emissions from the afterburner were based on an emission factor for distillate fuel, as reported in AP-42, Section 1.3. Section IIIc and Section V of the application have been revised to reflect particulate matter emissions resulting from combustion of used oil fuel with a 0.25 percent ash content. The emission factor for the particulate matter from used oil fuel was selected from Section 1.11 of AP-42 and a fuel ash content provided by MFM.

Best Available Copy

FEDERAL EXPRESS		AIRBILL		PACKAGE TRACKING NUMBER	
<small>USE THIS AIRBILL FOR DOMESTIC SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII. USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO. QUESTIONS? CALL 800-238-5355 TOLL FREE.</small>		3000590235		3000590235	
RECIPIENT'S COPY					
1 From (Your Name) Please Print <i>LER ASSOC</i>		Your Phone Number (Very Important) <i>(407) 272-2121</i>		2 To (Recipient's Name) Please Print <i>White Mustang</i>	
Company <i>LER ASSOC</i>		Department/Floor No. 		Recipient's Phone Number (Very Important) 	
Street Address <i>NW 13TH ST</i>		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) 		Department/Floor No. 	
City <i>DAVENSVILLE FL</i>		State <i>FL</i>		City 	
ZIP Required <i>32609</i>		ZIP Required 		State 	
3 YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.) 			IF HOLD FOR PICK-UP, Print FEDEX Address Here Street Address City State ZIP Required		
PAYMENT <input type="checkbox"/> Bill Sender <input type="checkbox"/> Bill Recipient's FedEx Acct. No. <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. <input type="checkbox"/> Bill Credit Card <input type="checkbox"/> Cash			Street Address City State ZIP Required		
4 SERVICES		DELIVERY AND SPECIAL HANDLING		PACKAGES WEIGHT IN POUNDS ONLY YOUR DECLARED VALUE OVER SIZE	
1 <input type="checkbox"/> PRIORITY 1 Overnight Delivery 6 <input type="checkbox"/> OVERNIGHT LETTER*		1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box #)		Emp. No. Date Federal Express Usa	
2 <input type="checkbox"/> COURIER-PAK OVERNIGHT ENVELOPE* 7 <input type="checkbox"/>		2 <input checked="" type="checkbox"/> DELIVER WEEKDAY		<input type="checkbox"/> Cash Received Base Charges	
3 <input type="checkbox"/> OVERNIGHT BOX 8 <input type="checkbox"/>		3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge)		<input type="checkbox"/> Return Shipment Declared Value Charge	
4 <input type="checkbox"/> OVERNIGHT TUBE 9 <input type="checkbox"/>		4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge)		<input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del. <input type="checkbox"/> Chg. To Hold	
5 <input type="checkbox"/> STANDARD AIR Delivery not later than second business day. *Declared Value Limit \$100.		5 <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge) (Release Signature Not Applicable)		Street Address City State Zip	
		6 <input type="checkbox"/> DRY ICE Lbs.		Received By:	
		7 <input type="checkbox"/> OTHER SPECIAL SERVICE		Date/Time Received FedEx Employee Number	
		8 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)		Total Total Total	
		9 <input type="checkbox"/> HOLIDAY DELIVERY (If offered) (Extra charge)		Received At: 1 <input type="checkbox"/> Regular Stop 2 <input type="checkbox"/> On-Call Stop 3 <input type="checkbox"/> Drop Box 4 <input type="checkbox"/> B.S.C. 5 <input type="checkbox"/> Station	
		10 <input type="checkbox"/>		FEDEX Corp. Employee No. <i>80726</i>	
		11 <input type="checkbox"/>		Date/Time for FEDEX Use <i>4-27-85</i>	
		12 <input type="checkbox"/>		Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.	
				Release Signature:	
				PART #111800 REVISION DATE 10/88 PRINTED IN U.S.A. FXEM PROO. 2/89	

The revision results in an increase in expected particulate matter emissions from the afterburner from 0.8 to 7.5 pounds per hour, or from 1.1 to 10.0 tons per year. The emission rate increase is still less than the de minimis increase defined in 17-2.500, Table 500-2, FAC. Revised pages for the permit application are included in Attachment 1.

2. HCL EMISSIONS

On November 6, 1987 the Department published a memo setting forth its policy to regulate used oil burning (Attachment 2). This memorandum was consistent with previous Department memoranda dated April 28, 1986 and January 5, 1987, regarding used oil as a fuel. All three memoranda establish limits for on-specification used oil fuel and define any used oil not meeting those specifications as off-specification used oil fuel. The memoranda allowed all fuel burning sources in the state to burn the on-specification used oil fuel if the permit for the facility is modified to allow the use of that fuel. Only industrial boilers are allowed to burn the off-specification used oil fuel.

The specification for total halogens in the on-specification used oil fuel is 4000 parts per million (ppm). This level of halogens is acceptable if it can be demonstrated that concentrations of the halogens in excess of 1000 ppm are not the result of blending with halogenated hazardous waste. From a practical point of view, virtually all of the halogenated compounds associated with used oil fuel are chlorinated compounds.

As addressed in Section V of the permit application, the chlorides (halogens) that will be discharged from the afterburner stack include chlorides from contaminated soil and chlorides from the used oil fuel burned in both the clay dryer and the afterburner. The chlorides potentially resulting from contaminated soil will result in a chloride emission rate of 6.8 pounds per hour or 9.0 tons per year. The chlorides that will be generated as a result of burning used oil fuel will be a maximum of 8.2 pounds per hour from the clay dryer and 12.0 pounds per hour from the afterburner. These emission rates are equivalent to 10.9 and 16.0 tons per year of chlorides, respectively, and are based on burning used oil fuel with a 4000 ppm chloride level; the chloride limit established for on-specification used oil fuel. The total maximum potential chloride emission rate from the clay dryer when thermoprocessing contaminated soil and afterburner combined will be 27.0 pounds per hour, or 35.9 tons per year (see Page 7b of the permit application). The maximum potential chloride emission rate presently allowed for the clay dryer while drying clay and burning a blend of halogenated hazardous waste derived fuel and used oil fuel is 19.2 pounds per hour.

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As current Department memoranda allow the burning of used oil fuel containing up to 4000 ppm halogens in both industrial and non-industrial boilers in the state (contingent upon permit amendments), the burning of used oil fuel with a halogen (chloride) content of 4000 ppm has been proposed by MFM. The proposal is consistent with all existing Department policies and should be acceptable to this Department, contingent upon the results of the air quality impact analysis addressed in the following section.

3. AIR QUALITY IMPACT ANALYSIS

During our meeting on March 14, 1989, it was suggested by Tom Rogers that an air quality impact analysis be conducted to assure that ambient air quality standards were not exceeded for regulated pollutants and that acceptable ambient standards were not exceeded for air toxics. The modeling was conducted with the ISC-ST air quality model, using meteorological data from Orlando for calendar year 1976. Receptors were located on 36 radials, spaced at 10 degree intervals and originating at the afterburner stack. Receptors were placed along these radials at distances ranging from 500 to 5000 meters. The regulatory default option was used with the model. Building-induced downwash was not considered as the height of the afterburner stack (135 feet) is at least 2.5 times as high as any nearby structure.

For modeling purposes, an arbitrary emission rate of 10 grams per second (79.4 pounds per hour) was used. The impact of this arbitrary emission was calculated for averaging times of one, three, five, eight and 24 hours and for the annual period. In the Attachment 3 the maximum expected ground-level concentrations of various air contaminants are listed, along with the maximum expected emission rates of the contaminants (from Section V of the permit application) and the applicable ambient air quality standards or acceptable ambient concentrations. For particulate matter, all of the particles discharged from the afterburner stack were assumed to be less than 10 micrometers in diameter. Similarly, all of the halogens discharged from the afterburner stack were assumed to appear as hydrogen chloride gas.

The impact analysis for regulated pollutants (including lead) and HCl demonstrate that there will be no adverse environmental impact. For particulate matter, SO₂, NO_x and HCl, the maximum expected emission rates were used to calculate impacts for time periods for which ambient standards or guidelines have been developed. The resulting impacts, as summarized in Attachment 3, are all well below applicable ambient standards or guidelines.

For lead, the concentration in fuel that will result in a quarterly ambient impact of 1.5 micrograms per cubic meter was calculated. This calculation was made assuming 400 gallons of used oil fired to the afterburner and 272 gallons of used oil to the dryer and further



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assuming that the baghouse will remove none of the lead that was in the fuel fired to the dryer. Based on this assumption, it was calculated that a lead concentration in the used oil fuel could be as high as 3928 ppm without exceeding the ambient air quality standard for lead. The lead content of the fuel oil fired by MFM, as stated in the permit application, will not exceed 1000 ppm.

For air toxics (arsenic, cadmium, hexavalent chromium and organics), the maximum concentrations acceptable in the used oil fuel were calculated. This calculation was made assuming the same fuel firing rates as used in the lead impact analysis and, assuming that there will be no removal of the contaminants by the dryer baghouse. The ambient guidelines used in these calculations are the Referenced Air Concentrations (RACs) established by EPA (Attachment 4).

For organics, EPA's list of unit risks for carcinogenic substances was reviewed and the compound having the most restricted unit risk was selected; dibenze(a,h)anthracene. From the modeling results, the emission rate of this compound resulting in the acceptable ambient impact was calculated. It was then assumed that there would be a 99.99 percent reduction of this compound in the afterburner. The firing rate of this specific compound to the afterburner was then calculated and found to be 180 pounds per hour. Considering the results of the emission measurements that have been conducted by MFM and provided to the Department, results showing the generation rate of total organic compounds in the range of 100-200 pounds per hour, it is not conceivable that 180 pounds per hour of the most restrictive compound (or proportionately larger quantities of less restrictive compounds) could be generated during soil processing and fired to the afterburner.

The results of this impact analysis, in my professional opinion, demonstrate that the maximum expected emissions from the afterburner at MFM, following soil processing in the dryer, will result in ambient impacts that are well below established ambient air quality standards and/or health-based guidelines.

4. INSTRUMENTATION AND MONITORING

In this section, the instrumentation, controls and monitoring proposed by MFM for the operation of the clay dryer and afterburner during the thermoprocessing of contaminated soil are described. In describing the monitoring program, only a limited attempt will be made to establish levels and/or ranges of measurements that will be achieved during the operation of the afterburner. Actual limits will be established during the trial burn that will be conducted prior to the issuance of the operating permit for the afterburner. This is standard practice for establishing the operating limits for a device such as the afterburner.



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The procedures that will be followed during the thermoprocessing of contaminated soil will begin with an analysis of the contaminated soil in the MFM laboratory to determine the moisture content of the soil and the degree of soil contamination (such as determining the total extractable hydrocarbons). From these data, general operating conditions for the dryer and afterburner will be established. Data from each soil processing job will be entered into this data base, thus improving the data base as MFM gains experience. The operating parameters will include such things as the air flow rate, the fuel firing rates, the processed soil temperature and the contaminated soil feed rate. In most cases, the temperature range for the processed soil will be 650-800⁰F. The retention time of the contaminated soil in the dryer to achieve this temperature and acceptable decontamination will be 15-30 minutes.

During the processing of the soil, the feed rate following operating parameters will be monitored:

- soil feed rate,
- fuel firing rate,
- fuel pressure,
- soil discharge temperature,
- oxygen content of gas leaving the dryer,
- gas temperature leaving the dryer,
- gas temperature entering the baghouse,
- gas temperature entering the afterburner,
- afterburner temperature,
- stack gas temperature and
- total air flow rate to the afterburner.

The dryer exit gas temperature will be recorded and will also be used to control the fuel firing rate. The recording system, in addition to measuring the fuel firing rate, will record the cumulative gallons of fuel used and the gallons used per ton of soil processed.

The parameter that is the most critical and, hence, will be of the most importance in monitoring the operation of the dryer system, is the gas temperature leaving the dryer. For example, if the dryer exit gas temperature is rising, it is an indication that the moisture content of the feed has dropped or that the soil feed rate has dropped. It is also an indication that the temperature of the processed soil will begin to rise and that the temperature of the gas stream entering the baghouse will rise.

If the gas temperature leaving the dryer does change, the signal will be transmitted through an instrumentation loop that will alter the fuel firing rate to the dryer and then to establish equilibrium conditions with other monitored processed variables. The complete dryer system will be instrumented to operate either automatically or manually, except that start-up will be by manual control.



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The afterburner following the dryer system is designed for an exit temperature of 2000^oF and a gas retention time of two seconds. The gases leaving the afterburner will be cooled to 350^oF by water sprays and then exhausted to the atmosphere through a 135 foot stack.

The monitoring of the afterburner will include a measure of the gas temperature and air flow rate entering the afterburner. This monitoring was described in the monitoring section related to the dryer. Additionally, the air flow distribution to the afterburner will be monitored by measuring the pressure drop across adjustable distribution manifolds at the inlet to the afterburner. These manifolds will be adjusted to maintain uniform distribution into the afterburner. Additionally, the air flow to the combustion air blower will be monitored and controlled, the fuel flow rate will be monitored and recorded and the afterburner exit temperature will be monitored and recorded. A back-up thermocouple will be used for monitoring afterburner temperature. The afterburner shell temperature will also be monitored as an indication of refractory condition and to prevent damage to the afterburner should the refractory fail. If the afterburner shell temperature reaches a temperature of 1000^oF, an audible alarm will sound in the control room and a normal shut-down procedure will be initiated.

The gases leaving the afterburner will be cooled to 350^oF by water spray. The water will be sprayed at a design rate of 100 gallons a minute and at a pressure of 300 psi. Water will be supplied from an 8000 gallon storage tank that will allow for a 60 to 80 minute shut-down period in the event of a disruption in the system water supply. The water supply pressure (300 psi) will assure a nominal water droplet size of 200 micrometers and, hence, the adequate cooling of the gas in the transition system between the afterburner and the stack. A back-up water supply pump will be provided.

The water flow to the cooling system will be monitored and recorded. The water flow will be controlled with a temperature sensor (350^oF set point) at the exit of the cooling section. A water drain and sump will be provided in the base of the stack and the cooling section to collect any unevaporated water generated during start-up and/or shut-down. This water will be collected in a sump and sprayed on the contaminated soil that will be fed to the dryer.

For safety purposes, a separate spray system will be located at the top of the 135 foot stack to provide water at the rate of 30 to 50 gallons per minute, should stack overheating be detected by the stack gas monitor. An emergency bypass stack will also be provided between the afterburner and the main stack.



The monitoring and controls briefly described in this section present an overview of the system proposed by MFM. There could be slight modifications to the system, once final design details have been established. A description of the control and monitoring system that is build into the system will be provided once final design has been completed.

5. AFTERBURNER SIZE

During our meeting on March 14, 1989, a question was raised regarding the size of the afterburner system. The question was related to the ability of the afterburner to combust the maximum amount of organics expected in the soil to be processed by MFM.

The maximum rate at which organic compounds could be generated and the rate presented in the construction permit application was based on the assumption that none of the organics would be destroyed in the dryer. This is an overly conservative assumption, especially with the heavy organics. MFM is comfortable with the size of the afterburner and considers is a compromise between the minimum and maximum sizes that might be required for processing the various contaminated soils expected at the facility. If excessively contaminated soils are received, they will be blended with clean soil to assure safe and effective processing in the dryer. With excessively contaminated soil blended in this manner, we are satisfied with the size and design of the afterburner.

6. NSPS APPLICABILITY TO FUEL STORAGE TANKS

A fuel storage tank presently at the MFM facility will be relocated to provide fuel storage for the afterburner. The specific tank that will be used has not yet been selected. It is known, however, that at the most, the selected tank will only be subject to the record-keeping requirements of Section 60.116b of 40CFR60, Subpart Kb. In all probability, the selected tank will not be subject to any of Subpart K.

7. MM5 TEST PROCEDURE

In accordance with your request, I have attached a brief description of the Modified Method 5 sampling train used for measuring semi-volatile organic conditions from air pollution sources.



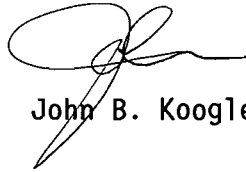
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I hope that the information provided herein will adequately provide you will all of the information needed to continue your review of the subject permit application. I will be more than happy to provide any additional information that you may require or to answer any questions about the information provided herein. Please give me a call if I can be of further assistance to you.

Very truly yours,

KOGLER & ASSOCIATES



John B. Koogler, Ph.D, P.E.

JBK:mab

cc: David Kibler, MFM Environmental, Inc.
Rusty Butler, MFM Environmental, Inc.



ATTACHMENT 1

REVISED PAGES TO CONSTRUCTION PERMIT APPLICATION

Pollutant	Permitted Emissions		Applicable Rule	Allowable Emissions (lb/hr)	Uncontrolled Emissions		Reference on Flow Diagram
	(lb/hr)	(tpy)			(lb/hr)	(tons/yr)	
Particulate Matter							
Dryer (1)	15.0	45.8	(4)	15.0	3000 (6)	9150 (6)	1
Dryer (2)	15.0	19.9	(4)	15.0	3000	3990	
Afterburner	7.5 0.8	11.0 0.8	17-2.520	7.5 0.8	7.5 0.8	10 1.1	
TOTAL (3)	22.5 15.8	71.0 29.9		22.5 15.8	3001 3008	3991 4000	
SO₂							
Dryer (1)	52.5	160.1	(4)	52.5	70	213	1
Dryer (2)	52.5	70.5	(4)	52.5	70	94	
Afterburner	<u>30.0</u>	<u>39.9</u>	17-2.520	<u>30.0</u>	<u>30</u>	<u>40</u>	
TOTAL (3)	82.5	110.4		82.5	100	134	
NO_x							
Dryer (1)	29.4	89.7	(4)	29.4	29.4	90	1
Dryer (2)	29.4	39.5	(4)	29.4	29.4	39	
Afterburner	<u>8.0</u>	<u>10.6</u>	17-2.520	<u>8.0</u>	<u>8.0</u>	<u>11</u>	
TOTAL (3)	37.4	50.1		37.4	37.4	50	
CO							
Dryer (1)	0.8	2.4	(4)	0.8	0.8	2.4	1
Dryer (2)	0.8	1.3	(4)	0.8	0.8	1.3	
Afterburner	<u>2.0</u>	<u>2.7</u>	17-2.520	<u>2.0</u>	<u>2.0</u>	<u>2.7</u>	
TOTAL (3)	2.8	4.0		2.8	2.8	4.0	
VOC							
Dryer (1)	0.1	0.2	(4)	0.1	0.1	0.2	1
Dryer (2)	-	-	(4)	-	6400 (5)	8512 (5)	
Afterburner	-	-	17-2.520	-	<u>0.1</u>	<u>0.1</u>	
TOTAL	0.8(7)	1.0(8)		0.8(7)	6400	8512	
HCl							
Dryer (1)	19.2	58.6	(4)	19.2	19.2	58.6	1
Dryer (2)	8.2	10.9	17-2.520	8.2	8.2	10.9	
Afterburner	<u>18.8</u>	<u>25.0</u>	17-2.520	<u>18.8</u>	<u>18.8</u>	<u>25.0</u>	
TOTAL (3)	27.0	35.9		27.0	27.0	35.9	

- (1) Dryer operating as clay dryer for 6100 hours per year under conditions of permit AC42-113787.
- (2) Dryer operating at a rate of 40 tons per hour and processing soil contaminated with various hydrocarbon products. Maximum annual operating time will not exceed 2660 hours.
- (3) Total emissions from dryer and afterburner when contaminated soil is being processed. There is no increase in emissions from the dryer. Emissions from the afterburner are combustion by-products from the fuel/hydrocarbons.
- (4) Permit condition of AC42-113787 or actual unpermitted emissions.
- (5) Uncontrolled hydrocarbons (VOC) from the dryer are based on a soil processing rate of 40 tons per hour and an eight percent contaminant level.
- (6) See Permit Application for AC42-1123787 for calculation of uncontrolled emissions.
- (7) Includes 0.1 lb/hr from fuel combustion in both dryer and afterburner plus 0.6 lb/hr from hydrocarbon incineration in afterburner.
- (8) Includes 0.1 tpy from fuel combustion in both dryer and afterburner plus 0.8 tpy from hydrocarbon incineration in afterburner.

SUMMARY OF EMISSION INCREASES

Pollutant	Permitted Emissions				De minimis Increase (tpy) (1)
	(lb/hr)	Total (tpy)	Dryer (tpy)	Afterburner (tpy) (Emission Increases)	
Particulate Matter					
Dryer	15.0	45.8	65.7	10.0	25/15 (2)
			(45.8 + 19.9)		
Dryer Afterburner	15.0 7.5	19.9 10.0			
TOTAL	15.0 22.5	21.0 29.9			
SO ₂					
Dryer	52.5	160.1	230.6	39.9	40
			(160.1 + 70.5)		
Dryer	52.5	70.5			
Afterburner	30.0	39.9			
TOTAL	82.5	110.4			
NO _x					
Dryer	29.4	89.7	129.2	10.6	40
			(89.7 + 39.5)		
Dryer	29.4	39.5			
Afterburner	8.0	10.6			
TOTAL	37.4	50.1			
CO					
Dryer	0.8	2.4	3.7	2.7	100
			(2.4 + 1.3)		
Dryer	0.8	1.3			
Afterburner	2.0	2.7			
TOTAL	2.8	4.0			
VOC					
Dryer	0.2	0.6	0.9	1.1	40
			(0.6 + 0.3)		
Dryer	0.2	0.3			
Afterburner	0.8	1.1			
TOTAL	1.0	1.4			
HCl					
Dryer	19.2	58.6	69.5(3)	25.0	NA
			(58.6 + 10.9)	(Increase	
Dryer	8.2	10.9		= 25.0 - 14.6	
Afterburner	18.8	25.0		= 10.4 tpy)	
TOTAL	27.0	35.9			

(1) Table 500-2, 17-2.500, FAC

(2) Total particulate matter/PM10 particles

(3) Represents a 14.6 tpy reduction from maximum permitted emissions while processing clay [19.2 lb/hr x 8760 hr/yr x 1/2000 = 84.1 tpy max possible].

Section V - Supplemental Information

1. Process Rate - Not applicable for afterburner.

2/3. Controlled and Uncontrolled Emissions:

Emission factors for particulate matter, NOx, VOC and CO are from AP-42, Section 1.3, Factors for an Industrial Boiler Burning Distillate Fuel.

NOx - Controlled and Uncontrolled:

$$\begin{aligned} \text{NOx} &= 20 \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= 8.0 \text{ lb}/\text{hr} \\ &\quad \times 2660 \text{ hr}/\text{yr} \times 1/2000 \\ &= 10.6 \text{ tpy} \end{aligned}$$

Particulate Matter - Controlled and Uncontrolled: (AP-42, Sect 1.11)

$$\begin{aligned} \text{P.M.} &= \cancel{2 \text{ lb}/1000 \text{ gal}} \times \cancel{400 \text{ gal}/\text{hr}} = 75 (0.25\% \text{ ash}) \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= \cancel{0.8 \text{ lb}/\text{hr}} = 7.5 \text{ lb}/\text{hr} \\ &\quad \times \cancel{2660/2000} \quad \times 2660/2000 \\ &= \cancel{1.1 \text{ tpy}} = 10.0 \text{ tpy} \end{aligned}$$

CO - Controlled and Uncontrolled:

$$\begin{aligned} \text{CO} &= 5 \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= 20 \text{ lb}/\text{hr} \\ &\quad \times 2660/2000 \\ &= 2.7 \text{ tpy} \end{aligned}$$

SO₂ - Controlled and Uncontrolled:

400 gph fuel @ 0.5% sulfur and 7.5 lb/gal

$$\begin{aligned} \text{SO}_2 &= 400 \text{ gal}/\text{hr} \times 7.5 \text{ lb}/\text{gal} \times (0.005 \times 2) \text{ lb SO}_2/\text{lb fuel} \\ &= 30.0 \text{ lb}/\text{hr} \\ &\quad \times 2660/2000 \\ &= 39.9 \text{ tpy} \end{aligned}$$

Chlorides - Controlled and Uncontrolled:

Soil Contaminants

Assume 40 tph soil with 100 mg/kg of chlorinated solvents at 85% chlorine.

ATTACHMENT 2

FDER USED OIL POLICIES

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION



Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE	
TO: _____	LOCTN: _____
TO: _____	LOCTN: _____
TO: _____	LOCTN: _____
FROM: _____	DATE: _____

TO: District Managers
District Air Engineers
District Air Permitting Engineers
Local Program Air Directors

THRU: Randy Armstrong
Howard Rhodes
Richard Wilkins

FROM: Clair Fancy

DATE: October 22, 1987

SUBJ: Policy to Regulate Used Oil Burning

On November 29, 1985, the U.S. EPA promulgated final regulations on the burning of used oil fuel. These regulations establish specifications for used oil fuel that may be burned in non-industrial boilers. The Department has adopted the rule by reference and has communicated its position on used oil burning by means of a memorandum sent to managers of electric utilities, asphalt plants, and other industrial burners on January 5, 1987.

At the time that the January 5, 1987 memorandum was distributed, the Department was uncertain how used oil fuel which did not meet the specifications established by the EPA rule should be handled. Since that time, the Bureau of Air Quality Management (BAQM) has been actively involved in developing guidelines to regulate the burning of used oil fuel which does not meet EPA specifications. This memorandum provides a summary of the specification limits established by the EPA for burning used oil in non-industrial boilers as well as presenting the BAQM's policy for regulating the emissions from burning off-specification used oil in industrial furnaces and boilers. The policy to regulate off-specification used oil is based on a paper which was presented at the 1987 Annual Conference of the Florida Section's Air Pollution Control Association by Barry Andrews. A copy of the paper is attached. In addition, this memorandum will address how sources burning either specification or off-specification used oil should be permitted.

OCT 23 1987

OFFICE OF ENVIRONMENTAL REGULATION

DRAFT

Specification Used Oil Burning

Emission Limitations

Non-industrial boilers may only burn oil which is in compliance with the following limitations:

<u>Constituent/Property</u>	<u>Allowable Level</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum *
Flash Point	100 degrees Fahrenheit minimum

* It is presumed that used oil containing greater than 1,000 ppm total halogens has been mixed with a halogenated hazardous waste. Used oil fuels that contain more than 1,000 ppm total halogens should not be burned in non-industrial boilers unless the marketer can show that the used oil does not contain any halogenated hazardous waste.

Industrial boilers and furnaces may also burn specification used oil.

Permitting Guidelines

Specification used oil will be considered to be equivalent to virgin oil. Only in the case that an air permit or BACT determination does specifically prohibit the burning of used oil, will it be necessary to contact the appropriate district or local office to obtain authorizations.

Off-Specification Used Oil Burning

Emission Limitations

Non-industrial boilers may not burn used oil which exceeds the previously mentioned specification levels.

Industrial boilers and furnaces may only burn used oil which complies with the following limitations. These emission limitations are based on the type of fuel burning equipment used as follows:

Asphaltic Concrete Kilns, Light-Weight Aggregate Kilns,
Lime Kilns, and Industrial Boilers

Arsenic, Cadmium, and Chromium:

$$\frac{(As)}{3.9 \times 10^{-4}} + \frac{(Cd)}{9.8 \times 10^{-4}} + \frac{(Cr)}{1.4 \times 10^{-3}} \leq 1.0$$

where (As), (Cd), and (Cr) defined by

$$MFR = \frac{(M_w \times R_w) + (M_F \times R_F)}{H_T} \times 10^{-6}$$

where:

MFR - individual metal feed rate in pounds per million Btu of total heat input

M_w - individual metal concentration in used oil (ppm)

R_w - used oil feed rate in pounds per hour

M_F - concentration of metal in the other fuel (ppm)

R_F - feed rate of other fuel in pounds per hour

H_T - total heat input to the device in million Btu/hour

Lead:

MFR shall not exceed 1.6×10^{-2} pounds per million Btu.

Hydrogen Chloride:

CFR shall not exceed 0.70 pounds per million Btu.

where CFR is defined by

$$CFR = \frac{(C_w \times R_w) + (C_F \times R_F)}{H_T} \times 10^{-6}$$

Where:

CFR - total chlorine feed rate in pounds per million Btu

C_w - Chlorine concentration in the used oil (ppm)

C_F - Chlorine concentration in the other fuel (ppm)

DRAFT

Cement Kilns (Wet & Dry)

Arsenic, Cadmium, and Chromium:

$$\frac{(As)}{1.7 \times 10^{-3}} + \frac{(Cd)}{4.3 \times 10^{-3}} + \frac{(Cr)}{6.3 \times 10^{-3}} \leq 1.0$$

Lead:

MFR shall not exceed 6.7×10^{-2} pounds per million Btu.

Hydrogen Chloride:

CFR shall not exceed 1.8 pounds per million Btu.

Permitting Guidelines

For facilities presently burning or planning to burn off-specification used oil it will be necessary to contact the appropriate district or local program office to obtain authorization (permit revision). It is expected that the majority of the requests to burn off-specification used oil will be in compliance with the emission limitation equations presented herein. To expedite approval, the various districts will be provided with worksheets and detailed instructions to quickly determine if an off-specification used oil burner will be in compliance.

Exemptions

Exemptions will be granted to facilities which generate and burn small quantities of off-specification used oil on site. To qualify for this exemption a burner must only burn off-specification used oil fuel that is generated on-site and is burned in quantities that do not exceed one percent of a particular fuel burning equipment's total volume consumption or heat input. On-site burners will be characterized as "small quantity" burners by the following criteria:

<u>Equipment</u>	<u>Size (MMBtu/hr)</u>	<u>Quantity limit/device (gallon/month)</u>
Boilers (1)	0.4 to 1.5	7
	>1.5 to 10	13
	>10 to 50	26
	>50 to 150	55
	>150 to 400	100
	>400	300
Asphaltic Concrete kilns (2)	>18	110
Lime kilns (3)	>60	200
Light-Weight Aggregate kilns (4)	>45	110
Wet Cement kilns (5)	90 to 200	170
	>200	420
Dry Cement kilns (5)	60 to 160	140
	>160	280

- (1) No more than two boilers at a time
- (2) No more than one asphaltic concrete kiln at a time
- (3) No more than two lime kilns at a time
- (4) No more than three light-weight aggregate kilns at a time
- (5) No more than three cement kilns at a time

Conclusion

The Bureau of Air Quality Management believes that the policy outlined in the memorandum will accomplish the Department's goal to encourage the burning of used oil, yet provide assurance that the public's health and environment will not be threatened.

As with any regulation or policy development, it is difficult to address all the situations and problems that could occur when writing proposals for regulating sources. Any questions regarding the content of this memorandum should be directed to Barry Andrews, Project Engineer, Bureau of Air Quality Management, at (904)488-1344.

CF/plm

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2500 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301 8241



GOB. GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

MEMORANDUM

TO: Managers of Electric Utilities, Asphalt Plants, and
Other Industrial Burners

FROM: Victoria J. Tschinkel

DATE: April 28, 1986

SUBJECT: Used Oil As A Fuel

We have heard that the market for burning used oil is shrinking. Since the department has a responsibility to encourage the proper and safe recycling of used oil, this letter is to inform you of recent federal rules.

On November 29, 1985 the EPA promulgated a final rule on the burning of used oil fuel. Florida has adopted this rule by reference. The rule establishes specifications for used oil fuel that can be burned in non-industrial and industrial boilers.

<u>Constituent/Property</u>	<u>Allowable Level</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum
Flash Point	100 degrees Fahrenheit minimum

The lead standard will not be in effect until May 29, 1986 so that it is consistent with the phased-in decrease of lead in leaded gasoline. No level for PCBs is included in the specifications, since under current federal PCB rules, the use, including burning for energy recovery, of used oils containing any concentration of PCBs is prohibited. Finally, although the standard for total halogens (chemicals containing chlorine, bromine, iodine, or fluorine) is 4,000 ppm, used oil containing over 1,000 ppm will be presumed to have been mixed with a halogenated hazardous waste. Therefore, used oil fuels that have more than 1,000 ppm total halogens should not be burned in boilers unless the marketer can show that the used oil does not contain any halogenated hazardous wastes.

BEST AVAILABLE COPY

Memo

April 23, 1986

Page Two

We encourage you to burn specification used oil fuel in your boilers or furnaces after its use has been approved by the appropriate air permitting authority. The authorization to burn used oil requires that air construction permits be modified to insure that any changes to permit conditions will be federally enforceable. In this way, the Bureau of Air Quality Management (BAQM) can also address its concerns about potential sulfur dioxide and toxic air pollutant emissions. In addition to the bureau's requirements, facilities that burn more than 10,000 gallons of used oil annually must register with the department as used oil recyclers in accordance with Florida Administrative Code Rule 17-7, Part V.

By burning used oil in an approved manner, you will help Florida recycle a valuable resource, to cut down on its energy dependence, and to protect our fragile environment. You also will be saving money on your fuel bill. We will all benefit by efforts to properly recycle used oil through its use as a specification used oil fuel.

If you have any questions or comments, please refer them to David Kelley at (904) 488-0300 in the Bureau of Waste Management or write him at the letterhead address.

VJT/dt

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

MEMORANDUM

TO: Managers of Electric Utilities, Asphalt Plants, and Other Industrial Burners

FROM: Victoria J. Tschinkel *VJ*

DATE: January 5, 1987

RE: Used Oil as a Fuel

On April 28, 1986, I issued a memorandum to inform you of recently promulgated federal rules on the burning of used oil. Because some recipients of that memorandum have voiced concerns about the Department's interpretation of certain provisions of the regulations, this memorandum supersedes all previous communication on the subject of used oil as a fuel.

On November 29, 1985, the U.S. EPA promulgated final RCRA regulations on the burning of used oil fuel. The Department has adopted these regulations by reference. The EPA regulations establish specifications for used oil fuel that may be burned in nonindustrial boilers.

Used Oil Specifications

<u>Constituent/Property</u>	<u>Allowable Level</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum
Flash Point	100 degrees Fahrenheit minimum

Burning of off-specification used oil and hazardous waste fuels in non-industrial boilers is prohibited by the RCRA rules. The April 28 memorandum may have left some readers with the impression that industrial burners were also restricted by these rules to burning fuel that met specifications; however,

Memorandum
Page Two
January 5, 1987

industrial boilers and furnaces may burn hazardous waste fuel and used oil fuel, regardless of whether the fuels meet specifications. It should be noted, however, that facilities that burn hazardous waste fuel and off-specification used oil fuel are still subject to administrative requirements such as notification, receipt of an identification number, compliance with the manifest or invoice systems, and, for hazardous waste fuels, compliance with hazardous waste storage standards for hazardous waste fuels.

No level for PCBs is included in the used oil specifications, since the use, including burning for energy recovery, of used oil containing any concentrations of PCBs is prohibited under current federal regulations. Some readers of the April 28 memorandum expressed concern about this statement, asserting that 40 CFR §761.1 makes federal PCB regulations applicable only to substances containing more than 50 ppm PCBs. I have conferred with EPA headquarters concerning the federal position on the issue of burning used oil contaminated with less than 50 ppm PCBs. It is EPA's position that the burning for energy recovery of used oils containing any concentration of PCBs was prohibited as of October 1, 1984. This conclusion is based on 40 CFR §761.20(a), which prohibits use of PCBs in any concentration unless it is specifically authorized under 40 CFR §761.30. Although EPA has authorized the processing and distribution in commerce of PCBs in concentrations of less than 50 ppm for purposes of disposal, 40 CFR §761.20(c)(4), that agency has taken the position that burning for energy recovery is "use" rather than "disposal" and is, therefore, prohibited. Note, however, that PCBs in concentrations of less than 50 ppm may be burned in a high efficiency boiler as an approved PCB disposal method pursuant to 40 CFR §761.60, provided that state air permitting requirements have also been satisfied.

Ms. Jane Kim of the Office of Toxic Substances at EPA headquarters (202/382-3991) has indicated to Department staff that EPA is considering amending federal PCB regulations to allow the burning for energy recovery of used oil containing less than 50 ppm PCBs. Until then, she suggests that companies wishing to burn these oils submit a request to EPA Region IV for authorization with respect to the federal rules. I suggest that interested parties direct any comments on the federal regulation or the anticipated amendment directly to EPA.*

* Since the state PCB rule, Rule 17-34, Florida Administrative Code, only regulates the storage for disposal of PCBs, the use of PCBs is not regulated by the Department. However, Department air rules 17-2, F.A.C., and the basic permitting requirement of Chapter 403 F.S. must be complied with.

Memorandum
Page Three
January 5, 1987

Although the specification for total halogens (chemicals containing chlorine, bromine, iodine, or fluorine) is 4,000 ppm, used oil containing over 1,000 ppm will be presumed to have been mixed with a halogenated hazardous waste. In the April 28 memorandum, I stated that used oil fuels with more than 1,000 ppm total halogens should not be burned in boilers unless the marketer can show that the used oil does not contain any halogenated hazardous wastes. To clarify any confusion that this statement may have caused, I would like to make the following points:

1. As noted above, hazardous waste fuel and off-specification used oil fuel may be burned for energy recovery in industrial boilers. We did not intend to suggest that such use is prohibited by the RCRA rule.
2. Also, as previously noted, persons may rebut the presumption that used oil containing more than 1,000 ppm total halogens has been mixed with hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents). The use of the word "any" may have caused some confusion in our cautionary statement; however, since the management and storage standards for used oil and hazardous waste fuels differ, the Department felt that a strong caution was in order.

Finally, I would like to clarify the discussion in my April 28, 1986, memorandum regarding air permitting considerations for the burning of used oil. In that memorandum I stated that the authorization to burn used oil requires that air construction permits be modified to insure that any changes to permit conditions will be federally enforceable. Upon reconsideration on this point, I am now revising the guidance in the previous memorandum as follows:

1. If your current air pollution operation permit, construction permit, or BACT determination does not specifically prohibit the burning of used oil, then you may responsibly burn "on-specification" used oil without any permit modification until the Department notifies you that your permit needs to be revised.

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Page Four
January 5, 1987

2. If your air permit or BACT determination specifically prohibits the burning of used oil, or if you are burning "off-specification" used oil, you will need to contact the appropriate Department district office within the next 90 days to discuss what type of authorization is needed.

In addition to the air permitting considerations, facilities that burn more than 10,000 gallons of used oil annually must register with the Department as use oil recyclers in accordance with Florida Administrative Code Rule 17-7, Part V, unless specifically exempted under the provisions of that rule.

By burning used oil in an approved manner, you will help Florida recycle a valuable resource, to cut down on its energy dependence, and to protect our fragile environment. You also will be saving money on your fuel bill. We will all benefit by efforts to properly recycle used oil through its use as a fuel.

If you have any questions or comments, please refer them to David Kelley at (904)488-0300 in the Bureau of Waste Management or Barry Andrews at (904)488-1344 in the Bureau of Air Quality Management.

VJT/ks

ATTACHMENT 3

AIR QUALITY IMPACT ANALYSIS



4014 NW THIRTEENTH STREET
 GAINESVILLE, FLORIDA 32609
 904/377-5822 • FAX 377-7158

JOB MFM ENVIRONMENTAL
 CALCULATED BY JOHN B. KOGLER, P.E. DATE _____
 SHEET NO. 1 OF 2

AIR QUALITY IMPACT ANALYSIS

Modeled Emissions - 10.0 g/s (79.4 lb/hr)

Model Calculated Impacts

<u>Avg Time</u>	<u>Impact ($\mu\text{g}/\text{m}^3$)</u>	<u>Distance (m)</u>
1-hr	196	1000
3-hr	125	500
8-hr	68	500
24-hr	34	1000
Annual	3.1	1000
Quarterly	6.0 (estimated)*	1000 (est.)

* Interpolated on log-log plot of concentration vs. averaging time

Impact Analysis

<u>Compound</u>	<u>Emissions (lb/hr)</u>	<u>Impact/Std ($\mu\text{g}/\text{m}^3$) [avg. time]</u>
Part. Matter (PM10)	15.8	6.7/150 [24-hr]; 0.6/50 [Annual]
SO ₂	82.5	130/1300 [3-hr]; 35/260 [24-hr]; 3.2/60 [Annual]
NO _x	37.4	1.5/100 [Annual]
HCl	27.0	109/150 [3-min]*; 1.0/7 [Annual]**
Lead	19.8***	1.5/1.5 [Quarterly]

* 3-min impact = 1-hr impact x 1.64; acceptable impact of 150 $\mu\text{g}/\text{m}^3$ has been proposed by EPA

** Annual acceptable level of 7 $\mu\text{g}/\text{m}^3$ has been proposed by EPA in proposed Industrial Furnace Regulations for burning HWD fuel

*** This emission rate will result in the maximum allowable quarterly impact. Assuming 400 gph of fuel in the afterburner and 272 gph of fuel in the dryer, the max fuel use will be 672 gph; or 5040 lb/hr. Further assuming no lead removal from dryer fuel in the baghouse, the 19.8 lb/hr of lead in 5040 lb/hr of fuel is equivalent to 3928 ppm lead. The fuel burned will contain much less lead than this.



4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

JOB MFM Env - Air Quality Impact
CALCULATED BY JOHN B. KOOGLER, P.E. DATE _____
SHEET NO. _____ 2 OF 2

Impact Analysis (cont)

<u>Compound</u>	<u>Emission (1)</u> <u>Rate (lb/hr)</u>	<u>Conc in (2)</u> <u>Fuel (ppm)</u>	<u>Acceptable Amb (3)</u> <u>Impact (ug/m³)</u>
As	0.11	22	4.3×10^{-3} (annual)
Cd	0.05	9	1.8×10^{-3} (annual)
Cr ⁺⁶	0.31	61	1.2×10^{-2} (annual)
Organics (4)	0.018	180 lb/hr (5)	7.1×10^{-4} (annual)

- (1) Emission rate resulting in the Acceptable Ambient Level (AAL)
- (2) Concentration in afterburner and dryer fuel resulting in AAL
- (3) AAL established by EPA (see attached)
- (4) Organic (dibenz(a,h)anthracene) with most restrictive AAL
- (5) The firing rate of dibenz(a,h)anthracene that will result in an emission rate of 0.018 lb/hr assuming a 99.99% DRE in the afterburner

Example Calculation

Part. Matter - Actual emissions = 15.8 lb/hr

Modeled emissions = 79.4 lb/hr

Modeled 24-hr impact = 34 ug/m³

$$24\text{-hr P.M. Impact} = \frac{15.8}{79.4} \times 34 = 6.7 \text{ ug/m}^3 < 150 \text{ ug/m}^3$$

Cd - AAL (annual) = 1.8×10^{-3} ug/m³

Modeled annual impact = 3.1 ug/m³

$$\begin{aligned} \text{Max acceptable emission rate} &= \left(\frac{1.8 \times 10^{-3}}{3.1} \right) \times 79.4 \\ &= 0.046 \text{ lb/hr} \end{aligned}$$

Fuel firing rate = 400 gph (afterburner) + 272 gph (dryer)
= 672 gph (5040 lb/hr)

$$\text{Cd conc in fuel} = \left(\frac{10^6}{5040} \right) \times 0.046 = 9 \text{ ppm}$$

ISCST (DATED 88207)
AN AIR QUALITY DISPERSION MODEL IN
SECTION 1. GUIDELINE MODELS
IN UNAMAP (VERSION 6) JUN. 88.
SOURCE: FILE 6 ON UNAMAP MAGNETIC TAPE FROM NTIS.

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET-76 ***

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) = 1
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) = 1
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) = 2
DEBUG OPTION CHOSEN (YES=1,NO=2)	ISW(30) = 2
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)	ISW(31) = 0

NUMBER OF INPUT SOURCES	NSOURC = 1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IAPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 6
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 = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 9
DECAY COEFFICIENT FOR PHYSICAL OR CHEMICAL DEPLETION	DECAY = 0.000000E+00
SURFACE STATION NO.	ISS = 12815
YEAR OF SURFACE DATA	ISY = 76
UPPER AIR STATION NO.	IUS = 12842
YEAR OF UPPER AIR DATA	IUY = 76
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 6101 WORDS

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET-76 ***

*** RANGES OF POLAR GRID SYSTEM ***

(METERS)

500.0, 1000.0, 1500.0, 2000.0, 3000.0, 5000.0,

*** 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,

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

*** SOURCE DATA ***

SOURCE NUMBER	T W Y A P K E	PART. CATS.	EMISSION RATE		X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP.	EXIT VEL.	BLDG. HEIGHT (METERS)	BLDG. LENGTH (METERS)	BLDG. WIDTH (METERS)	
			TYPE=0,1 (GRAMS/SEC)	TYPE=2 (GRAMS/SEC)					TYPE=0 (DEG.K); TYPE=1 (M/SEC);	TYPE=0 (M/SEC); TYPE=1,2 (METERS)				
1	0	0	0	0.10000E+02	0.0	0.0	0.0	41.20	450.02	2.35	1.22	0.00	0.00	0.00
*	CALM HOURS (=1) FOR DAY	1	*	0	1	1	1	0	0	1	0	0	0	0
*	CALM HOURS (=1) FOR DAY	2	*	1	1	1	1	1	1	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	3	*	1	1	1	1	0	1	1	1	0	0	0
*	CALM HOURS (=1) FOR DAY	4	*	0	0	0	1	0	0	1	0	0	0	0
*	CALM HOURS (=1) FOR DAY	6	*	0	0	0	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	7	*	1	0	0	0	1	0	1	1	0	0	0
*	CALM HOURS (=1) FOR DAY	11	*	0	0	1	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	12	*	1	1	1	1	1	1	1	0	0	0	1
*	CALM HOURS (=1) FOR DAY	13	*	1	1	1	1	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	14	*	0	0	1	1	0	0	1	0	0	0	0
*	CALM HOURS (=1) FOR DAY	15	*	0	0	0	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	16	*	1	0	1	0	1	1	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	23	*	0	0	0	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	24	*	1	1	1	1	1	1	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	25	*	0	0	0	1	1	1	1	0	0	0	0
*	CALM HOURS (=1) FOR DAY	28	*	0	0	0	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	29	*	1	0	0	0	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	30	*	0	0	0	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	31	*	0	0	0	0	1	1	1	0	0	0	1
*	CALM HOURS (=1) FOR DAY	33	*	0	0	0	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	34	*	0	0	0	1	1	0	0	1	1	0	0
*	CALM HOURS (=1) FOR DAY	35	*	1	1	1	1	1	1	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	36	*	0	0	0	0	1	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	37	*	1	1	1	1	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	40	*	0	0	0	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	41	*	0	0	0	1	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	42	*	0	0	1	1	1	0	0	1	0	0	0
*	CALM HOURS (=1) FOR DAY	44	*	0	0	1	1	0	0	1	1	0	1	0
*	CALM HOURS (=1) FOR DAY	45	*	0	0	1	1	1	0	0	1	0	0	1
*	CALM HOURS (=1) FOR DAY	46	*	1	1	1	0	1	0	0	1	0	0	0
*	CALM HOURS (=1) FOR DAY	47	*	0	1	1	1	1	1	1	0	0	0	0
*	CALM HOURS (=1) FOR DAY	48	*	0	0	0	1	1	1	1	1	0	0	0
*	CALM HOURS (=1) FOR DAY	51	*	0	0	0	0	1	0	0	1	0	0	0
*	CALM HOURS (=1) FOR DAY	52	*	1	0	0	0	0	1	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	61	*	0	0	0	0	1	0	1	0	0	0	0
*	CALM HOURS (=1) FOR DAY	62	*	1	0	1	1	1	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	63	*	0	1	0	1	1	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	64	*	0	1	0	0	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	66	*	0	0	1	1	1	1	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	67	*	1	1	0	0	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	68	*	1	1	1	0	0	0	0	0	0	0	1
*	CALM HOURS (=1) FOR DAY	70	*	0	0	0	0	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	71	*	0	0	1	1	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	72	*	0	1	1	1	0	0	0	0	0	0	0
*	CALM HOURS (=1) FOR DAY	73	*	0	0	0	0	1	1	0	1	0	0	0

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 3.13284 AND OCCURRED AT (1000.0, 180.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)					
	500.0	1000.0	1500.0	2000.0	3000.0	5000.0
360.0 /	2.13178	2.33244	1.80189	1.45294	1.02822	0.62659
350.0 /	1.70953	1.58333	1.16758	0.91486	0.62383	0.36451
340.0 /	1.88254	1.96749	1.46753	1.13861	0.75877	0.43173
330.0 /	1.72148	1.52371	1.07412	0.80878	0.52232	0.28829
320.0 /	1.80285	1.67638	1.21545	0.93652	0.62587	0.36023
310.0 /	1.74764	1.68689	1.23786	0.95855	0.63856	0.36165
300.0 /	1.80966	2.10868	1.65946	1.33721	0.93407	0.55503
290.0 /	1.62871	1.66193	1.21972	0.93625	0.61855	0.35154
280.0 /	1.62122	1.48180	1.04925	0.78858	0.50626	0.27776
270.0 /	1.82197	1.96653	1.51013	1.21228	0.85417	0.51902
260.0 /	1.57741	1.61127	1.20524	0.94493	0.64389	0.37771
250.0 /	1.64456	1.77306	1.35166	1.07002	0.73721	0.43746
240.0 /	1.83565	1.98419	1.51161	1.19901	0.82579	0.48675
230.0 /	1.88181	2.15324	1.66626	1.33251	0.92543	0.54905
220.0 /	1.59486	1.71570	1.29474	1.02234	0.70503	0.42016
210.0 /	1.45938	1.68789	1.30639	1.04388	0.72630	0.43388
200.0 /	1.68148	2.01628	1.54581	1.22818	0.85085	0.50804
190.0 /	1.67604	2.05491	1.54552	1.19943	0.80332	0.46491
180.0 /	2.17802	3.13284	2.51483	2.03094	1.41142	0.83364
170.0 /	1.56973	1.91440	1.49438	1.18978	0.80795	0.46137
160.0 /	1.44617	1.70543	1.31774	1.04574	0.71552	0.41783
150.0 /	1.48934	1.44670	1.04558	0.79007	0.50435	0.27138
140.0 /	1.74578	1.57195	1.10060	0.81262	0.50192	0.25980
130.0 /	1.77585	1.58806	1.09981	0.80968	0.50246	0.26444
120.0 /	1.47195	1.43080	1.05170	0.81470	0.54348	0.31033
110.0 /	1.08277	1.16708	0.89135	0.71258	0.49876	0.30060
100.0 /	1.07992	1.14348	0.86503	0.68473	0.46906	0.27362
90.0 /	1.37241	1.48088	1.10849	0.86378	0.57800	0.32857
80.0 /	1.17691	1.06584	0.74095	0.54888	0.34492	0.18429
70.0 /	1.16050	1.13552	0.83842	0.65289	0.44259	0.25936
60.0 /	1.50434	1.45627	1.07606	0.83591	0.55934	0.31900
50.0 /	1.56160	1.51066	1.10231	0.84304	0.54766	0.29978
40.0 /	1.31945	1.25772	0.91269	0.69675	0.45414	0.25174
30.0 /	1.37599	1.21419	0.84986	0.63192	0.39906	0.21441
20.0 /	1.54394	1.43290	1.01521	0.76059	0.48421	0.26207
10.0 /	1.69261	1.58876	1.15995	0.89525	0.59350	0.33439

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 195.76376 AND OCCURRED AT (1000.0, 300.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	162.95872 (153,10)	110.92346 (316,15)	99.71361 (351, 8)	82.92563 (351, 8)	56.14343 (351, 8)
350.0 /	178.85480 (152,17)	115.41772 (317,11)	114.52768 (137,19)	105.80843 (61, 2)	79.61205 (61, 2)
340.0 /	173.99591 (253,11)	150.81120 (355, 8)	109.65636 (316,17)	94.74770 (316,17)	66.48428 (316,17)
330.0 /	177.29045 (85,14)	125.21507 (169,12)	115.10127 (332,17)	99.25082 (332,17)	69.59242 (332,17)
320.0 /	150.30513 (224,10)	137.18993 (253,10)	110.20493 (261,24)	95.08156 (261,24)	66.62566 (261,24)
310.0 /	166.74783 (204,10)	112.48788 (115,20)	117.13142 (179, 8)	108.00800 (179, 8)	80.61795 (179, 8)
300.0 /	172.36388 (41,12)	195.76376 (149, 6)	180.71703 (149, 6)	149.93912 (149, 6)	106.35715 (149, 6)
290.0 /	148.07169 (150,17)	124.88286 (217,10)	110.02191 (143, 5)	94.97028 (143, 5)	66.57858 (143, 5)
280.0 /	164.06824 (255,11)	151.84570 (65,16)	99.53595 (65,16)	73.95671 (161,18)	48.72891 (161,18)
270.0 /	164.28543 (224, 9)	145.91702 (322,15)	114.71846 (191, 8)	99.01831 (191, 8)	69.49393 (191, 8)
260.0 /	181.41573 (81,16)	131.22054 (105,12)	110.38872 (288,18)	95.98138 (135,14)	71.19283 (135,14)
250.0 /	159.57724 (23,13)	137.18962 (151,16)	119.86450 (161,22)	111.12582 (161,22)	83.47171 (161,22)
240.0 /	175.35759 (207,15)	144.96428 (174,17)	115.72981 (281, 8)	107.08578 (281, 8)	80.19745 (281, 8)
230.0 /	161.67073 (181,14)	168.92067 (131,18)	125.63464 (131,18)	105.44659 (98, 2)	79.44565 (98, 2)
220.0 /	160.94699 (262,11)	116.34149 (205, 9)	90.62825 (162,14)	74.71640 (162,14)	65.83270 (251, 8)
210.0 /	159.46207 (276,11)	179.14374 (272, 9)	133.65463 (272, 9)	104.01172 (44, 9)	78.78319 (44, 9)
200.0 /	175.01596 (206,15)	125.32573 (264,16)	110.38832 (162, 8)	95.19299 (162, 8)	66.67274 (162, 8)
190.0 /	141.58052 (322,12)	112.57678 (322,12)	124.28050 (208,15)	114.02434 (208,15)	84.79243 (208,15)
180.0 /	149.50967 (164,10)	111.28683 (162,16)	114.14705 (162,16)	98.67070 (162,16)	69.34651 (162,16)
170.0 /	150.70505 (200,10)	106.17740 (202,17)	98.67676 (289, 9)	84.77339 (289, 9)	59.83043 (78, 7)
160.0 /	160.94707 (181,10)	149.28407 (311, 7)	123.94447 (311, 7)	98.84439 (311, 7)	68.82423 (311, 7)
150.0 /	171.63905 (289,12)	125.21507 (235,15)	114.33720 (317,17)	98.78641 (317,17)	69.39557 (317,17)
140.0 /	186.83093 (125,12)	137.18993 (147,18)	118.14682 (332, 8)	109.98849 (332, 8)	82.94917 (332, 8)
130.0 /	181.12439 (201, 9)	124.66176 (209, 9)	114.52768 (212,15)	98.90228 (212,15)	69.44475 (212,15)
120.0 /	190.57646 (114,16)	152.84407 (247, 9)	113.01392 (11,12)	97.97952 (11,12)	69.05260 (11,12)
110.0 /	150.10565 (181, 9)	146.10867 (183,17)	110.75653 (151, 9)	95.41649 (151, 9)	70.83162 (22, 8)
100.0 /	175.74872 (277,11)	158.55119 (364, 8)	155.55515 (364, 8)	132.51172 (364, 8)	95.20963 (364, 8)
90.0 /	181.47697 (209,10)	173.91275 (14,10)	131.67934 (14,10)	93.75461 (51, 4)	66.06219 (51, 4)
80.0 /	175.23480 (352,16)	111.87761 (115,17)	94.18701 (260, 8)	76.37567 (260, 8)	50.57098 (260, 8)
70.0 /	160.73383 (90,14)	122.11279 (149,15)	113.52409 (12,10)	105.62689 (12,10)	79.52846 (12,10)
60.0 /	184.54987 (229,10)	121.91206 (229,10)	126.44331 (197, 6)	116.23122 (197, 6)	90.41539 (197, 6)
50.0 /	181.76901 (185,10)	124.04659 (238,16)	101.86150 (246,10)	91.29805 (181, 6)	71.90160 (181, 6)
40.0 /	142.92441 (186,13)	130.52873 (112,17)	104.32140 (132, 9)	86.66235 (132, 9)	58.68314 (132, 9)
30.0 /	150.70480 (206,10)	112.42874 (88, 9)	112.07950 (14, 9)	97.40787 (14, 9)	68.80876 (14, 9)
20.0 /	142.71909 (342,11)	131.56938 (211, 8)	92.11986 (272,18)	75.57542 (272,18)	50.34132 (272,18)
10.0 /	172.64473 (146,16)	132.03612 (180, 9)	109.47412 (332, 9)	94.63673 (332, 9)	70.23126 (51, 7)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 195.76376 AND OCCURRED AT (1000.0, 300.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 5000.0

360.0 /	43.91196 (289, 6)
350.0 /	46.52440 (61, 2)
340.0 /	45.75716 (41,19)
330.0 /	42.13829 (324, 7)
320.0 /	37.13150 (246, 3)
310.0 /	46.84627 (179, 8)
300.0 /	67.23061 (149, 6)
290.0 /	44.26465 (261, 4)
280.0 /	37.10538 (294, 3)
270.0 /	43.68037 (24, 9)
260.0 /	42.36418 (87,22)
250.0 /	48.82855 (161,22)
240.0 /	46.71210 (281, 8)
230.0 /	49.95184 (290, 7)
220.0 /	60.67149 (251, 8)
210.0 /	46.25739 (44, 9)
200.0 /	37.11841 (268, 2)
190.0 /	49.25116 (208,15)
180.0 /	38.72749 (162,16)
170.0 /	38.32492 (78, 7)
160.0 /	44.29871 (261, 2)
150.0 /	38.74249 (317,17)
140.0 /	48.66034 (332, 8)
130.0 /	42.28499 (288, 8)
120.0 /	44.23096 (260, 5)
110.0 /	47.23166 (22, 8)
100.0 /	60.03250 (364, 8)
90.0 /	37.07323 (37, 8)
80.0 /	31.01964 (198, 6)
70.0 /	46.49738 (12,10)
60.0 /	58.61833 (197, 6)
50.0 /	45.65842 (181, 6)
40.0 /	35.94771 (33,22)
30.0 /	38.56343 (14, 9)
20.0 /	36.68600 (248,21)
10.0 /	40.61176 (51, 7)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 176.20201 AND OCCURRED AT (500.0, 130.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	151.50781 (191,15)	105.96152 (155, 8)	94.65817 (155, 8)	76.64227 (155, 8)	50.67664 (155, 8)
350.0 /	160.51360 (252,14)	111.88553 (137,19)	113.79758 (61, 2)	98.90236 (137,19)	69.44473 (137,19)
340.0 /	160.51265 (252,14)	146.68375 (201, 8)	100.21391 (155, 6)	83.21689 (155, 6)	58.68526 (253, 9)
330.0 /	155.87805 (119, 9)	112.79050 (332,17)	100.66682 (219,17)	85.97404 (219,17)	59.46002 (219,17)
320.0 /	149.23589 (204,10)	107.70119 (261,24)	100.97029 (192, 8)	85.17128 (174, 7)	59.12404 (174, 7)
310.0 /	163.82407 (201,10)	105.98918 (219,13)	114.90956 (115,20)	99.13457 (115,20)	69.54318 (115,20)
300.0 /	165.45236 (150,17)	145.15451 (324,12)	119.28911 (333, 1)	110.74535 (333, 1)	83.29716 (333, 1)
290.0 /	143.14464 (130,12)	112.94801 (130,12)	100.71725 (175,15)	83.50940 (175,15)	56.38054 (175,15)
280.0 /	144.41803 (269,10)	124.33133 (247,17)	91.57019 (161,18)	70.59663 (267, 7)	48.71312 (267, 7)
270.0 /	150.10565 (191,10)	124.33148 (228, 8)	103.02353 (68, 8)	86.07462 (151,17)	59.50172 (151,17)
260.0 /	150.50493 (179,10)	130.52586 (141, 7)	104.40315 (135,14)	95.19322 (288,18)	66.67305 (288,18)
250.0 /	156.39569 (205,10)	123.67302 (95, 9)	115.17363 (175, 4)	106.71867 (175, 4)	80.02942 (175, 4)
240.0 /	161.88451 (119,10)	144.58527 (96, 9)	112.43947 (63, 8)	104.90611 (63, 8)	79.19658 (63, 8)
230.0 /	146.58093 (230,14)	132.97496 (230,14)	113.25241 (98, 2)	104.01132 (13, 9)	78.78287 (13, 9)
220.0 /	140.03693 (314,16)	112.20711 (314,16)	83.15698 (218, 7)	70.65633 (218, 7)	49.99673 (162,14)
210.0 /	142.92456 (114,15)	124.55141 (191, 9)	111.09885 (44, 9)	94.97028 (224, 7)	70.45201 (97,23)
200.0 /	138.09264 (264,16)	122.80063 (46,10)	106.07848 (358,17)	92.55699 (358,17)	65.55054 (358,17)
190.0 /	137.71480 (257,12)	107.43867 (317,14)	100.97014 (317,14)	84.37706 (342,21)	58.79015 (342,21)
180.0 /	141.79906 (114,10)	105.44069 (160, 5)	99.83203 (264, 9)	85.47148 (264, 9)	59.24991 (264, 9)
170.0 /	142.07913 (247,10)	102.93936 (46, 9)	91.47913 (167, 7)	78.26364 (78, 7)	58.95712 (289, 9)
160.0 /	159.67313 (96,16)	143.26471 (354,10)	104.45227 (163, 8)	86.73859 (163, 8)	58.71410 (163, 8)
150.0 /	144.56087 (236,10)	111.58572 (317,17)	110.20493 (230,16)	95.08141 (230,16)	66.62556 (230,16)
140.0 /	173.99591 (184,15)	124.65329 (125,12)	104.65509 (252, 8)	96.14653 (252, 8)	73.13821 (324, 8)
130.0 /	176.20201 (352,15)	124.33110 (164, 9)	102.12672 (7, 3)	85.38080 (7, 3)	58.15987 (7, 3)
120.0 /	164.47623 (203,11)	130.18237 (249,10)	99.85597 (247, 9)	77.94470 (274,12)	55.02190 (274,12)
110.0 /	139.12015 (67, 8)	129.49104 (362,16)	99.98854 (4, 6)	93.06873 (4, 6)	69.86519 (4, 6)
100.0 /	151.30661 (218,13)	144.01782 (99, 7)	114.14705 (193, 7)	98.67070 (193, 7)	69.34651 (193, 7)
90.0 /	172.59071 (113,12)	111.87738 (234,12)	108.02945 (51, 4)	93.42682 (37, 8)	65.92847 (37, 8)
80.0 /	161.37395 (192,16)	111.39905 (33,16)	90.17526 (300, 8)	74.45448 (300, 8)	50.48796 (198, 6)
70.0 /	128.81152 (146,11)	111.93224 (212, 8)	105.10986 (212, 8)	87.12054 (212, 8)	58.86934 (212, 8)
60.0 /	159.67313 (276,12)	119.09747 (197, 6)	110.57259 (247, 8)	95.30490 (247, 8)	66.72020 (247, 8)
50.0 /	167.02502 (23,16)	108.99191 (246,10)	101.35123 (249, 9)	84.47638 (348, 6)	58.83224 (348, 6)
40.0 /	142.64627 (112,17)	124.44113 (152, 9)	101.47829 (210, 8)	83.95073 (210, 8)	57.77260 (348, 4)
30.0 /	140.96069 (88, 9)	109.21744 (97, 7)	103.54031 (97, 7)	86.20735 (97, 7)	58.83162 (350, 8)
20.0 /	142.66524 (180,10)	130.06479 (23,15)	86.15311 (215, 1)	68.49759 (215, 1)	44.53659 (215, 1)
10.0 /	150.90500 (272,11)	109.21736 (146, 7)	109.29243 (137, 4)	94.52606 (137, 4)	66.43712 (332, 9)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 176.20201 AND OCCURRED AT (500.0, 130.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 5000.0

360.0 /	42.30051 (277, 8)
350.0 /	42.25394 (87, 7)
340.0 /	37.14473 (273,22)
330.0 /	38.80238 (332,17)
320.0 /	37.11839 (262, 3)
310.0 /	38.78735 (115,20)
300.0 /	48.77245 (333, 1)
290.0 /	37.03445 (143, 5)
280.0 /	36.42519 (121, 1)
270.0 /	38.77237 (191, 8)
260.0 /	40.91626 (135,14)
250.0 /	46.65808 (175, 4)
240.0 /	46.39124 (63, 8)
230.0 /	46.47089 (98, 2)
220.0 /	37.03780 (166, 2)
210.0 /	40.68188 (97,23)
200.0 /	37.06346 (162, 8)
190.0 /	36.54350 (331, 1)
180.0 /	37.09250 (167, 3)
170.0 /	37.05457 (157, 5)
160.0 /	43.27179 (311, 7)
150.0 /	37.04865 (230,16)
140.0 /	48.25256 (324, 8)
130.0 /	42.08347 (43, 5)
120.0 /	38.63795 (11,12)
110.0 /	40.49533 (4, 6)
100.0 /	55.54568 (4, 5)
90.0 /	37.01767 (113, 7)
80.0 /	28.78593 (347,21)
70.0 /	37.11841 (203,20)
60.0 /	37.07747 (247, 8)
50.0 /	34.07906 (352,19)
40.0 /	34.24155 (146, 1)
30.0 /	37.11836 (183, 1)
20.0 /	34.25290 (185, 2)
10.0 /	36.99370 (87, 5)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* 50 MAXIMUM 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	HOUR	DAY	X	Y(METERS)	RANK	CON.	HOUR	DAY	X	Y(METERS)
				OR RANGE (METERS)	OR DIRECTION (DEGREES)					OR RANGE (METERS)	OR DIRECTION (DEGREES)
1	195.76376	6	149	1000.0	300.0	26	168.92067	18	131	1000.0	230.0
2	190.57646	16	114	500.0	120.0	27	168.32997	16	34	500.0	130.0
3	186.83003	12	125	500.0	140.0	28	167.02502	16	23	500.0	50.0
4	184.54987	10	229	500.0	60.0	29	166.74783	10	204	500.0	310.0
5	181.76901	10	185	500.0	50.0	30	165.45236	17	150	500.0	300.0
6	181.47697	10	209	500.0	90.0	31	164.47623	11	203	500.0	120.0
7	181.41573	16	81	500.0	260.0	32	164.28543	11	249	500.0	120.0
8	181.12439	9	201	500.0	130.0	33	164.28543	9	224	500.0	270.0
9	180.71703	6	149	1500.0	300.0	34	164.06824	10	261	500.0	50.0
10	179.14374	9	272	1000.0	210.0	35	164.06824	11	255	500.0	280.0
11	178.85480	17	152	500.0	350.0	36	163.82407	10	201	500.0	310.0
12	177.29045	14	85	500.0	330.0	37	163.39088	9	220	500.0	120.0
13	176.20201	15	352	500.0	130.0	38	162.95882	10	192	500.0	300.0
14	175.74872	11	277	500.0	100.0	39	162.95872	10	153	500.0	360.0
15	175.35759	15	207	500.0	240.0	40	162.52837	15	67	500.0	140.0
16	175.23480	16	352	500.0	80.0	41	161.88451	10	119	500.0	240.0
17	175.01596	15	206	500.0	200.0	42	161.67073	14	181	500.0	230.0
18	173.99591	11	253	500.0	340.0	43	161.45694	13	44	500.0	130.0
19	173.99591	15	184	500.0	140.0	44	161.37395	16	192	500.0	80.0
20	173.91275	10	14	1000.0	90.0	45	160.94707	10	219	500.0	50.0
21	173.05473	12	202	500.0	140.0	46	160.94707	10	181	500.0	160.0
22	172.64473	16	146	500.0	10.0	47	160.94699	11	262	500.0	220.0
23	172.59071	12	113	500.0	90.0	48	160.73398	10	193	500.0	50.0
24	172.36388	12	41	500.0	300.0	49	160.73383	14	90	500.0	70.0
25	171.63905	12	289	500.0	150.0	50	160.51360	14	252	500.0	350.0

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET-76 ***

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

* MAXIMUM VALUE EQUALS 124.89386 AND OCCURRED AT (500.0, 210.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	122.97076 (134, 4)	93.64801 (305, 1)	70.80124 (305, 1)	55.75110 (305, 1)	35.77921 (305, 1)
350.0 /	104.19073 (148, 5)	57.64459 (184, 2)	53.54784 (184, 2)	45.42194 (184, 2)	32.30856 (184, 2)
340.0 /	85.22400 (253, 4)	73.26276 (294, 2)	63.90793 (316, 6)	53.57736 (316, 6)	36.54111 (316, 6)
330.0 /	78.06285 (153, 4)	60.06366 (24, 5)	47.02231 (320, 2)	36.11180 (320, 2)	23.19746 (332, 6)
320.0 /	87.03180 (13, 4)	77.65671 (169, 4)	51.60979 (169, 4)	37.66083C(192, 3)	29.07079 (87, 1)
310.0 /	77.37910 (180, 5)	72.34650 (136, 2)	58.02437 (136, 2)	44.53784 (136, 2)	27.88753 (136, 2)
300.0 /	80.25467 (178, 4)	85.64786 (262, 6)	67.51715 (262, 6)	51.58113 (262, 6)	36.44504 (149, 2)
290.0 /	85.27916 (298, 4)	63.14702 (290, 8)	55.04070 (290, 8)	43.97444 (290, 8)	28.63420 (290, 8)
280.0 /	109.81224 (204, 5)	60.79691 (281, 6)	45.76692 (281, 6)	34.15022 (281, 6)	20.76231 (281, 6)
270.0 /	84.60291 (224, 3)	92.30508 (68, 3)	84.74071 (68, 3)	69.21696 (68, 3)	46.20654 (68, 3)
260.0 /	74.77789 (290, 4)	58.31868 (59, 4)	40.88617 (252, 6)	32.13625 (252, 6)	24.81537 (252, 7)
250.0 /	81.96013 (205, 4)	59.85663 (175, 2)	63.72153 (175, 2)	56.25783 (175, 2)	40.31372 (175, 2)
240.0 /	86.06461 (230, 4)	80.63333 (257, 1)	67.00757 (257, 1)	52.32304 (257, 1)	33.32768 (257, 1)
230.0 /	107.29051 (130, 5)	84.37408 (257, 2)	70.25633 (257, 2)	55.98962 (345, 1)	41.70363 (345, 1)
220.0 /	93.17120 (130, 5)	61.24951 (11, 3)	54.03036 (11, 3)	43.40974 (11, 3)	28.41347 (11, 3)
210.0 /	124.89386 (51, 5)	66.00470 (60, 2)	61.07761 (60, 2)	50.12816 (60, 2)	33.30763 (60, 2)
200.0 /	75.58714 (159, 5)	63.29079 (358, 1)	55.58943 (358, 1)	45.54248 (173, 7)	30.37549 (173, 7)
190.0 /	87.92699 (118, 4)	55.53053 (5, 8)	50.56816 (85, 3)	41.39247 (85, 3)	28.26413 (208, 5)
180.0 /	91.33170 (118, 4)	76.86859 (340, 5)	63.16724 (340, 5)	49.04112 (340, 5)	31.03708 (340, 5)
170.0 /	90.83250 (255, 3)	70.79442 (339, 2)	57.27283 (339, 2)	44.13631 (339, 2)	27.73721 (339, 2)
160.0 /	115.08104 (289, 4)	81.52132 (311, 3)	66.24684 (311, 3)	51.74318 (311, 3)	34.37532 (311, 3)
150.0 /	109.04205 (67, 5)	64.75072 (124, 6)	47.61188 (317, 6)	38.76047 (317, 6)	25.92924 (317, 6)
140.0 /	100.19693 (67, 5)	76.74715 (147, 6)	48.88402 (203, 6)	36.78532 (203, 6)	27.64972 (332, 3)
130.0 /	95.72418 (352, 5)	80.16870 (310, 1)	65.81100 (310, 1)	51.18335 (310, 1)	32.55428 (310, 1)
120.0 /	101.90005C(249, 4)	67.13454C(249, 4)	42.00346 (320, 8)	32.70494 (11, 4)	26.36548 (22, 1)
110.0 /	79.77081 (12, 5)	58.94766 (366, 8)	49.07980 (366, 8)	40.37888 (151, 3)	27.67166 (151, 3)
100.0 /	90.17545 (277, 4)	63.33955 (198, 3)	51.85170 (364, 3)	44.17056 (364, 3)	31.73653 (364, 3)
90.0 /	89.21141 (261, 5)	77.09407 (361, 4)	64.33681 (361, 4)	50.40820 (361, 4)	32.23308 (361, 4)
80.0 /	75.34349 (197, 3)	61.55486 (132, 7)	52.61301 (132, 7)	41.65334 (132, 7)	26.89801 (132, 7)
70.0 /	108.29776 (315, 5)	85.08267 (350, 6)	72.77545 (350, 6)	57.60529 (350, 6)	37.14561 (350, 6)
60.0 /	104.61749 (315, 5)	69.04169 (233, 2)	59.63899 (233, 2)	47.17630 (233, 2)	36.23090 (197, 2)
50.0 /	97.45319 (193, 4)	69.48706C(208, 3)	51.71620C(208, 3)	38.24332C(208, 3)	28.83698C(249, 3)
40.0 /	77.02629 (88, 5)	67.96286 (325, 6)	53.90869 (348, 2)	47.18626 (348, 2)	33.08746 (348, 2)
30.0 /	89.49796 (88, 4)	68.86584 (210, 5)	46.08534 (210, 5)	32.46928C(14, 3)	22.93625C(14, 3)
20.0 /	78.84357 (68, 5)	59.45117 (258, 3)	49.85315 (258, 3)	38.87003 (258, 3)	24.50195 (258, 3)
10.0 /	85.80443 (272, 4)	57.83247 (299, 4)	44.48759 (299, 4)	33.49561 (299, 4)	26.07857 (213, 3)

HIGH
3-HR
SGROUP# 1

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* MAXIMUM VALUE EQUALS 124.89386 AND OCCURRED AT (500.0, 210.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 5000.0

360.0 / 24.30489 (182, 2)
350.0 / 19.19142 (184, 2)
340.0 / 19.90794 (316, 6)
330.0 / 14.04610 (324, 3)
320.0 / 18.65652 (87, 1)
310.0 / 15.61542 (179, 3)
300.0 / 22.99820 (149, 2)
290.0 / 15.54275 (96, 7)
280.0 / 12.56282 (269, 7)
270.0 / 25.22043 (68, 3)
260.0 / 19.24249 (252, 7)
250.0 / 22.69447 (175, 2)
240.0 / 17.27740 (257, 1)
230.0 / 25.40877 (345, 1)
220.0 / 21.35770 (166, 1)
210.0 / 17.59795 (60, 2)
200.0 / 18.96111 (279, 2)
190.0 / 22.20045 (313, 8)
180.0 / 18.93159 (297, 1)
170.0 / 15.43575 (327, 8)
160.0 / 22.89937 (23, 2)
150.0 / 13.97694 (317, 6)
140.0 / 16.22011 (332, 3)
130.0 / 16.92287 (310, 1)
120.0 / 19.43182 (22, 1)
110.0 / 18.82539 (41, 1)
100.0 / 20.01082 (364, 3)
90.0 / 18.28598 (117, 8)
80.0 / 14.09782 (132, 7)
70.0 / 19.51663 (203, 7)
60.0 / 23.51227 (197, 2)
50.0 / 17.77763 (249, 3)
40.0 / 17.92868 (348, 2)
30.0 / 13.67702 (7, 7)
20.0 / 12.40842 (258, 3)
10.0 / 17.91292 (234, 7)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* MAXIMUM VALUE EQUALS 108.35699 AND OCCURRED AT (500.0, 150.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	104.38280 (148, 5)	69.33369 (155, 3)	54.88118 (155, 3)	42.07060 (155, 3)	26.50461 (347, 4)
350.0 /	81.76221 (152, 6)	55.96716 (128, 5)	50.00502 (137, 7)	41.94618 (137, 7)	29.06274 (61, 1)
340.0 /	77.55324 (281, 4)	66.48878 (316, 6)	58.83607 (294, 2)	45.22156 (294, 2)	28.37820 (294, 2)
330.0 /	76.66443 (47, 4)	59.00873C(289, 5)	43.31258 (360, 7)	33.66602 (360, 7)	22.51207 (320, 2)
320.0 /	81.64877 (2, 5)	63.11003C(192, 3)	49.15620C(192, 3)	36.48665 (87, 1)	23.70557C(192, 3)
310.0 /	73.91469 (86, 4)	68.14449 (136, 7)	55.92899 (136, 7)	43.28764 (136, 7)	27.65306 (115, 7)
300.0 /	75.22256 (248, 5)	80.66318 (324, 4)	64.55113 (324, 4)	51.11314 (149, 2)	32.14705 (262, 6)
290.0 /	85.05858 (204, 5)	56.62158 (86, 6)	45.12628 (175, 5)	36.41304 (175, 5)	24.35097 (96, 7)
280.0 /	73.20628 (63, 5)	52.89197 (247, 6)	36.05287 (247, 6)	25.12187 (269, 6)	19.22592 (205, 7)
270.0 /	73.61232 (80, 5)	67.75113 (72, 3)	59.75229 (346, 1)	48.98756 (346, 1)	32.46243 (346, 1)
260.0 /	71.96037 (59, 4)	57.47441 (141, 3)	39.97319 (240, 6)	31.99379 (135, 5)	23.73093 (135, 5)
250.0 /	79.30562 (43, 5)	55.88487 (349, 4)	48.55171 (349, 4)	38.45924 (349, 4)	27.82390C(161, 8)
240.0 /	83.54077 (119, 5)	62.79353 (226, 3)	47.91582 (226, 3)	36.09906 (226, 3)	26.78494 (225, 7)
230.0 /	91.59715 (240, 4)	77.10336 (277, 6)	63.69510 (277, 6)	54.93845 (257, 2)	35.60524 (13, 3)
220.0 /	78.95930 (51, 5)	58.92079 (232, 4)	47.16222 (218, 3)	36.14012 (218, 3)	22.40410 (218, 3)
210.0 /	81.54613 (111, 4)	59.76445 (59, 3)	47.57014 (6, 7)	39.47063 (6, 7)	26.67197 (6, 7)
200.0 /	70.27820 (51, 5)	62.32939 (318, 6)	55.41367 (173, 7)	44.66260 (358, 1)	29.31450 (358, 1)
190.0 /	69.55896 (277, 5)	55.03970 (159, 6)	46.38658 (98, 2)	38.00810 (208, 5)	27.51874 (85, 3)
180.0 /	78.84015 (312, 4)	69.96124 (335, 6)	55.88423 (335, 6)	42.91035 (335, 6)	26.96637 (335, 6)
170.0 /	84.21661 (164, 4)	54.12492 (19, 8)	44.76523 (19, 3)	37.57773 (19, 3)	26.26511 (19, 3)
160.0 /	69.51924 (301, 4)	70.89227 (289, 4)	51.15645 (335, 8)	39.21942 (335, 8)	27.17352 (311, 2)
150.0 /	108.35699 (289, 4)	61.03868 (236, 3)	47.46227 (6, 3)	37.67789 (6, 3)	24.35536 (6, 3)
140.0 /	97.56769 (208, 4)	64.56734 (203, 6)	47.40157 (147, 6)	36.66283 (332, 3)	24.81845 (312, 6)
130.0 /	86.71417 (151, 4)	52.30115 (257, 5)	42.40192 (257, 5)	33.62758C(7, 1)	23.14824 (212, 5)
120.0 /	83.93889 (12, 5)	64.07848 (77, 6)	41.10291 (77, 6)	32.50098 (320, 8)	23.03583 (11, 4)
110.0 /	61.80962 (277, 4)	58.27216C(362, 6)	47.53650 (151, 3)	38.32765 (366, 8)	24.39569 (366, 8)
100.0 /	78.78223 (213, 6)	57.23576 (16, 6)	46.68152 (16, 6)	36.04584 (16, 6)	26.24217 (93, 7)
90.0 /	85.51285 (195, 5)	63.19089 (261, 5)	50.95459 (70, 1)	40.09135 (70, 1)	25.80240 (70, 1)
80.0 /	66.30435 (198, 4)	56.17203 (122, 6)	46.72589 (342, 1)	37.70264 (342, 1)	24.58156 (342, 1)
70.0 /	83.57349 (146, 4)	53.79694 (73, 6)	44.44212 (73, 6)	35.20895 (12, 4)	28.94922 (203, 7)
60.0 /	104.18871 (41, 5)	60.77357 (69, 8)	52.21394 (69, 8)	45.46515 (197, 2)	30.18080 (233, 2)
50.0 /	73.91757 (254, 3)	58.53523 (198, 8)	48.80582 (198, 8)	38.21545 (198, 8)	25.03363 (348, 2)
40.0 /	72.26936 (186, 5)	55.15390 (182, 5)	53.63898 (325, 6)	40.88348 (325, 6)	25.44719 (325, 6)
30.0 /	82.87259 (211, 4)	46.71475 (299, 8)	39.47850 (11, 6)	32.34451 (210, 5)	21.45197 (11, 6)
20.0 /	77.97192 (200, 6)	53.70874 (200, 6)	42.59438 (227, 6)	33.70189 (227, 6)	21.56474 (227, 6)
10.0 /	82.17218 (187, 3)	51.22809 (154, 3)	36.49136 (332, 3)	31.54556 (332, 3)	23.41042C(51, 3)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* MAXIMUM VALUE EQUALS 108.35699 AND OCCURRED AT (500.0, 150.0) *

DIRECTION /
(DEGREES) /

5000.0

RANGE (METERS)

360.0 / 20.40773 (350, 1)
350.0 / 17.19383 (61, 1)
340.0 / 17.67841 (187, 2)
330.0 / 12.93413 (332, 6)
320.0 / 13.24343 (27, 1)
310.0 / 15.52848 (365, 7)
300.0 / 17.85823 (289, 8)
290.0 / 15.08948 (290, 8)
280.0 / 12.36846 (294, 1)
270.0 / 17.77888 (114, 7)
260.0 / 14.67860C(96, 8)
250.0 / 16.27617C(161, 8)
240.0 / 16.38596 (225, 7)
230.0 / 22.85599 (13, 3)
220.0 / 20.22382C(251, 3)
210.0 / 15.62369 (41, 3)
200.0 / 16.31535 (293, 1)
190.0 / 16.41704 (208, 5)
180.0 / 16.57291C(119, 2)
170.0 / 15.17492 (296, 3)
160.0 / 20.03928 (311, 2)
150.0 / 12.73050 (6, 3)
140.0 / 16.08418 (324, 3)
130.0 / 16.00168 (353, 3)
120.0 / 14.74376 (260, 2)
110.0 / 17.91258 (124, 1)
100.0 / 18.53844C(4, 2)
90.0 / 16.75693 (361, 4)
80.0 / 12.77745 (342, 1)
70.0 / 19.39653 (350, 6)
60.0 / 15.47664 (233, 2)
50.0 / 15.21947 (181, 2)
40.0 / 14.69107C(207, 7)
30.0 / 12.85448C(14, 3)
20.0 / 12.22867 (248, 7)
10.0 / 17.51762 (213, 3)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* 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	124.89386	5 51	500.0	210.0	26	89.21141	5 261	500.0	90.0
2	122.97076	4 134	500.0	360.0	27	88.28082	5 184	500.0	140.0
3	115.08104	4 289	500.0	160.0	28	87.92699	4 118	500.0	190.0
4	109.81224	5 204	500.0	280.0	29	87.03180	4 13	500.0	320.0
5	109.04205	5 67	500.0	150.0	30	86.71417	4 151	500.0	130.0
6	108.35699	4 289	500.0	150.0	31	86.33414	5 309	500.0	140.0
7	108.29776	5 315	500.0	70.0	32	86.06461	4 230	500.0	240.0
8	107.29051	5 130	500.0	230.0	33	85.80443	4 272	500.0	10.0
9	104.61749	5 315	500.0	60.0	34	85.64786	6 262	1000.0	300.0
10	104.38280	5 148	500.0	360.0	35	85.51285	5 195	500.0	90.0
11	104.19073	5 148	500.0	350.0	36	85.27916	4 298	500.0	290.0
12	104.18871	5 41	500.0	60.0	37	85.22400	4 253	500.0	340.0
13	101.90005C	4 249	500.0	120.0	38	85.08267	6 350	1000.0	70.0
14	100.64923	4 208	500.0	150.0	39	85.05858	5 204	500.0	290.0
15	100.19693	5 67	500.0	140.0	40	84.74071	3 68	1500.0	270.0
16	97.56769	4 208	500.0	140.0	41	84.60291	3 224	500.0	270.0
17	97.45319	4 193	500.0	50.0	42	84.37408	2 257	1000.0	230.0
18	95.72418	5 352	500.0	130.0	43	84.21661	4 164	500.0	170.0
19	93.17120	5 130	500.0	220.0	44	83.93889	5 12	500.0	120.0
20	92.30508	3 68	1000.0	270.0	45	83.83978	5 316	500.0	360.0
21	91.59715	4 240	500.0	230.0	46	83.64801	1 305	1000.0	360.0
22	91.33170	4 118	500.0	180.0	47	83.57349	4 146	500.0	70.0
23	90.83250	3 255	500.0	170.0	48	83.54077	5 119	500.0	240.0
24	90.17545	4 277	500.0	100.0	49	82.87259	4 211	500.0	30.0
25	89.49796	4 88	500.0	30.0	50	82.34814	6 147	500.0	140.0

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 67.68484 AND OCCURRED AT (500.0, 60.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	66.14044 (134, 2)	43.80222 (363, 2)	36.45779 (305, 1)	31.93654 (305, 1)	23.61188 (305, 1)
350.0 /	47.75461 (148, 2)	28.50179 (128, 2)	24.77771C(61, 1)	25.77780C(61, 1)	22.13724C(61, 1)
340.0 /	59.75259 (228, 2)	35.17505 (144, 1)	28.88272 (144, 1)	22.41887 (144, 1)	14.18265 (144, 1)
330.0 /	50.11862 (228, 2)	38.15948C(289, 2)	23.94540 (282, 3)	18.71449C(173, 1)	12.92609C(173, 1)
320.0 /	53.28864C(156, 2)	43.12738 (169, 2)	27.89195 (169, 2)	19.04341 (169, 2)	13.81821 (324, 3)
310.0 /	38.60794 (262, 2)	43.26364 (136, 3)	35.30576 (136, 3)	27.26181 (136, 3)	17.10373 (136, 3)
300.0 /	44.65311 (248, 2)	40.27994 (143, 1)	38.89536 (143, 1)	32.61813 (143, 1)	23.44597C(149, 1)
290.0 /	39.37723 (179, 2)	27.43529 (175, 2)	23.44461 (175, 2)	18.58879 (175, 2)	11.99901 (175, 2)
280.0 /	50.79373 (63, 2)	28.81087 (179, 2)	23.53645C(161, 3)	19.63525C(161, 3)	13.21560C(161, 3)
270.0 /	54.58788C(268, 2)	30.81549C(68, 1)	28.74684C(68, 1)	23.64160C(68, 1)	15.92538C(68, 1)
260.0 /	60.89610C(268, 2)	38.55023 (59, 2)	26.87547C(96, 3)	23.45564C(96, 3)	17.04340C(96, 3)
250.0 /	58.69754 (225, 2)	31.25960 (349, 2)	27.72661 (349, 2)	22.57390 (175, 1)	16.51582 (175, 1)
240.0 /	57.66327 (101, 2)	50.12704 (257, 1)	42.19913 (257, 1)	33.10355 (257, 1)	21.13272 (257, 1)
230.0 /	59.72794 (240, 2)	49.27029 (231, 3)	39.89130 (231, 3)	33.61992C(98, 1)	23.62769C(98, 1)
220.0 /	51.94461 (130, 2)	36.94312 (232, 2)	28.22729 (232, 2)	21.20203 (232, 2)	13.02535 (232, 2)
210.0 /	56.36418C(51, 2)	34.40131 (255, 3)	27.80797 (255, 3)	21.33023 (255, 3)	13.74334C(6, 3)
200.0 /	50.09125 (140, 2)	45.41241 (57, 1)	37.55551 (57, 1)	29.23734 (57, 1)	18.55013 (57, 1)
190.0 /	38.24921 (159, 2)	34.40869 (340, 3)	27.96396 (340, 3)	21.54309 (340, 3)	14.51732 (292, 3)
180.0 /	46.35092 (118, 2)	53.36526 (322, 1)	45.28085 (322, 1)	35.57877 (322, 1)	22.67151 (322, 1)
170.0 /	40.27396 (220, 2)	48.77118 (15, 1)	39.61026 (15, 1)	30.70502 (15, 1)	19.46292 (15, 1)
160.0 /	56.30154 (96, 2)	34.60672 (335, 3)	29.59607 (311, 1)	27.18941 (311, 1)	21.60583 (311, 1)
150.0 /	66.20566 (67, 2)	42.41537 (67, 2)	28.32338 (100, 1)	21.11559 (100, 1)	12.80552 (100, 1)
140.0 /	57.38959 (67, 2)	39.70676 (18, 1)	30.70709 (18, 1)	23.96727 (301, 1)	17.28169 (301, 1)
130.0 /	51.67661 (352, 2)	30.30644 (362, 1)	27.31152C(7, 1)	22.42119C(7, 1)	14.82033C(7, 1)
120.0 /	44.21765C(200, 2)	33.00092 (30, 2)	24.04866 (30, 2)	17.82658 (343, 2)	12.50958 (22, 3)
110.0 /	40.51794C(200, 2)	37.01669 (366, 3)	30.49043 (366, 3)	23.57965 (366, 3)	14.77130 (366, 3)
100.0 /	36.96207 (260, 2)	49.94922 (366, 3)	41.25513 (366, 3)	32.07245 (366, 3)	20.29642 (366, 3)
90.0 /	43.00082 (195, 2)	42.01175 (361, 2)	34.36737 (361, 2)	26.62300 (361, 2)	17.49190 (117, 3)
80.0 /	38.79718C(89, 2)	24.62880 (33, 2)	22.58369 (132, 3)	19.59784 (132, 3)	14.39694 (132, 3)
70.0 /	58.20300C(315, 2)	34.43277 (350, 2)	27.74466 (342, 2)	22.11732C(350, 3)	14.42546C(350, 3)
60.0 /	67.68484C(315, 2)	52.16150 (233, 1)	45.65393 (233, 1)	36.45511 (233, 1)	23.64354 (233, 1)
50.0 /	39.25165 (95, 2)	34.60684 (145, 1)	26.41194 (145, 1)	19.73912 (145, 1)	12.10513 (116, 3)
40.0 /	54.28497 (88, 2)	37.98666 (299, 3)	29.53477 (299, 3)	22.21478 (299, 3)	14.18035C(348, 1)
30.0 /	67.28918 (88, 2)	36.75720 (88, 2)	21.83820 (299, 3)	16.29391 (299, 3)	10.07144C(183, 1)
20.0 /	45.40497 (186, 2)	30.61374 (200, 3)	21.83852 (200, 3)	16.38194 (363, 3)	11.06119 (363, 3)
10.0 /	53.54160C(180, 2)	30.67696 (299, 2)	23.98813 (299, 2)	19.64674 (50, 1)	14.93761 (50, 1)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 67.68484 AND OCCURRED AT (500.0, 50.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 5000.0

360.0 /	16.61162C(182, 1)
350.0 /	14.76056C(61, 1)
340.0 /	8.83921C(187, 1)
330.0 /	7.38254C(173, 1)
320.0 /	9.54459 (324, 3)
310.0 /	8.69322 (136, 3)
300.0 /	16.45285C(149, 1)
290.0 /	6.92359C(96, 3)
280.0 /	8.80002C(269, 3)
270.0 /	9.76955 (148, 3)
260.0 /	11.15284 (252, 3)
250.0 /	9.45416 (175, 1)
240.0 /	11.12573 (256, 1)
230.0 /	14.56187C(142, 1)
220.0 /	10.11191C(251, 1)
210.0 /	8.79645 (167, 1)
200.0 /	16.75322C(279, 1)
190.0 /	10.19458 (313, 3)
180.0 /	12.35274C(119, 1)
170.0 /	10.06941 (15, 1)
160.0 /	14.33401 (311, 1)
150.0 /	6.44781 (327, 1)
140.0 /	10.13542 (301, 1)
130.0 /	7.75698C(7, 1)
120.0 /	8.83866 (22, 1)
110.0 /	9.50221 (124, 1)
100.0 /	10.42960 (366, 3)
90.0 /	10.87367 (117, 3)
80.0 /	8.66442 (132, 3)
70.0 /	9.35829 (198, 1)
60.0 /	12.35195 (233, 1)
50.0 /	8.97277C(249, 1)
40.0 /	7.68372C(348, 1)
30.0 /	7.32736C(183, 1)
20.0 /	6.26677 (139, 1)
10.0 /	9.63048 (214, 1)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 55.12030 AND OCCURRED AT (500.0, 240.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	50.24686 (148, 2)	40.17444C(347, 2)	34.68329 (363, 2)	26.46886 (363, 2)	21.36092C(182, 1)
350.0 /	47.07715 (228, 2)	26.75600 (208, 3)	23.72922 (184, 1)	19.92557 (184, 1)	13.93226 (184, 1)
340.0 /	53.10684 (153, 2)	33.69070 (149, 2)	27.59491 (331, 3)	21.67815 (331, 3)	13.89690 (331, 3)
330.0 /	47.81888C(289, 2)	28.81305C(173, 1)	23.03427C(173, 1)	18.64760 (282, 3)	11.67352 (282, 3)
320.0 /	45.72940 (169, 2)	33.68013C(47, 2)	22.82216C(47, 2)	17.63266C(174, 1)	13.33885C(174, 1)
310.0 /	36.58542 (201, 2)	41.27975 (136, 1)	32.46661 (136, 1)	24.59906 (136, 1)	15.13266 (136, 1)
300.0 /	34.06647 (324, 2)	37.85403 (324, 2)	30.96574C(149, 1)	28.69225C(149, 1)	22.22531 (143, 1)
290.0 /	37.35220 (248, 2)	27.05719 (345, 2)	21.04236 (345, 2)	16.50293 (290, 3)	11.18557C(96, 3)
280.0 /	47.07146C(204, 2)	24.57854C(161, 3)	21.09483 (169, 3)	18.11143 (169, 3)	13.18110 (169, 3)
270.0 /	42.49950C(219, 2)	27.90051C(346, 1)	26.22466C(346, 1)	21.75343C(346, 1)	14.59113C(346, 1)
260.0 /	48.42581 (278, 2)	35.79837 (278, 2)	25.55452 (59, 2)	20.85365 (252, 3)	16.98109 (252, 3)
250.0 /	40.50751 (43, 2)	30.33362 (225, 2)	25.08316 (175, 1)	22.19711 (349, 2)	14.34613 (349, 2)
240.0 /	55.12030 (119, 2)	40.87024 (161, 2)	32.88046 (349, 1)	25.57501 (349, 1)	17.29623C(225, 3)
230.0 /	54.27643 (130, 2)	41.87350 (344, 3)	39.02214C(98, 1)	30.64824 (231, 3)	21.49396C(142, 1)
220.0 /	38.64944 (165, 2)	31.53598 (130, 2)	24.43227 (5, 3)	18.86356 (5, 3)	12.41263 (104, 1)
210.0 /	44.40778 (164, 2)	31.72101 (57, 2)	25.39043C(6, 3)	20.72878C(6, 3)	13.35054 (167, 1)
200.0 /	43.38580C(51, 2)	42.99997 (321, 3)	33.29526 (321, 3)	25.08142 (321, 3)	18.23190C(162, 1)
190.0 /	37.75922 (287, 2)	34.00552 (159, 2)	25.97368 (292, 3)	21.20006 (292, 3)	13.97955C(85, 1)
180.0 /	45.41592 (324, 2)	44.74316 (231, 2)	33.31479 (231, 2)	25.43373 (307, 1)	18.15619 (140, 1)
170.0 /	39.64728 (114, 2)	42.37909 (285, 1)	34.65622 (285, 1)	26.80000 (285, 1)	16.86349 (285, 1)
160.0 /	49.65694C(289, 2)	32.87881 (337, 3)	27.35251 (335, 3)	20.80705 (335, 3)	17.96346 (309, 1)
150.0 /	52.20609 (236, 2)	37.32996 (100, 1)	24.81493 (67, 2)	17.83568 (159, 1)	11.28652 (159, 1)
140.0 /	47.25269 (96, 2)	34.16687 (288, 2)	27.86510 (301, 1)	23.15976 (18, 1)	14.25442 (18, 1)
130.0 /	50.40964 (235, 2)	30.07484 (310, 1)	24.68478 (310, 1)	19.19670 (310, 1)	12.20888 (310, 1)
120.0 /	43.67162C(249, 2)	30.97018 (343, 2)	23.75410 (343, 2)	17.65666 (30, 2)	12.48568 (22, 1)
110.0 /	34.18765C(12, 2)	23.59233 (16, 2)	18.06183 (16, 2)	15.54816C(4, 1)	12.64610 (124, 1)
100.0 /	34.55559C(212, 2)	29.20006C(212, 2)	20.61800 (364, 1)	17.37802 (364, 1)	12.34082 (364, 1)
90.0 /	40.96466 (260, 2)	30.00645 (70, 1)	25.43156 (70, 1)	22.81238 (117, 3)	16.79655 (361, 2)
80.0 /	35.23132 (252, 2)	24.18733 (132, 3)	17.52368 (342, 1)	14.13979 (342, 1)	9.21880 (342, 1)
70.0 /	41.82947 (146, 2)	32.99075 (342, 2)	27.64378C(350, 3)	21.78465 (342, 2)	13.88701 (342, 2)
60.0 /	39.07077 (41, 2)	39.12656C(315, 2)	26.56898 (69, 3)	20.71843 (69, 3)	14.73503 (197, 1)
50.0 /	38.88541 (254, 2)	28.24397 (233, 2)	22.54071 (233, 2)	17.27911 (233, 2)	11.99187 (145, 1)
40.0 /	47.52414 (186, 2)	28.02681 (355, 2)	23.10373C(348, 1)	20.22269C(348, 1)	13.53724 (299, 3)
30.0 /	51.94937 (186, 2)	28.37660 (299, 3)	19.85008 (88, 2)	13.89739 (91, 2)	9.80919 (299, 3)
20.0 /	43.37036 (187, 2)	27.93642 (50, 2)	20.32320 (363, 3)	15.92182 (139, 1)	11.05400 (139, 1)
10.0 /	46.83783 (134, 2)	29.65741C(180, 2)	21.86374 (50, 1)	18.17764 (299, 2)	13.70684 (214, 1)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 55.12030 AND OCCURRED AT (500.0, 240.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 5000.0

360.0 / 14.29925 (305, 1)
350.0 / 8.38659 (87, 1)
340.0 / 8.64227C(91, 1)
330.0 / 7.02305C(324, 1)
320.0 / 9.21426 (87, 1)
310.0 / 7.80771C(179, 1)
300.0 / 12.09162 (143, 1)
290.0 / 6.33139C(261, 1)
280.0 / 7.91417 (169, 3)
270.0 / 9.76487 (111, 3)
260.0 / 10.00178C(96, 3)
250.0 / 9.30229C(64, 1)
240.0 / 10.93526 (257, 1)
230.0 / 13.18195C(98, 1)
220.0 / 8.01349 (166, 1)
210.0 / 8.73760C(245, 1)
200.0 / 11.89007C(162, 1)
190.0 / 8.25404 (297, 1)
180.0 / 11.64000 (322, 1)
170.0 / 8.62142 (285, 1)
160.0 / 12.71243 (309, 1)
150.0 / 6.34571 (100, 1)
140.0 / 8.04209C(324, 1)
130.0 / 7.04750C(288, 1)
120.0 / 8.26495 (22, 3)
110.0 / 8.06803C(41, 1)
100.0 / 9.26922C(4, 1)
90.0 / 10.66850C(113, 1)
80.0 / 4.83452C(33, 3)
70.0 / 7.61461C(350, 3)
60.0 / 9.56396 (197, 1)
50.0 / 7.90363 (116, 3)
40.0 / 6.69263 (299, 3)
30.0 / 5.75311 (7, 3)
20.0 / 6.17041 (363, 3)
10.0 / 9.20198 (50, 1)

MAX 50
8-HR
SGROUP# 1

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* 50 MAXIMUM 8-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	67.68484C	2	315	500.0	60.0	26	51.94461	2	130	500.0	220.0
2	67.28918	2	88	500.0	30.0	27	51.77502	2	263	500.0	230.0
3	66.20566	2	67	500.0	150.0	28	51.67661	2	352	500.0	130.0
4	66.14044	2	134	500.0	360.0	29	50.79373	2	63	500.0	280.0
5	60.89610C	2	268	500.0	260.0	30	50.40964	2	235	500.0	130.0
6	59.75259	2	228	500.0	340.0	31	50.24686	2	148	500.0	360.0
7	59.72794	2	240	500.0	230.0	32	50.12704	1	257	1000.0	240.0
8	58.69754	2	225	500.0	250.0	33	50.11862	2	228	500.0	330.0
9	58.20300C	2	315	500.0	70.0	34	50.09125	2	140	500.0	200.0
10	57.66327	2	101	500.0	240.0	35	49.94922	3	366	1000.0	100.0
11	57.38959	2	67	500.0	140.0	36	49.65694C	2	289	500.0	160.0
12	56.36418C	2	51	500.0	210.0	37	49.57095	2	242	500.0	240.0
13	56.30154	2	96	500.0	160.0	38	49.56979	2	96	500.0	150.0
14	55.12030	2	119	500.0	240.0	39	49.27029	3	231	1000.0	230.0
15	54.58788C	2	268	500.0	270.0	40	49.16586C	2	200	500.0	130.0
16	54.28497	2	88	500.0	40.0	41	48.89575	2	152	500.0	360.0
17	54.27643	2	130	500.0	230.0	42	48.77118	1	15	1000.0	170.0
18	53.54160C	2	180	500.0	10.0	43	48.42581	2	278	500.0	260.0
19	53.36526	1	322	1000.0	180.0	44	47.81888C	2	289	500.0	330.0
20	53.28864C	2	156	500.0	320.0	45	47.75461	2	148	500.0	350.0
21	53.10684	2	153	500.0	340.0	46	47.69781	2	242	500.0	230.0
22	52.81940	2	185	500.0	340.0	47	47.61691	2	202	500.0	330.0
23	52.20609	2	236	500.0	150.0	48	47.52414	2	186	500.0	40.0
24	52.16150	1	233	1000.0	60.0	49	47.25269	2	96	500.0	140.0
25	51.94937	2	186	500.0	30.0	50	47.07715	2	228	500.0	350.0

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* MAXIMUM VALUE EQUALS 33.80077 AND OCCURRED AT (1000.0, 310.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	25.19777C(134, 1)	21.22263 (333, 1)	18.29948 (333, 1)	15.08537 (333, 1)	10.59381 (333, 1)
350.0 /	22.31413C(152, 1)	16.74219C(137, 1)	14.19503C(137, 1)	11.24218C(137, 1)	7.25482C(137, 1)
340.0 /	23.58372C(185, 1)	17.53232 (331, 1)	14.21236 (331, 1)	10.97685 (331, 1)	7.52608C(48, 1)
330.0 /	20.16679C(112, 1)	15.08695 (360, 1)	12.07008 (282, 1)	9.28012 (282, 1)	5.77198 (282, 1)
320.0 /	21.37617C(192, 1)	17.48283C(169, 1)	12.84680 (135, 1)	10.38559 (135, 1)	7.39213 (135, 1)
310.0 /	16.14996C(192, 1)	33.80077C(136, 1)	27.19753C(136, 1)	20.85010C(136, 1)	12.98661C(136, 1)
300.0 /	18.80130C(248, 1)	20.01109 (143, 1)	18.21890 (143, 1)	14.86127 (143, 1)	9.84937 (143, 1)
290.0 /	17.67007C(179, 1)	15.19883 (175, 1)	12.65485 (175, 1)	9.90779 (175, 1)	6.40996 (143, 1)
280.0 /	21.43382C(179, 1)	16.47354C(179, 1)	10.19864C(179, 1)	7.71762C(169, 1)	5.50159C(169, 1)
270.0 /	18.92125C(268, 1)	17.65907C(346, 1)	14.97298C(346, 1)	11.80608C(346, 1)	7.55896C(346, 1)
260.0 /	20.79593C(278, 1)	17.41309C(278, 1)	11.10164C(278, 1)	8.21018C(96, 1)	6.35073C(252, 1)
250.0 /	22.39891C(225, 1)	20.04695C(141, 1)	15.57426C(141, 1)	12.21115C(141, 1)	8.94552 (175, 1)
240.0 /	22.48015C(119, 1)	22.66985C(161, 1)	17.89455 (257, 1)	14.12474 (257, 1)	9.07870 (257, 1)
230.0 /	25.34671C(130, 1)	27.05244C(130, 1)	20.23244C(130, 1)	15.46038C(130, 1)	9.86174C(130, 1)
220.0 /	20.57118C(130, 1)	15.07209 (232, 1)	11.76655 (104, 1)	9.71376 (104, 1)	6.64712C(162, 1)
210.0 /	19.73679C(164, 1)	22.52933C(98, 1)	17.80000C(98, 1)	13.59419C(98, 1)	8.47015C(98, 1)
200.0 /	16.71883 (140, 1)	27.99867 (57, 1)	22.19463 (57, 1)	16.89366 (57, 1)	10.44860 (57, 1)
190.0 /	14.76659C(264, 1)	24.85500 (318, 1)	18.93446 (318, 1)	14.14763 (318, 1)	8.60431 (318, 1)
180.0 /	20.55843 (118, 1)	32.28612 (340, 1)	25.97549 (340, 1)	19.93092 (340, 1)	12.44054 (340, 1)
170.0 /	20.52219C(114, 1)	18.96037 (337, 1)	15.19409C(15, 1)	11.92301 (19, 1)	8.13382 (19, 1)
160.0 /	22.52061C(96, 1)	19.82368 (337, 1)	15.59427 (337, 1)	11.84776 (337, 1)	7.83275 (311, 1)
150.0 /	24.11896C(67, 1)	16.60143 (236, 1)	13.52302C(317, 1)	11.10811C(317, 1)	7.46711C(317, 1)
140.0 /	20.86894C(67, 1)	23.63457 (18, 1)	17.18539 (18, 1)	12.60963 (18, 1)	7.56339 (18, 1)
130.0 /	19.85336C(352, 1)	19.67590C(362, 1)	14.12941 (310, 1)	10.99809 (310, 1)	7.01881 (310, 1)
120.0 /	18.33215C(93, 1)	20.39833 (326, 1)	16.03600 (326, 1)	12.77209 (22, 1)	10.35931 (22, 1)
110.0 /	14.25448C(103, 1)	14.35776 (326, 1)	12.00419 (326, 1)	9.60113 (326, 1)	6.36521 (326, 1)
100.0 /	22.47177C(212, 1)	17.27446 (366, 1)	14.18530 (366, 1)	10.99075 (366, 1)	6.92678 (366, 1)
90.0 /	19.42900 (197, 1)	23.63898C(37, 1)	19.38629C(37, 1)	15.46136C(37, 1)	10.23499C(37, 1)
80.0 /	13.84749C(133, 1)	11.92673 (198, 1)	9.10711C(132, 1)	7.67235C(132, 1)	5.47500C(132, 1)
70.0 /	22.65317C(315, 1)	22.15767C(350, 1)	18.06673C(350, 1)	13.93364C(350, 1)	8.71931C(350, 1)
60.0 /	27.61955C(315, 1)	24.11201 (233, 1)	20.53865 (233, 1)	16.20665 (233, 1)	10.40314 (233, 1)
50.0 /	20.14803C(254, 1)	18.37955 (233, 1)	14.85773 (233, 1)	11.43204 (233, 1)	7.16531 (233, 1)
40.0 /	27.27957C(186, 1)	18.85028C(299, 1)	14.54478C(299, 1)	10.88961C(299, 1)	6.67135C(355, 1)
30.0 /	27.01965C(186, 1)	12.78516C(88, 1)	9.70667C(299, 1)	7.24213C(299, 1)	5.17342 (123, 1)
20.0 /	24.97575C(186, 1)	14.00769C(200, 1)	9.87830 (50, 1)	7.35184 (50, 1)	5.38048 (333, 1)
10.0 /	20.84123C(180, 1)	13.81922C(299, 1)	10.78298C(299, 1)	8.50566 (50, 1)	6.25470 (214, 1)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* MAXIMUM VALUE EQUALS 33.80077 AND OCCURRED AT (1000.0, 310.0) *

DIRECTION /
(DEGREES) /

5000.0

RANGE (METERS)

360.0 /	6.24768 (333, 1)
350.0 /	4.36236C(61, 1)
340.0 /	4.78322C(48, 1)
330.0 /	2.88952 (282, 1)
320.0 /	4.63461 (135, 1)
310.0 /	6.56479C(136, 1)
300.0 /	6.26933C(149, 1)
290.0 /	3.47582 (168, 1)
280.0 /	3.28022C(269, 1)
270.0 /	4.49275C(178, 1)
260.0 /	4.16560C(252, 1)
250.0 /	5.57416 (175, 1)
240.0 /	4.72855 (257, 1)
230.0 /	5.21190C(130, 1)
220.0 /	4.02244C(162, 1)
210.0 /	4.29924C(98, 1)
200.0 /	5.25259 (57, 1)
190.0 /	4.36387 (292, 1)
180.0 /	6.31204 (340, 1)
170.0 /	4.55638 (19, 1)
160.0 /	5.17294C(23, 1)
150.0 /	4.03501C(317, 1)
140.0 /	3.73234 (18, 1)
130.0 /	3.64816 (310, 1)
120.0 /	6.67361 (22, 1)
110.0 /	3.72180 (17, 1)
100.0 /	4.14446C(259, 1)
90.0 /	5.53224C(37, 1)
80.0 /	3.21912C(132, 1)
70.0 /	4.41139C(350, 1)
60.0 /	5.40154 (233, 1)
50.0 /	4.44418C(249, 1)
40.0 /	3.39742C(355, 1)
30.0 /	4.02310 (123, 1)
20.0 /	3.65704 (333, 1)
10.0 /	3.99833C(234, 1)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* MAXIMUM VALUE EQUALS 28.39426 AND OCCURRED AT (1000.0, 180.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	500.0	1000.0	1500.0	2000.0	3000.0
360.0 /	24.47270C(152, 1)	19.42679C(66, 1)	15.37538C(265, 1)	12.63991C(265, 1)	8.97705C(265, 1)
350.0 /	19.78099C(228, 1)	16.48570C(48, 1)	13.21282 (27, 1)	10.28171 (27, 1)	6.82598C(61, 1)
340.0 /	22.78429C(228, 1)	16.67020 (128, 1)	13.42830 (128, 1)	10.36608 (128, 1)	6.92126 (331, 1)
330.0 /	19.31624C(202, 1)	14.85281 (282, 1)	11.95234 (360, 1)	9.10980 (360, 1)	5.65557 (360, 1)
320.0 /	20.72337C(156, 1)	15.98054 (135, 1)	11.97048C(169, 1)	9.09247C(169, 1)	6.34848C(169, 1)
310.0 /	15.71730C(201, 1)	14.82351 (168, 1)	12.56543 (168, 1)	10.69344 (168, 1)	7.93062 (168, 1)
300.0 /	14.60599C(262, 1)	19.63553C(262, 1)	15.84319C(262, 1)	12.45588C(262, 1)	9.35231C(149, 1)
290.0 /	16.63316C(63, 1)	13.60285 (143, 1)	12.15621 (143, 1)	9.80648 (143, 1)	6.32294 (175, 1)
280.0 /	20.32608C(63, 1)	13.39139C(224, 1)	9.18837C(169, 1)	6.87090C(179, 1)	4.96325C(269, 1)
270.0 /	17.93744C(179, 1)	13.84576C(68, 1)	12.71111C(68, 1)	10.38255C(68, 1)	7.19315 (290, 1)
260.0 /	19.27538C(268, 1)	15.24873 (59, 1)	10.75673 (59, 1)	7.97978 (59, 1)	5.96538C(96, 1)
250.0 /	20.05580C(243, 1)	16.89442C(162, 1)	14.69692C(162, 1)	11.68603C(162, 1)	7.98361C(141, 1)
240.0 /	21.16702C(101, 1)	21.01108 (257, 1)	15.39663C(161, 1)	11.33270C(165, 1)	7.32995 (256, 1)
230.0 /	22.79889C(263, 1)	18.68895 (231, 1)	15.35399 (344, 1)	12.23903C(98, 1)	8.43452C(98, 1)
220.0 /	16.68700C(164, 1)	13.95897C(130, 1)	11.38105 (232, 1)	8.90359C(162, 1)	6.62583 (104, 1)
210.0 /	17.93405C(51, 1)	14.45418 (166, 1)	10.94491 (166, 1)	8.90120 (104, 1)	5.90128 (104, 1)
200.0 /	15.27329 (159, 1)	17.90749 (292, 1)	14.31068 (292, 1)	11.56619C(358, 1)	7.74576C(358, 1)
190.0 /	14.44889 (159, 1)	20.31221 (292, 1)	16.24821 (292, 1)	12.68433 (292, 1)	8.19913 (292, 1)
180.0 /	17.30130C(324, 1)	28.39426C(322, 1)	23.35402C(322, 1)	18.10257C(322, 1)	11.39574C(322, 1)
170.0 /	14.56947C(255, 1)	18.24837C(15, 1)	14.56139 (19, 1)	11.91566C(15, 1)	7.61002C(15, 1)
160.0 /	16.55231C(289, 1)	17.98381 (335, 1)	14.15124 (335, 1)	10.74160 (335, 1)	7.33557 (337, 1)
150.0 /	19.88930C(124, 1)	15.44073C(67, 1)	12.40067 (99, 1)	9.61153 (99, 1)	6.01570 (99, 1)
140.0 /	19.03252C(1, 1)	18.67200C(1, 1)	12.88969C(1, 1)	9.24691C(1, 1)	6.35742 (301, 1)
130.0 /	17.55907C(235, 1)	17.41656 (310, 1)	13.74577C(362, 1)	9.93402C(362, 1)	5.88394C(362, 1)
120.0 /	16.09976C(249, 1)	15.96997 (343, 1)	13.26172 (22, 1)	12.13630 (326, 1)	7.45034 (326, 1)
110.0 /	14.18128C(200, 1)	13.53783 (17, 1)	11.07361 (17, 1)	9.00661 (17, 1)	6.29594 (17, 1)
100.0 /	16.42967C(260, 1)	16.83282C(212, 1)	12.33769C(16, 1)	9.94738C(16, 1)	6.65636C(16, 1)
90.0 /	18.28581C(260, 1)	20.79793 (197, 1)	14.75335 (197, 1)	11.06546 (197, 1)	7.12738 (197, 1)
80.0 /	13.57901C(89, 1)	11.46224C(33, 1)	8.76751 (198, 1)	6.64503 (198, 1)	4.21640 (198, 1)
70.0 /	17.86746C(146, 1)	13.43729 (342, 1)	12.16071 (342, 1)	10.23323 (342, 1)	7.17200 (342, 1)
60.0 /	17.62842C(95, 1)	20.32826C(315, 1)	13.51505C(315, 1)	9.56849C(315, 1)	5.87149 (197, 1)
50.0 /	19.25867C(95, 1)	11.81627 (145, 1)	8.98665 (145, 1)	6.76951C(355, 1)	5.91680C(249, 1)
40.0 /	18.88171C(88, 1)	17.63438C(355, 1)	14.01138C(355, 1)	10.70484C(355, 1)	6.59669C(299, 1)
30.0 /	23.40498C(88, 1)	12.61362C(299, 1)	9.08534C(91, 1)	6.76077C(91, 1)	4.35976C(299, 1)
20.0 /	18.38206C(187, 1)	13.24276 (50, 1)	9.54634C(200, 1)	7.05830C(363, 1)	4.68602C(363, 1)
10.0 /	17.84439C(134, 1)	12.90855 (50, 1)	10.38223 (50, 1)	8.15772C(299, 1)	5.95853 (50, 1)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

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

* MAXIMUM VALUE EQUALS 28.39426 AND OCCURRED AT (1000.0, 180.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 5000.0

360.0 / 5.74702C(363, 1)
350.0 / 3.77339C(137, 1)
340.0 / 4.03041C(217, 1)
330.0 / 2.86352 (360, 1)
320.0 / 4.08185C(169, 1)
310.0 / 4.93441 (168, 1)
300.0 / 6.14746C(25, 1)
290.0 / 3.35137 (143, 1)
280.0 / 3.25041C(169, 1)
270.0 / 4.39767 (290, 1)
260.0 / 4.04755C(163, 1)
250.0 / 4.29534C(141, 1)
240.0 / 4.61256 (256, 1)
230.0 / 4.71181C(142, 1)
220.0 / 3.83690 (166, 1)
210.0 / 3.72040C(165, 1)
200.0 / 5.09881C(279, 1)
190.0 / 4.27986 (318, 1)
180.0 / 5.80039C(322, 1)
170.0 / 3.92570C(15, 1)
160.0 / 5.05649 (311, 1)
150.0 / 3.03023 (327, 1)
140.0 / 3.64947 (301, 1)
130.0 / 3.14646C(351, 1)
120.0 / 3.71440 (326, 1)
110.0 / 3.61989C(124, 1)
100.0 / 3.65172C(16, 1)
90.0 / 4.47637C(113, 1)
80.0 / 2.26844 (198, 1)
70.0 / 4.07887 (342, 1)
60.0 / 3.79414 (197, 1)
50.0 / 3.65993 (233, 1)
40.0 / 3.23761C(299, 1)
30.0 / 2.51589C(7, 1)
20.0 / 2.57083C(363, 1)
10.0 / 3.98052 (214, 1)

*** MID FLORIDA MINING CO., CONCENTRATIONS - AFTERBURNER, MET=76 ***

* 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	33.80077C	1 136	1000.0	310.0	26	23.35402C	1 322	1500.0	180.0
2	32.28612	1 340	1000.0	180.0	27	22.94118	1 336	1000.0	180.0
3	28.39426C	1 322	1000.0	180.0	28	22.79889C	1 263	500.0	230.0
4	27.99867	1 57	1000.0	200.0	29	22.78429C	1 228	500.0	340.0
5	27.61955C	1 315	500.0	60.0	30	22.66985C	1 161	1000.0	240.0
6	27.27957C	1 186	500.0	40.0	31	22.65317C	1 315	500.0	70.0
7	27.19753C	1 136	1500.0	310.0	32	22.52933C	1 98	1000.0	210.0
8	27.05244C	1 130	1000.0	230.0	33	22.52061C	1 96	500.0	160.0
9	27.01965C	1 186	500.0	30.0	34	22.48015C	1 119	500.0	240.0
10	25.97549	1 340	1500.0	180.0	35	22.47177C	1 212	500.0	100.0
11	25.86905	1 302	1000.0	180.0	36	22.39891C	1 225	500.0	250.0
12	25.34671C	1 130	500.0	230.0	37	22.31413C	1 152	500.0	350.0
13	25.33922	1 335	1000.0	180.0	38	22.19463	1 57	1500.0	200.0
14	25.28571	1 339	1000.0	180.0	39	22.15767C	1 350	1000.0	70.0
15	25.19777C	1 134	500.0	360.0	40	21.43382C	1 179	500.0	280.0
16	24.97575C	1 186	500.0	20.0	41	21.37617C	1 192	500.0	320.0
17	24.85500	1 318	1000.0	190.0	42	21.24809C	1 153	500.0	340.0
18	24.47270C	1 152	500.0	360.0	43	21.22263	1 333	1000.0	360.0
19	24.11896C	1 67	500.0	150.0	44	21.16702C	1 101	500.0	240.0
20	24.11201	1 233	1000.0	60.0	45	21.01108	1 257	1000.0	240.0
21	23.80132	1 158	1000.0	180.0	46	20.98552	1 284	1000.0	180.0
22	23.63898C	1 37	1000.0	90.0	47	20.86894C	1 67	500.0	140.0
23	23.63457	1 18	1000.0	140.0	48	20.85010C	1 136	2000.0	310.0
24	23.58372C	1 185	500.0	340.0	49	20.84123C	1 180	500.0	10.0
25	23.40498C	1 88	500.0	30.0	50	20.80333C	1 6	1000.0	180.0

ATTACHMENT 4

ACCEPTABLE AMBIENT LEVELS

contained 2/14/89

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 260, 261, 264, 265, 266, 270, and 271

[FRL -]

Burning of Hazardous Waste in Boilers and Industrial Furnaces

SEE PAGE 8
AND PAGES
50 - 53

AGENCY: Environmental Protection Agency.

ACTION: Supplement to proposed rule.

SUMMARY

On May 6, 1987, EPA proposed rules to control the burning of hazardous waste in boilers and industrial furnaces. Those rules would control emissions of products of incomplete combustion (PICs), toxic metals, and hydrogen chloride (HCl) as well as require a 99.99% destruction and removal efficiency for hazardous organic constituents in the waste. EPA has received substantial comments on the proposed rules, and as a result, is considering alternative approaches to several provisions of the proposed rule. These alternatives are consistent with the amendments to the hazardous waste incinerator standards that are being proposed in a separate notice in today's Federal Register.

The purpose of this notice is to request comment on alternate approaches to address the following issues: control of CO, metals, HCl, and particulate emissions, the small quantity burner exemption, the definition of waste that is indigenous when burned for reclamation (e.g., of metal values), revisions to the proposed definition of halogen acid furnaces, applicability of the metals and organic emissions controls to smelting furnaces involved in materials recovery, and the status under the Bevill amendments of residues from burning hazardous waste.

DATES: EPA will accept public comments on this notice until (60 days after publication).

The Agency notes that the comment period is reopened to address only the issues discussed

in this notice. The comment period on other issues addressed by the proposed rule closed on July 27, 1987.

Public hearings are scheduled as follows:

1. Dallas, TX (date TBA).
2. San Francisco, CA (date TBA).
3. Washington, DC (date TBA).

Request to present oral testimony should be made and received by the Agency prior to 10 days before each public hearing.

ADDRESSES: Comments should be sent to RCRA Docket Section (WH-562), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460 ATTN: Docket No. F-87-BBFP-FFFFF. The public docket is located in Room S-212 and is available for viewing from 9:00 am to 4:00 pm, Monday thru Friday, excluding legal holidays. Individuals interested in viewing the docket should call (202) 382-9327 for an appointment.

The hearings will be held at the following locations:

1. [Hotel, location and date to be supplied].
2. [Hotel, location and date to be supplied].
3. [Hotel, location and date to be supplied].

The hearings will begin at 9:00 am with registration at 8:30 am and will run until 4:30 pm unless concluded earlier than the scheduled time if there are no remaining comments. Anyone wishing to make a statement at the hearing should notify, in writing, Mr. William Richardson, Public Participation Office (WH-562), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. In addition, statements may be made, without notification, if time permits.

Persons wishing to make oral presentations should restrict them to 15 minutes and are encouraged to have written copies of their complete comments for inclusion in the official record.

FOR FURTHER INFORMATION CONTACT: RCRA HOTLINE, toll free, at (800) 424-9346 or at (202) 382-3000. Single copies of this notice are available by calling the RCRA Hotline. For technical information, contact Dwight Hlustick, Combustion Section, Waste Management Division, Office of Solid Waste, WH-565A, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460, Telephone: (202) 382-7917.

SUPPLEMENTARY INFORMATION

Part One: Background

Notice Outline

- I. Legal Authority
- II. Overview of this Notice
- III. Relationship of this Notice to the May 6, 1987, Proposed Rule
- IV. Relationship of this Notice to the Proposed Incinerator Revisions

Part Two: Alternatives Being Considered

I. Particulate Standards

- A. Justification for Particulate Standard
- B. Selection of Particulate Standard
 1. Apply the current NSPS for Steam Generators Burning Waste
 2. Apply the NSPS Applicable to the Source Category
 3. Apply the Existing Hazardous Waste Incinerator Standard
- C. Implementation of the Particulate Standard
 1. Preferred Option
 2. Alternative Options

II. Alternative Carbon Monoxide Standards

- A. Comments on Proposed CO Standard
- B. Summary of Alternative CO Limits
 1. Tier II Standards
 2. Request for Comment on an Alternative Tier II Approach
- C. Implementation of Alternate CO Standards
 1. Preferred Option
 2. Alternative Options

III. Alternative Toxic Metals Standards

- A. Overview
- B. Expanded List of Metals
- C. Revised Format for Screening Limits
- D. Screening Limits Provided by the RAG
- E. Implementation

1. Preferred Option
2. Alternative Options

IV. Alternative Hydrogen Chloride Standards

V. Revisions to the Small Quantity Burner Proposed Exemption

- A. Summary
- B. Revised Format for Exempt Quantities
- C. Improvements in the Risk Assessment Methodology
- D. Multiple Devices

VI. Definition of Indigenous Waste That Is Reclaimed

- A. Primary Industrial (Smelting) Furnaces in the Standard Industrial Classification (SIC) 33 Burning Wastes from SIC 33 Processes
- B. Primary Industrial Furnaces Burning Wastes Generated by Processes Other than SIC 33
- C. Secondary Smelting Furnaces

VII. Permitting Requirements

VIII. Halogen Acid Furnaces

IX. Regulation of Smelting Furnaces Involved in Materials Recovery

X. Status of Residues From Burning Hazardous Waste

- A. The Device Must Be a Beville Device
- B. Determining if the Residue's Character is Influenced by the Burning of Hazardous Waste
 1. Inorganic Contaminants
 2. Organic Contaminants
- C. Determining if an Increase is Significant

XI. Applicability of Regulation to Pyrolysis Units that Produce Fuel Gas for Boilers and Industrial Furnaces

XII. Applicability of the Sham Recycling Policy

Today's notice is organized into two parts. Part One contains background information that summarizes the major revisions which are being considered to the May 6, 1987, proposed rule. See 52 FR 16982. It also describes how today's rule relates to the proposed amendments to the incinerator standards presented today in a separate notice.

Part Two describes the alternative approaches the Agency is considering to address several issues. EPA is requesting comment on these alternatives because they differ substantially from the provisions proposed. The Agency will consider comments on the original proposal as well as on the alternatives discussed here in developing final rules for promulgation. The possible alternatives on which we are soliciting comment are adding a particulate standard for boilers and furnaces, and developing alternative standards for carbon monoxide (CO) (as a surrogate for products of incomplete combustion (PICs)), toxic metals, and hydrogen chloride (HCl). We also discuss in this part revisions being considered to the small quantity burner exemption to make the risk assessment used to establish the exempt quantities consistent with the assessment used to establish the metals, HCl, and PIC standards. In addition, we discuss in this part an expansion to the definition of waste that would be considered indigenous to particular types of devices when it is reclaimed. Industrial furnaces burning indigenous waste solely for reclamation (i.e., not for energy recovery or destruction) would not be subject to any of the proposed emission standards. Finally, we discuss here the Agency's current thinking on the applicability of the Bevill exclusion (see RCRA section 3001(b)(3)(A)(i)-(iii)) to residues from fossil fuel-fired boilers, cement kilns, and industrial furnaces that process ores and minerals, when such devices also burn or process hazardous waste.

PART ONE: BACKGROUND

I. Legal Authority

These regulations were proposed under the authority of Section 1006, 2002(a), 3001, 3004, 3005, and 3007 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, the Quiet Communities Act of 1978, the Solid Waste Disposal Act Amendments of 1980, and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. 6905, 6912(a), 6921, 6924, 6925, and 6927.

II. Overview of This Notice

The purpose of this notice is to request comments on various alternatives to the May 6, 1987, proposed rule. The alternative approaches that EPA is discussing today may be incorporated in the final rule.

In this notice, EPA is considering a number of changes to the May 6, 1987, proposed rule. Several changes are a result of comments received on the proposal. Others result from the Agency's revised risk assessment approach. As a result, EPA is considering: (1) adding a particulate emissions standard for boilers and industrial furnaces; (2) alternatives to the proposed carbon monoxide standard based on risks posed by emissions of products of incomplete combustion; (3) establishing emissions controls for six additional toxic metals; (4) revising the small quantity burner exemption to base it on an upgraded risk assessment; and (5) expanding the definition of indigenous waste as it applies to industrial furnaces involved in the reclamation of hazardous wastes.

III. Relationship of This Notice to the May 6, 1987, Proposed Rule

Comments on the alternative approaches discussed in today's notice will be considered as well as comments on the proposed rule in developing a final rule for promulgation. The basic methodology for developing the alternate standards discussed today is the same as used to develop the May 6, 1987, proposal. The conservative Screening Limits discussed today are based on the principle that ground level concentrations of pollutants emitted from a facility must not result in unacceptable health risk to a maximum exposed individual. Thus, these Screening Limits are similar in

concept to the Tier I – Tier III metals and HCl Standards proposed on May 6. The major change in the metals and HCl Standards would be to establish limits based on effective stack height (i.e., physical stack height plus plume rise) in lieu of the thermal capacity and type of the combustion device. This would result in less over-regulation because the limits would be established as a function of effective stack height, a key site-specific factor in dispersion of stack emissions.

The risk assessment methodology also remains basically the same as proposed on May 6, 1987. The only change is an upgrading of the air dispersion models based on the revisions to EPA-recommended air dispersion models.

Finally, we are updating Appendices A (reference air concentrations) and B (risk specific doses) originally published on May 6, 1987, and corrected on July 8, 1987, to reflect current health effects data. Both Appendices are provided in their entirety as appendices to this notice.

IV. Relationship of This Notice to the Proposed Hazardous Waste Incinerator Revisions

In a separate notice in today's Federal Register, EPA is proposing to revise the existing hazardous waste incinerator standards under Subpart O of 40 CFR Part 264. The alternative approaches discussed here are largely identical to the standards being proposed for incinerators. In fact, much background material used to develop the alternative approaches discussed here is discussed in more detail in the preamble to the proposed incinerator amendments. Therefore, the applicable sections of that preamble will be referenced throughout this notice. It is EPA's intention to make the standards for burning hazardous waste as uniform as possible given that the potential risks posed are virtually identical irrespective of the type of combustion device. This approach also should be easier for both the regulated community and EPA to implement.

Finally, we note that the notice of proposed rulemaking to revise the hazardous waste incinerator standards addresses two issues of particular interest to owners and operators of boilers and industrial furnaces. In that notice, EPA proposes to expand the definition of industrial furnace (which presently applies to only controlled flame devices) to include any of the currently designated devices that are supplied with heat energy by any means. Thus, for example, electric arc smelting furnaces would be included in the

definition. In addition, the Agency is requesting comment on an alternative regulatory approach whereby any enclosed thermal treatment device (e.g., boilers, industrial furnaces, incinerators) would be regulated under one set of standards under Subpart O of Parts 264 and 265 (rather than separately codified standards in Part 266, which are cross-referenced in §261.6).

APPENDIX A
Reference Air Concentrations (RACs)
For Threshold Constituents

Constituent	CAS No.	RAC ($\mu\text{g}/\text{m}^3$)
acetonitrile	75-05-8	10
acetophenone	98-86-2	100
acrolein	107-02-8	20
aluminum phosphide	20859-73-8	0.3
ethyl alcohol	107-18-6	5
antimony	7440-36-0	0.3
barium	7440-39-3	50
barium cyanide	542-62-1	50
bromomethane	74-83-9	0.8
calcium cyanide	592-01-8	30
carbon disulfide	75-15-0	200
2-chloro-1,3-butadiene	126-99-8	3
chromium III	16065-83-1	1000
copper cyanide	544-92-3	5
cresols	1319-77-3	50
cyanide (free)	57-12-15	20
cyanogen	480-19-5	30
di-n-butyl phthalate	84-74-2	100
o-dichlorobenzene	95-50-1	10
p-dichlorobenzene	106-46-7	10
dichlorodifluoromethane	75-71-8	200
2,4-dichlorophenol	120-83-2	3
diethyl phthalate	84-68-2	800
dimethoate	60-51-5	0.8
2,4-dinitrophenol	51-28-5	2
diphenylamine	122-39-4	20
endosulfan	115-29-7	0.05
endrin	72-20-8	0.3
fluorine	7782-41-4	50
formic acid	64-18-6	2000
hexachlorocyclopentadiene	77-47-4	5
hydrocyanic acid	74-90-8	20
hydrogen chloride	7647-01-1	15 ⁷
hydrogen sulfide	7783-06-4	3
isobutyl alcohol	78-83-1	300
lead	7439-92-1	0.09
mercury	7439-97-6	0.3
methomyl	16752-77-5	20
methoxychlor	72-43-5	50
methyl ethyl ketone	78-93-3	80
methyl parathion	298-00-0	0.3
nickel cyanide	557-19-7	20
nitric oxide	10102-43-9	100
nitrobenzene	98-95-3	0.8
pentachlorobenzene	608-93-5	0.8
pentachlorophenol	87-86-5	30
phenol	108-95-2	30
m-phenylenediamine	108-45-2	5
phenylmercuric acetate	62-38-4	0.075
phosphine	7803-51-2	0.3
potassium cyanide	151-50-8	50
potassium silver cyanide	506-61-6	200

APPENDIX A (cont'd)
Reference Air Concentrations (RACs)
For Threshold Constituents

Constituent	CAS No.	RAC ($\mu\text{g}/\text{m}^3$)
pyridine	110-86-1	1
selenious acid	7783-60-8	3
selenourea	630-10-4	5
silver	7440-22-4	3
silver cyanide	506-84-9	100
sodium cyanide	143-33-9	30
strychnine	57-24-9	0.3
1,2,4,5-tetrachlorobenzene	96-94-3	0.3
2,3,4,6-tetrachlorophenol	58-90-2	30
tetraethyl lead	78-00-2	0.0001
thallic oxide	1314-32-5	0.3
thallium	7440-28-0	0.5
thallium (I) acetate	563-68-8	0.5
thallium (I) carbonate	6533-73-9	0.3
thallium (I) chloride	7791-12-0	0.3
thallium (I) nitrate	10102-45-1	0.5
thallium selenite	12039-52-0	0.5
thallium (I) sulfate	7446-18-6	0.075
toluene	108-88-3	300
1,2,4-trichlorobenzene	120-82-1	20
trichloromonofluoromethane	75-69-4	300
2,4,5-trichlorophenol	95-95-4	100
vanadium pentoxide	1314-62-1	20

*In addition, short-term exposure RAC applies to HCl: a maximum ground level concentration of 150 $\mu\text{g}/\text{m}^3$ over a three minute period.

Hourly $\times 1.64 = 3\text{-min}$

APPENDIX B
Unit Risks for Carcinogenic Constituents

Constituent	CAS No.	Unit Risk (m3/μg)
acrylamide	79-06-1	1.1E-03
acrylonitrile	107-13-1	6.8E-05
aldrin	309-00-2	4.9E-03
aniline	62-53-3	7.4E-06
arsenic	7440-38-2	4.3E-03
benz(a)anthracene	58-55-3	6.9E-04
benzene	71-43-2	8.3E-06
benzidine	92-87-5	6.7E-02
benzo(a)pyrene	50-32-8	3.3E-03
beryllium	7440-41-7	2.4E-04 ⁰³
bis(2-chloroethyl)ether	111-44-4	3.3E-04
bis(chloromethyl)ether	542-88-1	6.2E-02
bis(2-ethylhexyl)phthalate	117-81-7	2.4E-07
1,3-butadiene	106-99-0	2.8E-04
cadmium	7440-43-9	1.8E-03
carbon tetrachloride	58-23-5	1.5E-05
chlordane	57-74-9	3.7E-04
chloroform	67-68-3	2.3E-05
chloromethane	74-87-3	3.6E-06
chloromethyl methyl ether	107-30-2	
chromium VI	7440-47-3	1.2E-02
DOT	50-29-3	9.7E-05
dibenz(a,h)anthracene	53-70-3	1.4E-02
1,2-dibromo-3-chloropropane	96-12-8	6.3E-03
1,2-dibromoethane	106-93-4	2.2E-04
1,1-dichloroethane	75-34-3	2.6E-05
1,2-dichloroethane	107-06-2	2.6E-05
1,1-dichloroethylene	75-35-4	5.0E-05
1,3-dichloropropene	542-75-8	3.5E-01
dieldrin	60-57-1	4.6E-03
diethylstilbestrol	58-53-1	1.4E-01
dimethylnitrosamine	62-75-9	1.4E-02
2,4-dinitrotoluene	121-14-2	8.8E-05
1,2-diphenylhydrazine	122-66-7	2.2E-04
1,4-dioxane	123-91-1	1.4E-06
epichlorohydrin	106-89-8	1.2E-06
ethylene oxide	75-21-8	1.0E-04
ethylene dibromide	106-93-4	2.2E-04
formaldehyde	50-00-0	1.3E-05
heptachlor	76-44-8	1.3E-03
heptachlor epoxide	1024-57-3	2.6E-03
hexachlorobenzene	118-74-1	4.9E-04
hexachlorobutadiene	87-68-3	2.0E-05
alpha-hexachlorocyclohexane	319-84-6	1.8E-03
beta-hexachlorocyclohexane	319-85-7	5.3E-04

$(\frac{1}{\text{Unit Risk}}) \times \text{Risk} = \text{AAL}$

APPENDIX B (cont'd)
Unit Risks for Carcinogenic Constituents

Constituent	CAS No.	Unit Risk (m3/μg)
gamma-hexachlorocyclohexane	58-89-9	3.8E-04
hexachlorocyclohexane, technical	—	5.1E-04
hexachlorodibenzo-p-dioxin (1,2 mixture)	—	1.3E+00
hexachloroethane	67-72-1	4.0E-06
hydrazine	302-01-2	2.9E-03
hydrazine sulfate	302-01-2	2.9E-03
3-methylcholanthrene	58-49-5	2.7E-03
methyl hydrazine	60-34-4	3.1E-04
methylene chloride	75-09-2	4.1E-06
4,4'-methylene-bis-2-chloroaniline	101-14-4	4.7E-05
nickel	7440-02-0	2.4E-04
nickel refinery dust	7440-02-0	2.4E-04
nickel subsulfide	12035-72-2	4.8E-04
2-nitropropane	79-48-9	2.7E-02
n-nitroso-n-butylamine	924-16-3	1.6E-03
n-nitroso-n-methylurea	684-93-5	3.5E-01
n-nitrosodiethylamine	55-18-5	4.3E-02
n-nitrosopyrrolidine	930-55-2	6.1E-04
pentachloronitrobenzene	82-68-8	7.3E-05
PCBs	1336-36-3	1.2E-03
pronamide	23950-58-5	4.6E-06
reserpine	50-55-5	3.0E-03
2,3,7,8-tetrachloro-dibenzo-p-dioxin	1746-01-6	4.5E+01
1,1,2,2-tetrachloroethane	79-34-5	5.8E-05
tetrachloroethylene	127-18-4	4.8E-07
thiourea	62-56-6	5.5E-04
1,1,2-trichloroethane	79-00-5	1.6E-05
trichloroethylene	79-01-8	1.3E-06
2,4,6-trichlorophenol	88-06-2	5.7E-06
toxaphene	8001-35-2	3.2E-04
vinyl chloride	75-01-4	7.1E-06

ATTACHMENT 5

DESCRIPTION OF MM5 TEST METHOD

METHOD 0010

MODIFIED METHOD 5 SAMPLING TRAIN

1.0 SCOPE AND APPLICATION

1.1 This method is applicable to the determination of Destruction and Removal Efficiency (DRE) of semivolatile Principal Organic Hazardous Compounds (POHCs) from incineration systems (PHS, 1967). This method also may be used to determine particulate emission rates from stationary sources as per EPA Method 5 (see References at end of this method).

2.0 SUMMARY OF METHOD

2.1 Gaseous and particulate pollutants are withdrawn from an emission source at an isokinetic sampling rate and are collected in a multicomponent sampling train. Principal components of the train include a high-efficiency glass- or quartz-fiber filter and a packed bed of porous polymeric adsorbent resin. The filter is used to collect organic-laden particulate materials and the porous polymeric resin to adsorb semivolatile organic species. Semivolatile species are defined as compounds with boiling points $>100^{\circ}\text{C}$.

2.2 Comprehensive chemical analyses of the collected sample are conducted to determine the concentration and identity of the organic materials.

3.0 INTERFERENCES

3.1 Oxides of nitrogen (NO_x) are possible interferents in the determination of certain water-soluble compounds such as dioxane, phenol, and urethane; reaction of these compounds with NO_x in the presence of moisture will reduce their concentration. Other possibilities that could result in positive or negative bias are (1) stability of the compounds in methylene chloride, (2) the formation of water-soluble organic salts on the resin in the presence of moisture, and (3) the solvent extraction efficiency of water-soluble compounds from aqueous media. Use of two or more ions per compound for qualitative and quantitative analysis can overcome interference at one mass. These concerns should be addressed on a compound-by-compound basis before using this method.

4.0 APPARATUS AND MATERIALS

4.1 Sampling train:

4.1.1 A schematic of the sampling train used in this method is shown in Figure 1. This sampling train configuration is adapted from EPA Method 5 procedures, and, as such, the majority of the required equipment

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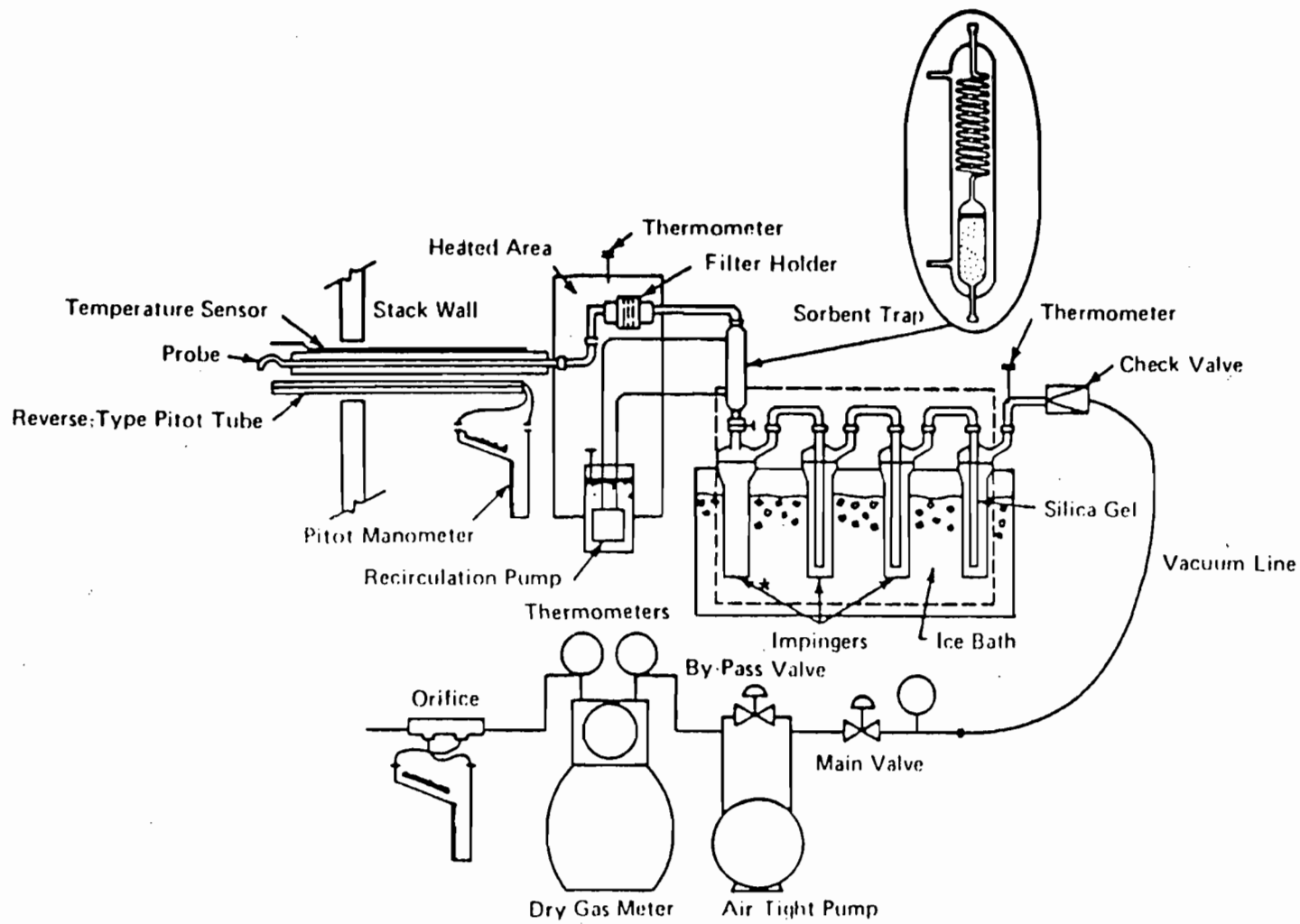


Figure 1. Modified Method 5 Sampling Train.

is identical to that used in EPA Method 5 determinations. The new components required are a condenser coil and a sorbent module, which are used to collect semivolatile organic materials that pass through the glass- or quartz-fiber filter in the gas phase.

4.1.2 Construction details for the basic train components are given in APTD-0581 (see Martin, 1971, in Section 13.0, References); commercial models of this equipment are also available. Specifications for the sorbent module are provided in the following subsections. Additionally, the following subsections list changes to APTD-0581 and identify allowable train configuration modifications.

4.1.3 Basic operating and maintenance procedures for the sampling train are described in APTD-0576 (see Rom, 1972, in Section 13.0, References). As correct usage is important in obtaining valid results, all users should refer to APTD-0576 and adopt the operating and maintenance procedures outlined therein unless otherwise specified. The sampling train consists of the components detailed below.

4.1.3.1 Probe nozzle: Stainless steel (316) or glass with sharp, tapered (30° angle) leading edge. The taper shall be on the outside to preserve a constant I.D. The nozzle shall be buttonhook or elbow design and constructed from seamless tubing (if made of stainless steel). Other construction materials may be considered for particular applications. A range of nozzle sizes suitable for isokinetic sampling should be available in increments of 0.16 cm (1/16 in.), e.g., 0.32-1.27 cm (1/8-1/2 in.), or larger if higher volume sampling trains are used. Each nozzle shall be calibrated according to the procedures outlined in Paragraph 9.1.

4.1.3.2 Probe liner: Borosilicate or quartz-glass tubing with a heating system capable of maintaining a gas temperature of $120 \pm 14^\circ\text{C}$ ($248 \pm 25^\circ\text{F}$) at the exit end during sampling. (The tester may opt to operate the equipment at a temperature lower than that specified.) Because the actual temperature at the outlet of the probe is not usually monitored during sampling, probes constructed according to APTD-0581 and utilizing the calibration curves of APTD-0576 (or calibrated according to the procedure outlined in APTD-0576) are considered acceptable. Either borosilicate or quartz-glass probe liners may be used for stack temperatures up to about 480°C (900°F). Quartz liners shall be used for temperatures between 480 and 900°C (900 and 1650°F). (The softening temperature for borosilicate is 820°C (1508°F), and for quartz 1500°C (2732°F).) Water-cooling of the stainless steel sheath will be necessary at temperatures approaching and exceeding 500°C .

4.1.3.3 Pitot tube: Type S, as described in Section 2.1 of EPA Method 2, or other appropriate devices (Vollaro, 1976). The pitot tube shall be attached to the probe to allow constant monitoring of the stack-gas velocity. The impact (high-pressure) opening plane of the pitot tube shall be even with or above the nozzle entry plane (see EPA Method 2, Figure 2-6b) during sampling. The Type S pitot tube assembly shall have a known coefficient, determined as outlined in Section 4 of EPA Method 2.

4.1.3.4 Differential pressure gauge: Inclined manometer or equivalent device as described in Section 2.2 of EPA Method 2. One manometer shall be used for velocity-head (ΔP) readings and the other for orifice differential pressure (ΔH) readings.

4.1.3.5 Filter holder: Borosilicate glass, with a glass frit filter support and a sealing gasket. The sealing gasket should be made of materials that will not introduce organic material into the gas stream at the temperature at which the filter holder will be maintained. The gasket shall be constructed of Teflon or materials of equal or better characteristics. The holder design shall provide a positive seal against leakage at any point along the filter circumference. The holder shall be attached immediately to the outlet of the cyclone or cyclone bypass.

4.1.3.6 Filter heating system: Any heating system capable of maintaining a temperature of $120 \pm 14^\circ\text{C}$ ($248 \pm 25^\circ\text{F}$) around the filter holder during sampling. Other temperatures may be appropriate for particular applications. Alternatively, the tester may opt to operate the equipment at temperatures other than that specified. A temperature gauge capable of measuring temperature to within 3°C (5.4°F) shall be installed so that the temperature around the filter holder can be regulated and monitored during sampling. Heating systems other than the one shown in APTD-0581 may be used.

4.1.3.7 Organic sampling module: This unit consists of three sections, including a gas-conditioning section, a sorbent trap, and a condensate knockout trap. The gas-conditioning system shall be capable of conditioning the gas leaving the back half of the filter holder to a temperature not exceeding 20°C (68°F). The sorbent trap shall be sized to contain approximately 20 g of porous polymeric resin (Rohm and Haas XAD-2 or equivalent) and shall be jacketed to maintain the internal gas temperature at $17 \pm 3^\circ\text{C}$ ($62.5 \pm 5.4^\circ\text{F}$). The most commonly used coolant is ice water from the impinger ice-water bath, constantly circulated through the outer jacket, using rubber or plastic tubing and a peristaltic pump. The sorbent trap should be outfitted with a glass well or depression, appropriately sized to accommodate a small thermocouple in the trap for monitoring the gas entry temperature. The condensate knockout trap shall be of sufficient size to collect the condensate following gas conditioning. The organic module components shall be oriented to direct the flow of condensate formed vertically downward from the conditioning section, through the adsorbent media, and into the condensate knockout trap. The knockout trap is usually similar in appearance to an empty impinger directly underneath the sorbent module; it may be oversized but should have a shortened center stem (at a minimum, one-half the length of the normal impinger stems) to collect a large volume of condensate without bubbling and overflowing into the impinger train. All surfaces of the organic module wetted by the gas sample shall be fabricated of borosilicate glass, Teflon, or other inert materials. Commercial versions of the

complete organic module are not currently available, but may be assembled from commercially available laboratory glassware and a custom-fabricated sorbent trap. Details of two acceptable designs are shown in Figures 2 and 3 (the thermocouple well is shown in Figure 2).

4.1.3.8 Impinger train: To determine the stack-gas moisture content, four 500-mL impingers, connected in series with leak-free ground-glass joints, follow the knockout trap. The first, third, and fourth impingers shall be of the Greenburg-Smith design, modified by replacing the tip with a 1.3-cm (1/2-in.) I.D. glass tube extending about 1.3 cm (1/2 in.) from the bottom of the outer cylinder. The second impinger shall be of the Greenburg-Smith design with the standard tip. The first and second impingers shall contain known quantities of water or appropriate trapping solution. The third shall be empty or charged with a caustic solution, should the stack gas contain hydrochloric acid (HCl). The fourth shall contain a known weight of silica gel or equivalent desiccant.

4.1.3.9 Metering system: The necessary components are a vacuum gauge, leak-free pump, thermometers capable of measuring temperature to within 3°C (5.4°F), dry-gas meter capable of measuring volume to within 1%, and related equipment, as shown in Figure 1. At a minimum, the pump should be capable of 4 cfm free flow, and the dry-gas meter should have a recording capacity of 0-999.9 cu ft with a resolution of 0.005 cu ft. Other metering systems capable of maintaining sampling rates within 10% of isokineticity and of determining sample volumes to within 2% may be used. The metering system must be used in conjunction with a pitot tube to enable checks of isokinetic sampling rates. Sampling trains using metering systems designed for flow rates higher than those described in APTD-0581 and APTD-0576 may be used, provided that the specifications of this method are met.

4.1.3.10 Barometer: Mercury, aneroid, or other barometer capable of measuring atmospheric pressure to within 2.5 mm Hg (0.1 in. Hg). In many cases the barometric reading may be obtained from a nearby National Weather Service station, in which case the station value (which is the absolute barometric pressure) is requested and an adjustment for elevation differences between the weather station and sampling point is applied at a rate of minus 2.5 mm Hg (0.1 in. Hg) per 30-m (100 ft) elevation increase (vice versa for elevation decrease).

4.1.3.11 Gas density determination equipment: Temperature sensor and pressure gauge (as described in Sections 2.3 and 2.4 of EPA Method 2), and gas analyzer, if necessary (as described in EPA Method 3). The temperature sensor ideally should be permanently attached to the pitot tube or sampling probe in a fixed configuration such that the tip of the sensor extends beyond the leading edge of the probe sheath and does not touch any metal.

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Date September 1986

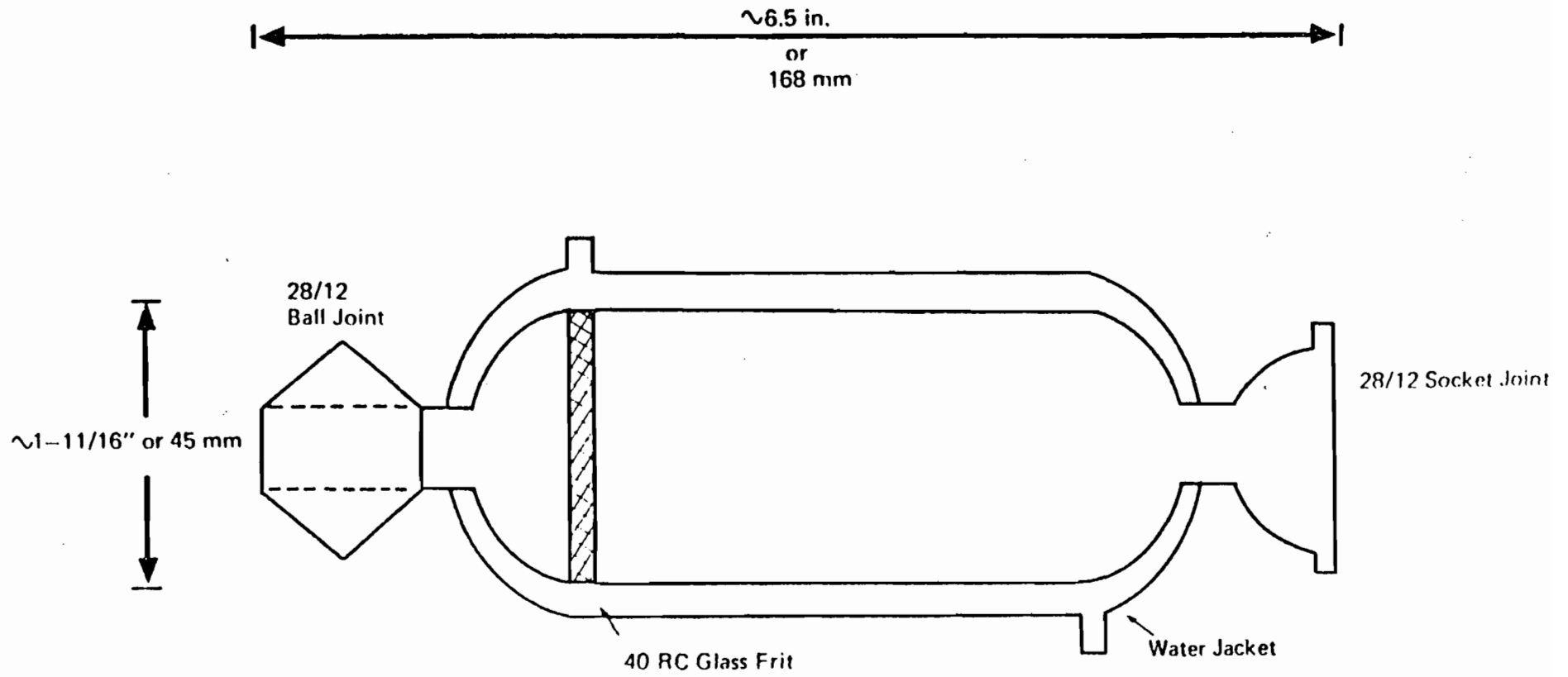


Figure 2. Adsorbent Sampling System.

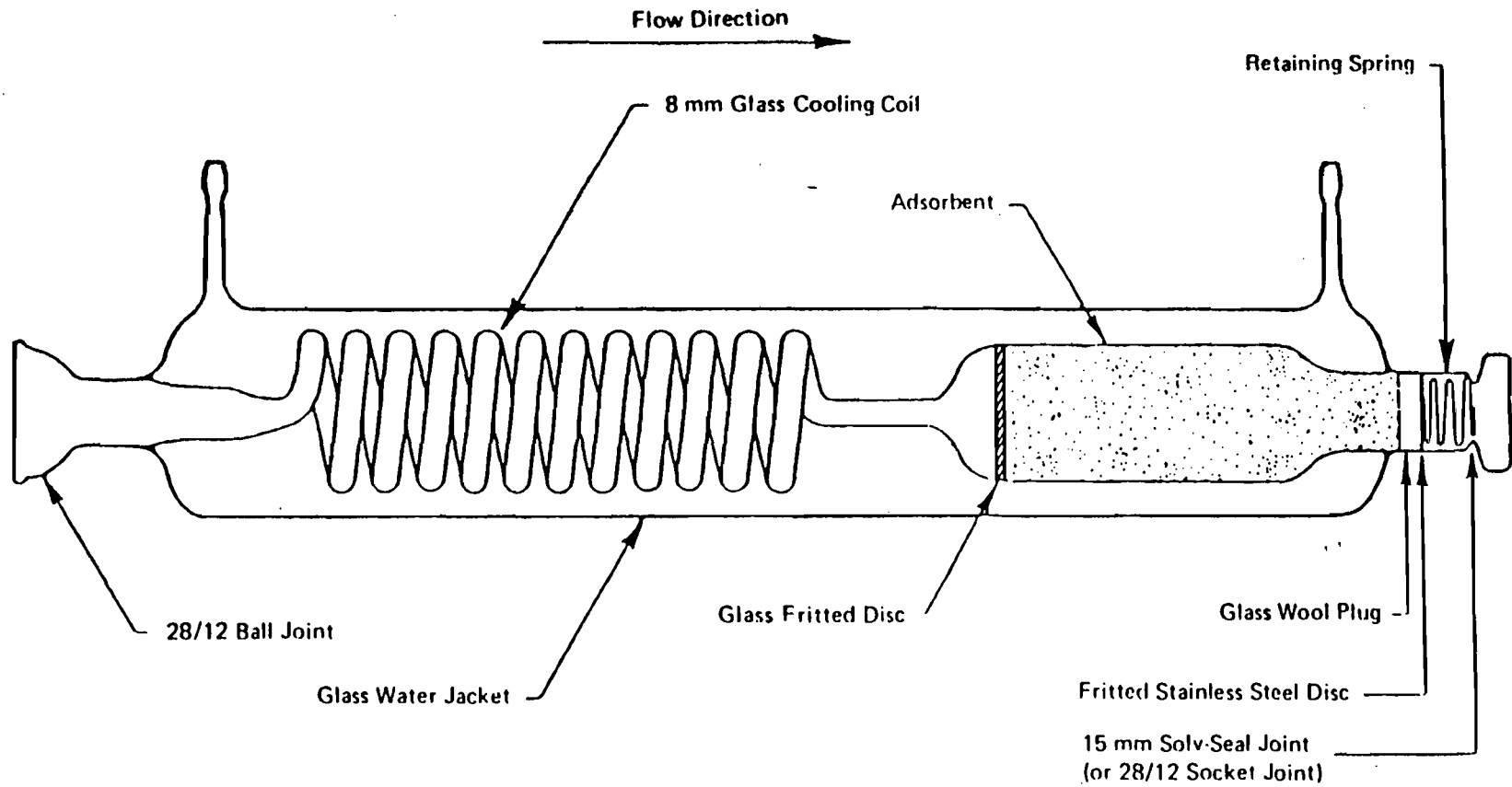


Figure 3. Adsorbent Sampling System.

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 Date September 1986

Alternatively, the sensor may be attached just prior to use in the field. Note, however, that if the temperature sensor is attached in the field, the sensor must be placed in an interference-free arrangement with respect to the Type S pitot tube openings (see EPA Method 2, Figure 2-7). As a second alternative, if a difference of no more than 1% in the average velocity measurement is to be introduced, the temperature gauge need not be attached to the probe or pitot tube.

4.1.3.12 Calibration/field-preparation record: A permanently bound laboratory notebook, in which duplicate copies of data may be made as they are being recorded, is required for documenting and recording calibrations and preparation procedures (i.e., filter and silica gel tare weights, clean XAD-2, quality assurance/quality control check results, dry-gas meter, and thermocouple calibrations, etc.). The duplicate copies should be detachable and should be stored separately in the test program archives.

4.2 Sample Recovery:

4.2.1 Probe liner: Probe nozzle and organic module conditioning section brushes; nylon bristle brushes with stainless steel wire handles are required. The probe brush shall have extensions of stainless steel, Teflon, or inert material at least as long as the probe. The brushes shall be properly sized and shaped to brush out the probe liner, the probe nozzle, and the organic module conditioning section.

4.2.2 Wash bottles: Three. Teflon or glass wash bottles are recommended; polyethylene wash bottles should not be used because organic contaminants may be extracted by exposure to organic solvents used for sample recovery.

4.2.3 Glass sample storage containers: Chemically resistant, borosilicate amber and clear glass bottles, 500-mL or 1,000-mL. Bottles should be tinted to prevent action of light on sample. Screw-cap liners shall be either Teflon or constructed so as to be leak-free and resistant to chemical attack by organic recovery solvents. Narrow-mouth glass bottles have been found to exhibit less tendency toward leakage.

4.2.4 Petri dishes: Glass, sealed around the circumference with wide (1-in.) Teflon tape, for storage and transport of filter samples.

4.2.5 Graduated cylinder and/or balances: To measure condensed water to the nearest 1 mL or 1 g. Graduated cylinders shall have subdivisions not >2 mL. Laboratory triple-beam balances capable of weighing to ± 0.5 g or better are required.

4.2.6 Plastic storage containers: Screw-cap polypropylene or polyethylene containers to store silica gel.

4.2.7 Funnel and rubber policeman: To aid in transfer of silica gel to container (not necessary if silica gel is weighed in field).

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3. Article Addressed to:
 Mr. David B. Kibler, Exec. Dir.
 MFM Environmental, Inc.
 3300 Southwest 34th Avenue
 Suite 152
 Ocala, FL 32674

4. Article Number
 P 274 010 421

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 *R. Daugherty*

6. Signature - Agent
 X

7. Date of Delivery
 4/7/89

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

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

PS Form 3800, June 1985 * U.S.G.P.O. 1985-480-794	Sent to	Mr. David B. Kibler, MFM
	Street and No.	3300 Southwest 34th Ave,
	P.O., State and ZIP Code	Ocala, FL 32674
	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: 4-6-89 Permit: AC 42-162296



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

April 5, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. David B. Kibler, Executive Director
MFM Environmental, Inc.
3300 Southwest 34th Avenue
Suite 152
Ocala, Florida 32674

Dear Mr. Kibler:

RE: MFM Environmental's Construction Permit Application Number
AC 42-162296 For A Waste Gas Incinerator

We are in the process of evaluating the permit application that you submitted. In order to continue our review of the application for a permit to construct the proposed waste gas incinerator, we still need the information discussed at our meeting of March 14, 1989. The outstanding information includes the discussion of data that will be monitored to insure that the flue gases from the soil dryer are being completely combusted, the amended calculations, and the ambient air quality modeling analysis. We received your check for the application fee on March 16, 1989, and the proposed permit language about the soil contaminants to be handled in the soil dryer on April 3, 1989.

Our formal review of the application will continue upon receipt of the outstanding information. If you have any questions or wish to meet with us, please call Mr. Bill Thomas at (904) 488-1344 or write to me at the above address.

Sincerely,

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

CHF/mdh

cc: J. Koogler, P.E.
W. Butler
C. Collins

PM
3-31-89
Dowell, FL

file copy
3300 S.W. 34th Avenue, Suite 152
Ocala, Florida 32674
(904) 854-0070



MFM Environmental, Inc.

RECEIVED

APR 3 1989

March 31, 1989

Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

DER-BAQM

Attention: Mike Harley

Mike:

Enclosed is our suggestion for language to describe the organics which MFM considers feed stock for the rotary kiln / afterburner system during decontaminations. We suggest inserting this language in place of the descriptive paragraph on 2(a) of the permit application and carrying the verbiage consistently into the final permit.

cordially:

William "Rusty" Butler
General Manager

cc: David Kibler
Dr. John Koogler
John Chieffalo
Ed Curtis
file

*copied: M. Harley
C. Collins
CAF/BT*

WFM
3300 SOUTHWEST 34TH AVENUE, SUITE 152 OCALA, FLORIDA 32674

CERTIFIED
P 788 985 405
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**RETURN RECEIPT
REQUESTED**

Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241



Attention: Mike Harley

RECEIVED

APR 3 1989

DER-BAQM March 31, 1989

SUGGESTED PERMIT LANGUAGE

A 50MM BTU afterburner to destroy volatile and semi-volatile organic compounds in the exhaust gases of an existing clay dryer when the dryer is used to thermally process hydrocarbons not listed in 40 C.F.R. 261.31, 261.32, 261.33 and not showing hazardous characteristics of corrosivity, reactivity, EP Toxicity. Kiln processing rates shall be limited to 40 tons/hr of materials containing up to 200 ppm total organic chlorides.

A handwritten signature in black ink, appearing to be a stylized name, possibly "J. Smith", written over a horizontal line.

Best Available Copy

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City LOCAL FL		State FL		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) 2600 Blair Stone Road							
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			State								
			ZIP Required								
SERVICES		DELIVERY AND SPECIAL HANDLING		PACKAGES	WEIGHT IN POUNDS ONLY	YOUR DECLARED VALUE	OVER SIZE	Emp. No.	Date	Federal Express Use	
1 <input type="checkbox"/> PRIORITY 1 Overnight Delivery	6 <input checked="" type="checkbox"/> OVERNIGHT LETTER*	1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box 1)						<input type="checkbox"/> Cash Received		Base Charges	
2 <input type="checkbox"/> COURIER-PAK OVERNIGHT ENVELOPE*	7 <input type="checkbox"/>	2 <input checked="" type="checkbox"/> DELIVER WEEKDAY						<input type="checkbox"/> Return Shipment		Declared Value Charge	
3 <input type="checkbox"/> OVERNIGHT BOX	8 <input type="checkbox"/>	3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge)						<input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del. <input type="checkbox"/> Chg. To Hold		Other 1	
4 <input type="checkbox"/> OVERNIGHT TUBE	9 <input type="checkbox"/>	4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge)						Street Address		Other 2	
5 <input type="checkbox"/> STANDARD AIR Delivery not later than second business day	10 <input type="checkbox"/>	5 <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge) (Release Signature Not Applicable)						City	State	Zip	Total Charges
		6 <input type="checkbox"/> DRY ICE Lbs.						Received By:			
		7 <input type="checkbox"/> OTHER SPECIAL SERVICE						Date/Time Received	FedEx Employee Number	PART #111800 REVISION DATE 10/88 PRINTED IN U.S.A. FXEM	
		8 <input type="checkbox"/>						5 Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.			009 © 1988 F.E.C.
		9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)									
		10 <input type="checkbox"/>						Date/Time for FEDEX Use			
		11 <input type="checkbox"/>						Release Signature:			
		12 <input type="checkbox"/> HOLIDAY DELIVERY (if offered) (Extra charge)									

Best Available Copy

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600
 PERMIT DATE 03/89
 PERMIT TYPE
 PERMIT CLASS

031
 Air Quality

3300 Southwest 34th Ave., Suite 152
Ocala, Florida 32674

SUITE 152



MFM INDUSTRIES
 3300 S.W. 34th Avenue, Suite 152
 Ocala, Florida 32674
 AC 904-854-0070

THE CITIZENS & SOUTHERN NATIONAL BANK
 ATLANTA, GEORGIA
 No. 15288

0930
\$500.00

PAY TO THE ORDER OF
 DATE: MARCH 15, 1989
 AMOUNT: \$500.00*
 FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
 2600 BLAIR STONE ROAD
 TWIN TOWERS OFFICE BUILDING
 TALLAHASSEE, FL 32399-2400
Cal W. Caltus

PLEASE DETACH BEFORE DEPOSITING

MEMO	INVOICE DATE	INVOICE NUMBER	AMOUNT	DISCOUNT	NET AMOUNT
PERMIT APPLICATION FEE FOR MFM AFTERBURNER CONSTRUCTION PERMIT CK# 15288 (03/15/ 89)					\$500.00*

MFM INDUSTRIES, INC.
 3300 S.W. 34th AVE. — SUITE 152
 OCALA, FLORIDA 32674

RECEIVED
 DER - MAIL ROOM
 1989 MAR 16 PM 1:27



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 290-88-01

March 7, 1989

RECEIVED

MAR 8 1989

DER-BAQM

Mr. Steve Smallwood
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Construction Permit Application
Mid-Florida Mining Co.
Lowell, Florida

Dear Mr. Smallwood:

Enclosed are four (4) copies of the permit application to construct an afterburner to destroy hydrocarbon compounds removed from contaminated soils during soil remediation at the Mid-Florida Mining facility.

We would greatly appreciate the opportunity to meet with you after you have had a chance to review the enclosed application.

In the meantime, if you have any questions, please give me a call.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D, P.E.

JBK:mab

cc: Mr. David B. Kibler, MFM Environmental, Inc.

Best Available Copy

		AIRBILL <small>USE THIS AIRBILL FOR DOMESTIC SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII. USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO. QUESTIONS? CALL 800-238-5355 TOLL FREE.</small>		PACKAGE TRACKING NUMBER 9174192285									
Date 3/7/77		RECIPIENT'S COPY											
From (Your Name) Please Print John Kiebler		Your Phone Number (Very Important) ()		To (Recipient's Name) Please Print Steve Smallwood									
Company GLER & ASSOC		Department/Floor No.		Company FEDEX									
Street Address 4 NW 13TH ST		City DAVIE FL		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.D. Zip Codes.) 2601 W 17th Street Davie									
State FL		ZIP Required 32605		City TAMPA FL									
State FL		ZIP Required 33399		State FL									
YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.) 290578-01				IF HOLD FOR PICK-UP, Print FEDEX Address Here Street Address City State ZIP Required									
PAYMENT <input type="checkbox"/> Bill Sender <input type="checkbox"/> Bill Recipient's FedEx Acct. No. <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. <input type="checkbox"/> Bill Credit Card <input type="checkbox"/> Cash				City State ZIP Required									
4 SERVICES		DELIVERY AND SPECIAL HANDLING		Emp. No. Date <input type="checkbox"/> Cash Received <input type="checkbox"/> Return Shipment <input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del. <input type="checkbox"/> Chg. To Hold Street Address City State Zip Received By: X Date/Time Received FedEx Employee Number									
1 <input type="checkbox"/> PRIORITY 1 Overnight Delivery 2 <input checked="" type="checkbox"/> COURIER-PAK OVERNIGHT ENVELOPE* 3 <input type="checkbox"/> OVERNIGHT BOX 4 <input type="checkbox"/> OVERNIGHT TUBE 5 <input type="checkbox"/> STANDARD AIR Delivery not later than second business day *Declared Value Limit \$100.		1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box #) 2 <input checked="" type="checkbox"/> DELIVER WEEKDAY 3 <input checked="" type="checkbox"/> DELIVER SATURDAY (Extra charge) 4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge) 5 <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge) (Release Signature Not Applicable) 6 <input type="checkbox"/> DRY ICE Lbs. 7 <input type="checkbox"/> OTHER SPECIAL SERVICE 8 <input type="checkbox"/> 9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge) 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> HOLIDAY DELIVERY (If offered) (Extra charge)		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>PACKAGES</th> <th>WEIGHT</th> <th>YOUR DECLARED VALUE</th> <th>OVER SIZE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">Total</td> <td style="text-align: center;">Total</td> <td></td> </tr> </tbody> </table> Received At <input type="checkbox"/> Regular Stop <input checked="" type="checkbox"/> On-Call Stop <input type="checkbox"/> Drop Box <input type="checkbox"/> B.S.G. <input type="checkbox"/> Station FEDEX Corp. Employee No. 5 Date/Time for FEDEX Use		PACKAGES	WEIGHT	YOUR DECLARED VALUE	OVER SIZE	Total	Total	Total	
PACKAGES	WEIGHT	YOUR DECLARED VALUE	OVER SIZE										
Total	Total	Total											
				Federal Express Use Base Charges Declared Value Charge Other 1 Other 2 Total Charges PART#111800 REVISION DATE 1/88 PRINTED IN U.S.A. SRCEF <div style="border: 1px solid black; padding: 2px; display: inline-block; font-weight: bold;">009</div> © 1988 F.E.C.									

\$ 500 pd
3-16-89
Receipt # 117603

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION



RECEIVED

MAR 8 1989

DER-BAQM

APPLICATION TO ~~RENEW~~/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Afterburner [X] New¹ [] Existing¹

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

COMPANY NAME: Mid-Florida Mining Co. COUNTY: Marion

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) Afterburner for Soil

SOURCE LOCATION: Street S.R. 329 @ SCL R.R. City Lowell Processor Lowell

UTM: East (17) 384.5 km North 3245.3 km

Latitude 29 ° 19 ' 52 "N Longitude 82 ° 11 ' 28 "W

APPLICANT NAME AND TITLE: David B. Kibler, IV, President

APPLICANT ADDRESS: Mid-Florida Mining Co., P.O. Box 68, Lowell, Florida 32663

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Mid-Florida Mining Co.

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: [Signature]

David B. Kibler, IV, President
Name and Title (Please Type)

Date: _____ Telephone No. 904/854-0070

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

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

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

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



Signed [Signature]
John B. Koogler, Ph.D., P.E.
Name (Please Type)

Koogler & Associates, Environmental Services
Company Name (Please Type)

4014 N.W. 13th Street, Gainesville, Florida 32609
Mailing Address (Please Type)

Florida Registration No. 12925 Date: 3/7/89 Telephone No. (904) 377-5822

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 page 2a of 12.

B. Schedule of project covered in this application (Construction Permit Application Only)
Start of Construction April 1989 Completion of Construction July 1989

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

Afterburner system cost, including the combustion chamber, quench section, burner and fuel supply, ducts and fans, and electrical, will be in excess of \$100,000.

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

No existing permit for afterburner system.
Permit AC42-113787 for clay dryer; issued 4/19/86 and expiring 2/28/90.

SECTION II: A.

A 50 MMBTU/hr afterburner is to be added to an existing clay dryer (AC42-113787) to destroy volatile and semi-volatile organic compounds in the exhaust gases from the dryer when the dryer is used to thermally process soils, sludges and still bottoms containing hydrocarbon products including, but not limited to, gasoline, fuel oils, coal tar, creosote, OSHA materials and substances, and other non-hazardous halogenated and non-halogenated hydrocarbons.

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
 if power plant, hrs/yr _____; if seasonal, describe: Total annual operating time of
afterburner will not exceed 2,660 hours per year.

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

- | | |
|---|----|
| 1. Is this source in a non-attainment area for a particular pollutant? | NO |
| a. If yes, has "offset" been applied? | - |
| b. If yes, has "Lowest Achievable Emission Rate" been applied? | - |
| c. If yes, list non-attainment pollutants. _____ | - |
| 2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. | NO |
| 3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. | NO |
| 4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? | NO |
| 5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? | NO |
| H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? | 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 justifi-
 cation for any answer of "No" that might be considered questionable.

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Not Applicable -	Fuel only supplied to afterburner.			

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

1. Total Process Input Rate (lbs/hr): NA

2. Product Weight (lbs/hr): NA

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

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
	See Page 4a of		12.				

¹See Section V, Item 2.

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

³Calculated from operating rate and applicable standard.

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

Section III,C - Air Pollutant Emission Summary

The clay dryer permitted by AC42-113787 is permitted to operate 8760 hours per year with the hourly emission rates tabulated below. For 2,660 hours per year, the dryer will be used to thermally process soil contaminated with various hydrocarbon products. During this time, the dryer tail gas (after having passed through the existing baghouse for particulate matter control) will be ducted to the proposed afterburner for the destruction of hydrocarbon compounds that have been purged from the soil. When the dryer is used for clay drying, the afterburner will be by-passed and the gas stream from the dryer/baghouse will be discharged directly to the atmosphere as the present arrangement.

Air pollutant emissions from the dryer (other than hydrocarbons removed from the soil) will not increase from presently permitted rates. Air pollutant emissions from the afterburner will consist of combustion products from the fuel/hydrocarbons. Hydrocarbon emissions from the afterburner are based on a 99.99% destruction of hydrocarbons entering the afterburner and are considered non-methane volatile organic compounds. (The 99.99% destruction is considered conservatively reasonable based on a two second residence time at 2000°F.)

The HCl emissions, addressed in Section V, 2 and 3, are based on the assumption that soil with up to 100 mg/kg of chlorinated solvents (with up to 85% chlorine - PCE, for example) will be processed at a rate of 40 tons per hour. It is further assumed that all of the chlorides are discharged from the stack as HCl.

The following tables summarize emissions from the dryer (as presently permitted) and the proposed afterburner. The emission rate increases of all pollutants are less than de minimis emission rate increases in Table 500-2 of 17-2.500,FAC.

Pollutant	Permitted Emissions		Applicable Rule	Allowable Emissions (lb/hr)	Uncontrolled Emissions		Reference on Flow Diagram
	(lb/hr)	(tpy)			(lb/hr)	(tons/yr)	
Particulate Matter							
Dryer (1)	15.0	45.8	(4)	15.0	3000 (6)	9150 (6)	1
Dryer (2)	15.0	19.9	(4)	15.0	3000	3990	
Afterburner	<u>0.8</u>	<u>1.1</u>	17-2.520	<u>0.8</u>	<u>0.8</u>	<u>1.1</u>	
TOTAL (3)	15.8	21.0		15.8	3001	3991	
SO₂							
Dryer (1)	52.5	160.1	(4)	52.5	70	213	1
Dryer (2)	52.5	70.5	(4)	52.5	70	94	
Afterburner	<u>30.0</u>	<u>39.9</u>	17-2.520	<u>30.0</u>	<u>30</u>	<u>40</u>	
TOTAL (3)	82.5	110.4		82.5	100	134	
NOx							
Dryer (1)	29.4	89.7	(4)	29.4	29.4	90	1
Dryer (2)	29.4	39.5	(4)	29.4	29.4	39	
Afterburner	<u>8.0</u>	<u>10.6</u>	17-2.520	<u>8.0</u>	<u>8.0</u>	<u>11</u>	
TOTAL (3)	37.4	50.1		37.4	37.4	50	
CO							
Dryer (1)	0.8	2.4	(4)	0.8	0.8	2.4	1
Dryer (2)	0.8	1.3	(4)	0.8	0.8	1.3	
Afterburner	<u>2.0</u>	<u>2.7</u>	17-2.520	<u>2.0</u>	<u>2.0</u>	<u>2.7</u>	
TOTAL (3)	2.8	4.0		2.8	2.8	4.0	
VOC							
Dryer (1)	0.1	0.2	(4)	0.1	0.1	0.2	1
Dryer (2)	-	-	(4)	-	6400 (5)	8512 (5)	
Afterburner	-	-	17-2.520	-	<u>0.1</u>	<u>0.1</u>	
TOTAL	0.8(7)	1.0(8)		0.8(7)	6400	8512	
HCl							
Dryer (1)	19.2	58.6	(4)	19.2	19.2	58.6	1
Dryer (2)	8.2	10.9	17-2.520	8.2	8.2	10.9	
Afterburner	<u>18.8</u>	<u>25.0</u>	17-2.520	<u>18.8</u>	<u>18.8</u>	<u>25.0</u>	
TOTAL (3)	27.0	35.9		27.0	27.0	35.9	

- (1) Dryer operating as clay dryer for 6100 hours per year under conditions of permit AC42-113787.
- (2) Dryer operating at a rate of 40 tons per hour and processing soil contaminated with various hydrocarbon products. Maximum annual operating time will not exceed 2660 hours.
- (3) Total emissions from dryer and afterburner when contaminated soil is being processed. There is no increase in emissions from the dryer. Emissions from the afterburner are combustion by-products from the fuel/hydrocarbons.
- (4) Permit condition of AC42-113787 or actual unpermitted emissions.
- (5) Uncontrolled hydrocarbons (VOC) from the dryer are based on a soil processing rate of 40 tons per hour and an eight percent contaminant level.
- (6) See Permit Application for AC42-1123787 for calculation of uncontrolled emissions.
- (7) Includes 0.1 lb/hr from fuel combustion in both dryer and afterburner plus 0.6 lb/hr from hydrocarbon incineration in afterburner.
- (8) Includes 0.1 tpy from fuel combustion in both dryer and afterburner plus 0.8 tpy from hydrocarbon incineration in afterburner.

SUMMARY OF EMISSION INCREASES

Pollutant	Permitted Emissions				De minimis Increase (tpy) (1)
	(lb/hr)	Total (tpy)	Dryer (tpy)	Afterburner (tpy) [Emission Increases]	
Particulate Matter					
Dryer	15.0	45.8	65.7	1.1	25/15 (2)
			(45.8 + 19.9)		
Dryer	15.0	19.9			
Afterburner	<u>0.8</u>	<u>-1.1</u>			
TOTAL	15.8	21.0			
SO ₂					
Dryer	52.5	160.1	230.6	39.9	40
			(160.1 + 70.5)		
Dryer	52.5	70.5			
Afterburner	<u>30.0</u>	<u>39.9</u>			
TOTAL	82.5	110.4			
NO _x					
Dryer	29.4	89.7	129.2	10.6	40
			(89.7 + 39.5)		
Dryer	29.4	39.5			
Afterburner	<u>8.0</u>	<u>10.6</u>			
TOTAL	37.4	50.1			
CO					
Dryer	0.8	2.4	3.7	2.7	100
			(2.4 + 1.3)		
Dryer	0.8	1.3			
Afterburner	<u>2.0</u>	<u>2.7</u>			
TOTAL	2.8	4.0			
VOC					
Dryer	0.2	0.6	0.9	1.1	40
			(0.6 + 0.3)		
Dryer	0.2	0.3			
Afterburner	<u>0.8</u>	<u>1.1</u>			
TOTAL	1.0	1.4			
HCl					
Dryer	19.2	58.6	69.5(3)	25.0	NA
			(58.6 + 10.9)	(Increase	
Dryer	8.2	10.9		= 25.0 - 14.6	
Afterburner	<u>18.8</u>	<u>25.0</u>		= 10.4 tpy)	
TOTAL	27.0	35.9			

(1) Table 500-2, 17-2.500, FAC

(2) Total particulate matter/PM10 particles

(3) Represents a 14.6 tpy reduction from maximum permitted emissions while processing clay
 [19.2 lb/hr x 8760 hr/yr x 1/2000 = 84.1 tpy max possible].

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)
Afterburner is a control device, Designed and constructed by MFM.				
	Hydrocarbons	99.99%	NA	Estimate- (See Sect. V)

E. Fuels (Afterburner only)

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Used-Oil Fuel	350-400	400 gal/hr	50.0
Natural Gas	0.043-0.049	0.049 MMcfh	50.0
Virgin Fuel Oil (No. 2-6)	300-360	360 gal/hr	50.0

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

Fuel Analysis: Used-Oil/Gas/Virgin Fuels

Percent Sulfur: 0.5/NA/0.5 max. Percent Ash: 0.2/NA/0.1

Density: 7.5/NA/7.6-8.0 lbs/gal Typical Percent Nitrogen: Nil

Heat Capacity: 16667/1025*/18380-18600 BTU/lb 125000/NA/139700-148300 BTU/gal
* BTU/cu. ft.

Other Fuel Contaminants (which may cause air pollution): Used-oil can contain up to 1000 ppm lead and 2000 ppm (combined total) Cr, Cs, Cd, Ni (consistent with dryer fuel).

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

Annual Average NA Maximum

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

None

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

Stack Height: 135 ft. Stack Diameter: 4.0 ft.
 Gas Flow Rate: 55,277 ACFM 15,494 DSCFM Gas Exit Temperature: 350 °F.
 Water Vapor Content: 57 % Velocity: 73.3 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 Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

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

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

Brief description of operating characteristics of control devices: _____

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

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

(See page 7a-c of 12)

Please provide the following supplements where required for this application.

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

Section V - Supplemental Information

1. Process Rate - Not applicable for afterburner.

2/3. Controlled and Uncontrolled Emissions:

Emission factors for particulate matter, NO_x, VOC and CO are from AP-42, Section 1.3, Factors for an Industrial Boiler Burning Distillate Fuel.

NO_x - Controlled and Uncontrolled:

$$\begin{aligned} \text{NO}_x &= 20 \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= 8.0 \text{ lb}/\text{hr} \\ &\quad \times 2660 \text{ hr}/\text{yr} \times 1/2000 \\ &= 10.6 \text{ tpy} \end{aligned}$$

Particulate Matter - Controlled and Uncontrolled:

$$\begin{aligned} \text{P.M.} &= 2 \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= 0.8 \text{ lb}/\text{hr} \\ &\quad \times 2660/2000 \\ &= 1.1 \text{ tpy} \end{aligned}$$

CO - Controlled and Uncontrolled:

$$\begin{aligned} \text{CO} &= 5 \text{ lb}/1000 \text{ gal} \times 400 \text{ gal}/\text{hr} \\ &= 20 \text{ lb}/\text{hr} \\ &\quad \times 2660/2000 \\ &= 2.7 \text{ tpy} \end{aligned}$$

SO₂ - Controlled and Uncontrolled:

400 gph fuel @ 0.5% sulfur and 7.5 lb/gal

$$\begin{aligned} \text{SO}_2 &= 400 \text{ gal}/\text{hr} \times 7.5 \text{ lb}/\text{gal} \times (0.005 \times 2) \text{ lb SO}_2/\text{lb fuel} \\ &= 30.0 \text{ lb}/\text{hr} \\ &\quad \times 2660/2000 \\ &= 39.9 \text{ tpy} \end{aligned}$$

Chlorides - Controlled and Uncontrolled:

Soil Contaminants

Assume 40 tph soil with 100 mg/kg of chlorinated solvents at 85% chlorine.

$$\begin{aligned}
\text{Cl} &= (40 \times 2000) \text{ lb/hr soil} \\
&\quad \times (100 \times 10^{-6}) \text{ lb solvent/lb soil} \times 0.85 \\
&= 6.8 \text{ lb/hr} \\
&\quad \times 2660/2000 \\
&= 9.0 \text{ tpy}
\end{aligned}$$

(NOTE: MFM is presently permitted to burn up to 272 gph of fuel with 0.94% chlorides. This could result in the emission of 19.2 lb/hr of chlorides. As an offset, MFM will not burn the spent solvent/used oil fuel blend when processing the soil containing low levels of chlorinated solvents. Thus, the chloride emission rate could be as much as 12.4 lb/hr less than presently permitted.)

Chlorides from Fuel Combustion - Controlled and Uncontrolled:

Dryer Fuel - Clay Processing

Presently permitted to burn 272 gal/hr fuel with up to 0.94 % chlorides when processing clay.

$$\begin{aligned}
\text{Cl} &= 272 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times 0.0094 \\
&= 19.2 \text{ lb/hr} \\
&\quad \times 6100/2000 \\
&= 58.6 \text{ tpy}
\end{aligned}$$

Dryer Fuel - Soil Processing

Will burn used-oil fuel at 272 gal/hr with a maximum of 4000 ppm Cl.

$$\begin{aligned}
\text{Cl} &= 272 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times (4000 \times 10^{-6}) \\
&= 8.2 \text{ lb/hr} \\
&\quad \times 2660/2000 \\
&= 10.9 \text{ tpy}
\end{aligned}$$

Afterburner Fuel - Soil Processing

Will burn used-oil fuel at maximum rate of 400 gal/hr with a maximum of 4000 ppm Cl.

$$\begin{aligned}
\text{Cl} &= 400 \text{ gal/hr} \times 7.5 \text{ lb/gal} \times (4000 \times 10^{-6}) \\
&= 12.0 \text{ lb/hr} \\
&\quad \times 2660/2000 \\
&= 16.0 \text{ tpy}
\end{aligned}$$

Total Chlorides

Clay Processing	19.2 lb/hr and 58.6 tpy (6100 hr/yr)
Soil Processing	
Dryer Fuel	8.2 lb/hr and 10.9 tpy
Afterburner Fuel	12.0 lb/hr and 16.0 tpy
Soil	<u>6.8 lb/hr and 9.0 tpy</u>
TOTAL	27.0 lb/hr and 35.9 tpy (2660 hr/yr)

Hydrocarbons (VOC)

Soil - Uncontrolled:

40 tons per hour of soil at a maximum of 10% hydrocarbon contaminant. Assume no destruction in dryer.

$$\begin{aligned} \text{VOC} &= (40 \times 2000) \text{ lb/hr} \times 0.10 \text{ lb VOC/lb soil} \\ &= 8000 \text{ lb/hr} \\ &\quad \times 2660/2000 \\ &= 10640 \text{ tpy} \end{aligned}$$

Soil - Controlled:

Residence time of 2 seconds at a temperature of 2000°F will provide a 99.99% destruction of VOC.

$$\begin{aligned} \text{VOC} &= 8000 \text{ lb/hr} \times (1 - 0.9999) \\ &= 0.80 \text{ lb/hr} \\ &\quad \times 2600/2000 \\ &= 1.1 \text{ tpy} \end{aligned}$$

Fuel - Controlled and Uncontrolled

Dryer

$$\begin{aligned} \text{VOC} &= 0.2 \text{ lb/1000 gal} \times 272 \text{ gal/hr} \\ &= 0.1 \text{ lb/hr} \\ &\quad \times 6100/2000 \\ &= 0.2 \text{ tpy} \end{aligned}$$

Afterburner

$$\begin{aligned} \text{VOC} &= 0.2 \text{ lb/1000 gal} \times 400 \text{ gal/hr} \\ &= 0.1 \text{ lb/hr} \\ &\quad \times 2660/2000 \\ &= 0.1 \text{ tpy} \end{aligned}$$

4. Design Details of Afterburner - See Attachment 1.
5. Control Efficiency -

A control efficiency of at least 99.99% will be achieved by raising the temperature of the gases to 2000°F for a period of 2 seconds.
6. Flow Diagram - See Attachment 2.
7. Location Map - See Attachment 3.
8. Site Map - See Attachment 4.
9. Permit Fee - \$500 - Emission increase of between 25 tpy and 50 tpy (17-4.050, FAC).
10. Certificate of Completion of Construction - Not Applicable.

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

(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

Contaminant	Rate or Concentration

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

Yes No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

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

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

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

1. Control Device/System:

2. Operating Principles:

3. Efficiency:*

4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height:

ft.

b. Diameter:

ft.

c. Flow Rate:

ACFM

d. Temperature:

°F.

e. Velocity:

FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

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

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

(8) Process Rate:¹

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

(NOT APPLICABLE)

A. Company Monitored Data

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

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

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No

b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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



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JOB ATTACHMENT No. 1
CALCULATED BY _____ DATE _____
SHEET NO. 1 OF 5

AFTERBURNER DESIGN

GAS STREAM FROM DRYER BAGHOUSE WITH SOILS
BEING PROCESSED

16,000 scfm, dry @ 250°F
25% moisture
13% oxygen

Mass Flow:

$$\begin{aligned} \text{Dry gas} &= 16000 \text{ scfm} \times 60 \text{ min/hr} \times 29/385 \text{ lb/ft}^3 = 72312 \text{ lb/hr} \\ \text{Moisture} &= 16000 ((1-0.75)/0.75) \times 60 \times 18/385 = 14960 \text{ lb/hr} \end{aligned}$$

$$\begin{aligned} \text{Oxygen in Dry Gas} \\ &= 16000(0.13) \times 60 \times 32/385 = 10373 \text{ lb/hr} \end{aligned}$$

Heat in Gas Stream:

$$\begin{aligned} \text{Dry gas} &= 72312 \text{ lb/hr} \times 40.9 \text{ BTU/lb} @ 250^\circ\text{F} = 3.0 \text{ MMBTU/hr} \\ \text{Moisture} &= 14960 \times 1120.7 = 16.8 \\ \text{Total} &= 19.8 \text{ MMBTU/hr} \end{aligned}$$

AFTERBURNER

Heat gas stream to 2000°F for 2 seconds

Heat in Gas Stream Following Afterburner:

$$\begin{aligned} \text{Dry Gas} &- 72312 \text{ lb/hr} \times 505.3 \text{ BTU/lb} = 36.5 \text{ MMBTU/hr} \\ \text{Moisture} &- 14960 \times 2047.4 = 30.6 \\ \text{Losses (assumed)} &= 2.0 \\ \text{Total} &= 69.1 \text{ MMBTU/hr} \end{aligned}$$



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JOB Attachment No 1 (Cont)
CALCULATED BY _____ DATE _____
SHEET NO. 2 OF 5

Heat Required in Afterburner:

$$\begin{aligned} &= 69.1 - 19.8 \text{ MMBTU/hr} \\ &= 49.3 \text{ MMBTU/hr} \end{aligned}$$

Design for 50 MMBTU/hr from supplemental fuel; assume no significant heat input from hydrocarbons purged from soil as worst case

Fuel Required:

$$\begin{aligned} &= 50 \text{ MMBTU/hr} \times 1/125,000 \text{ BTU/gal} \\ &= 400 \text{ gal/hr of used oil fuel} \end{aligned}$$

Combustion Air @ 115 lb/gal fuel @ 10% excess air

$$\begin{aligned} &= 400 \text{ gal/hr} \times 115 \text{ lb/gal} \\ &= 46,000 \text{ lb/hr} \end{aligned}$$

Oxygen in combustion air

$$\begin{aligned} &= 46000 \text{ lb/hr} \times (385/29) \text{ ft}^3/\text{lb} \times 21\% \text{ O}_2 \times (32/385) \\ &= 10,660 \text{ lb/hr O}_2 \end{aligned}$$

Oxygen in air stream from baghouse

$$= 10373 \text{ lb/hr (See Mass Flow calculation)}$$

Air stream from dryer can provide up to 97% of oxygen for combustion. Balance of oxygen will be supplied by atomization air and primary air fired at burner.



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JOB Attachment No 1 (Cont)
 CALCULATED BY _____ DATE _____
 SHEET NO. 3 OF 5

Air stream from Dryer

$$\begin{aligned} \text{Dry gas} &= 72,312 \text{ lb/hr} \\ &= 44,764 \text{ lb/hr "air" at 21\% (Vol) Oxygen} \\ &\quad \text{(or the 10373 lb/hr O}_2\text{)} \\ &+ 27,548 \text{ lb/hr "inert" gases (N}_2\text{, CO}_2\text{, etc)} \\ &= 72,312 \text{ lb/hr} \end{aligned}$$

$$\text{Moisture} = 14960 \text{ lb/hr}$$

Combustion Products

@ 11.5 lb/gal of fuel dry gas
 & 8.6 lb/gal of fuel moisture

$$\begin{aligned} \text{Dry gas} &= 11.5 \text{ lb/gal} \times 400 \text{ gal/hr} = 46,000 \text{ lb/hr} \\ \text{Moisture} &= 8.6 \times 400 = 3440 \\ \text{Moist. from dryer} &= 14960 \\ \text{Inert gases from dryer} &= 27548 \\ \text{Total} &= \underline{91948 \text{ lb/hr}} \end{aligned}$$

Volume

$$\begin{aligned} \text{Dry gases} &= 73548 \text{ lb/hr} \times (385/32) \text{ ft}^3/\text{lb} \\ &\quad \times 1/3600 \text{ sec/hr} \times \left(\frac{2000+460}{60+460} \right) = 1145 \text{ ft}^3/\text{sec} \end{aligned}$$

$$\begin{aligned} \text{Moisture} &= 18400 \text{ lb/hr} \times (385/18) \\ &\quad \times 1/3600 \times (2460/528) = 509 \end{aligned}$$

$$\begin{aligned} \text{Total} &= \underline{1654 \text{ ft}^3/\text{sec}} \\ &= (99,272 \text{ acfm}) \end{aligned}$$



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JOB Attachment No 1 (Cont)
CALCULATED BY _____ DATE _____
SHEET NO. 4 OF 5

Afterburner Size

Design for 2 seconds retention time

$$\begin{aligned} \text{Volume} &= 1654 \text{ ft}^3/\text{sec} \times 2 \text{ sec} \\ &= 3309 \text{ ft}^3 \end{aligned}$$

Dimensions

Use 13'-0" x 13'-0" x 32'-0" outside
with 10" of refractory

$$\begin{aligned} \text{Volume} &= 11.3 \times 11.3 \times 30.3 \text{ ft} \\ &= 3873 \text{ ft}^3 \\ &> 3309 \text{ ft}^3 \quad - \text{ O.K.} \end{aligned}$$

Water Quench

Quench from 2000°F to 350°F

$$\begin{aligned} \text{Water} &= \frac{1.3 (97320 \text{ acfm}) (2000^\circ\text{F} - 350^\circ\text{F})}{[1090 + 0.45(350^\circ\text{F} - 150^\circ\text{F})][2000^\circ\text{F} + 460]} \\ &= 85 \text{ gpm} \end{aligned}$$

Design for 100 gpm

Droplet Size at 300 psi through Spraying
Systems Whirljet nozzle = 200 μm

Evaporation time = 0.5 sec



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JOB Attachment No 1 (Cont)
CALCULATED BY _____ DATE _____
SHEET NO. 5 OF 5

Quench Chamber Size

Design with 10'-0" (h) x 6'-0" (w) x-section

Length for 0.5 sec retention time

$$\begin{aligned} &= 99272 \text{ ft}^3/\text{min} \times 1/(10 \times 6) \text{ ft}^2 \\ &\quad \times 1/60 \text{ sec/min} \times 0.5 \text{ sec retention} \\ &= 13.8 \text{ ft long} \end{aligned}$$

(Assuming 2000°F gas volume throughout)

Design Size

10'-0" (h) x 6'-0" (w) x 13'-8" l
plus a transition section to
a 4'-0" (w) x 6'-0" (h) opening
at the stack. Transition
length will be 11'-6"

Gas Flow Rate at Stack @ 350°F

From afterburner - 99272 ft³/min @ 2000°F

To stack

$$\begin{aligned} &= 99272 \times [(350+460)/(2000+460)] \\ &= 32687 \text{ acfm} \end{aligned}$$

Water from quench @ 85 gpm

$$\begin{aligned} &= 85 \text{ gpm} \times 8.3 \text{ lb/gal} \times (385/18) \text{ ft}^3/\text{lb} \\ &\quad \times [(350+460)/(68+460)] \\ &= 23149 \text{ acfm} \end{aligned}$$

Total = 55836 acfm @ 350°F
↓ 57% moisture



MFM Environmental, Inc.

135 FOOT STACK INSTALLATION
AFTERBURNER INSTALLATION

1) Compressor and Air Dryer Relocation

The two 250 CFM compressors and desiccant air dryers will be relocated 12' to the east of their present location. This is temporary until a clean room is built in front of the new CMI Bag House which will be located east of our control room. This room will be large enough to house all existing compressors and at least one more EP150 compressor and air dryer.

2) Stack Foundation and Footing

The foundation will be 16'L x 16'W x 4'6"D. The concrete will be 6000 PSI consisting of 43 cu yds. There will be 16-2" anchor bolts set in the concrete. 6000 lbs. of #6 rebar will be used.

3) Stack Installation

It will be 48" diameter by 135' from grade to top with a conical base free standing support, 24" access door, caged ladders and rest platforms all the way to the top, satisfying OSHA standards. All shop welds will be performed by certified welders and x-rayed. The stack will be shop sand blasted and primed and shipped in two sections. The stack will require one field welded joint that will be performed by a certified welder and x-rayed. After the stack has been erected, the final painting will be completed in the field according to MFM standards.

The stack will have provisions to receive two inlet nozzles:

- A) one rectangular 4' x 6' for receiving cooled after burner gases @ 350 degrees F.
- B) one by pass nozzle 42" diameter for receiving 250 degrees F. gases from our normal drying operation.

The temperature of the gases leaving the stack will not condense until 183 degrees F. The stack design will allow us total design flexibility to operate either on clay material or contaminated soils and other material.

MFM Environmental, Inc.

AFTERBURNER WITH WATER QUENCH SYSTEM

A) COMBUSTION CHAMBER

1. Chamber will be 3/16" all carbon steel welded construction with reinforced ribs around the exterior surface.
2. The unit will be 13' x 13' x .32' on the straight side with a 45 degree 6' x 10' transition that is 4' long.
3. The unit will be refractory lined with 9" of Kaoal Wool with a ceramic coating over the fiber material. The entire chamber will thus be lined with a 12" coating, 9" of wool and 3" of ceramic. The 45 degree firing wall where the burners will be mounted will also be lined with the same material.
4. The four corners of the chamber will be fabricated on 45 degree angles for even distribution of the gases.
5. The gas inlet handling the 250 degree gases, will be provided an inlet gas distribution plenum chamber. Inside of the chamber on the 45 degree firing wall will be installed a total of forty 2" x 8" long air inlet openings with adjustable slide gate assemblies to ensure uniform gas flow so that all contaminated gases will be decomposed in the 2000 degree afterburner.
6. Mounted on the firing wall will be a 50 million BTU per hour burner system complete with combustion controls. The system will burn waste oil fuels. Primary air will be provided by a 40 H.P. combustion air blower.

The burner proper will be a Haulk unit or equivalent, with primary air blower motor and controls. The air for atomization will be provided by the air blower at 32 ounces of air pressure which will result in waste oil fuel consumption of approximately 400 gallons per hour.

Combustion control interlocks and safety systems will be provided by the burner manufacturer (F.M.A. approved). This system will be incorporated into the afterburner control system.

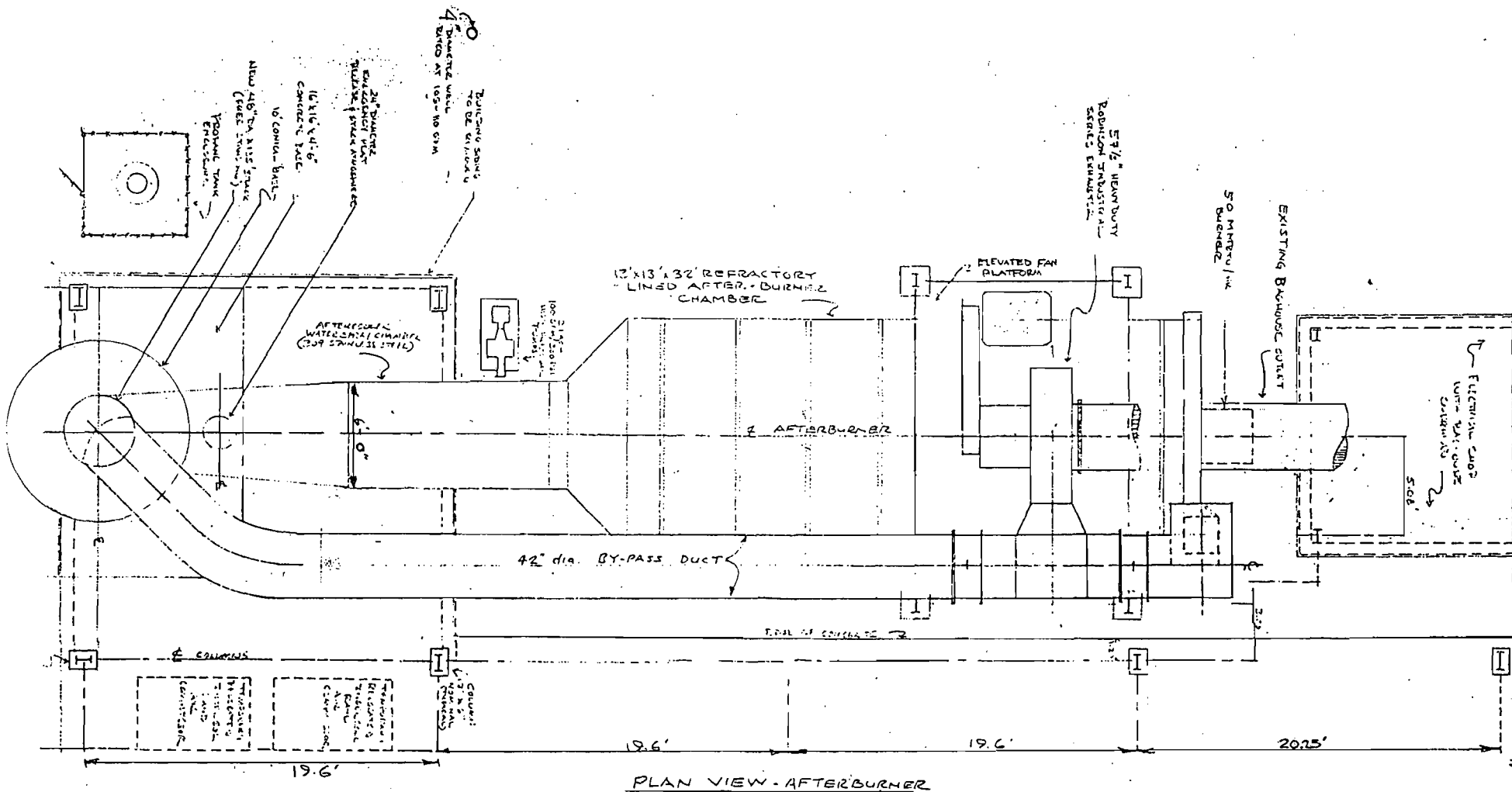
The fuel oil supply system will be identical to the system presently used by MFM. This standardization will eliminate the need for two separate inventories.

7. On the gas outlet, the 2000 degree gases will enter into a 309 stainless steel water quenching system. This system will lower the gas temperature to 350 degrees using 68 degree water at a rate of 100 GPM at 300 PSI. The 309 stainless steel system (26' long) will form a transition from a 10' x 6' to a 6' x 4' opening angled 45 degree to the stack.
8. The complete system will be instrumented on a separate panel in the control room to ensure ease of operation on start up, running and shut down.
9. A new deep water well will be constructed to provide 105 to 110 GPM to satisfy the cooling water requirements.
10. The well pump will transfer the water to an 8,000 gallon surge tank of carbon steel construction, lined to prevent corrosion. This tank will be 8' in diameter and 22' on the straight side with a slightly coned roof.

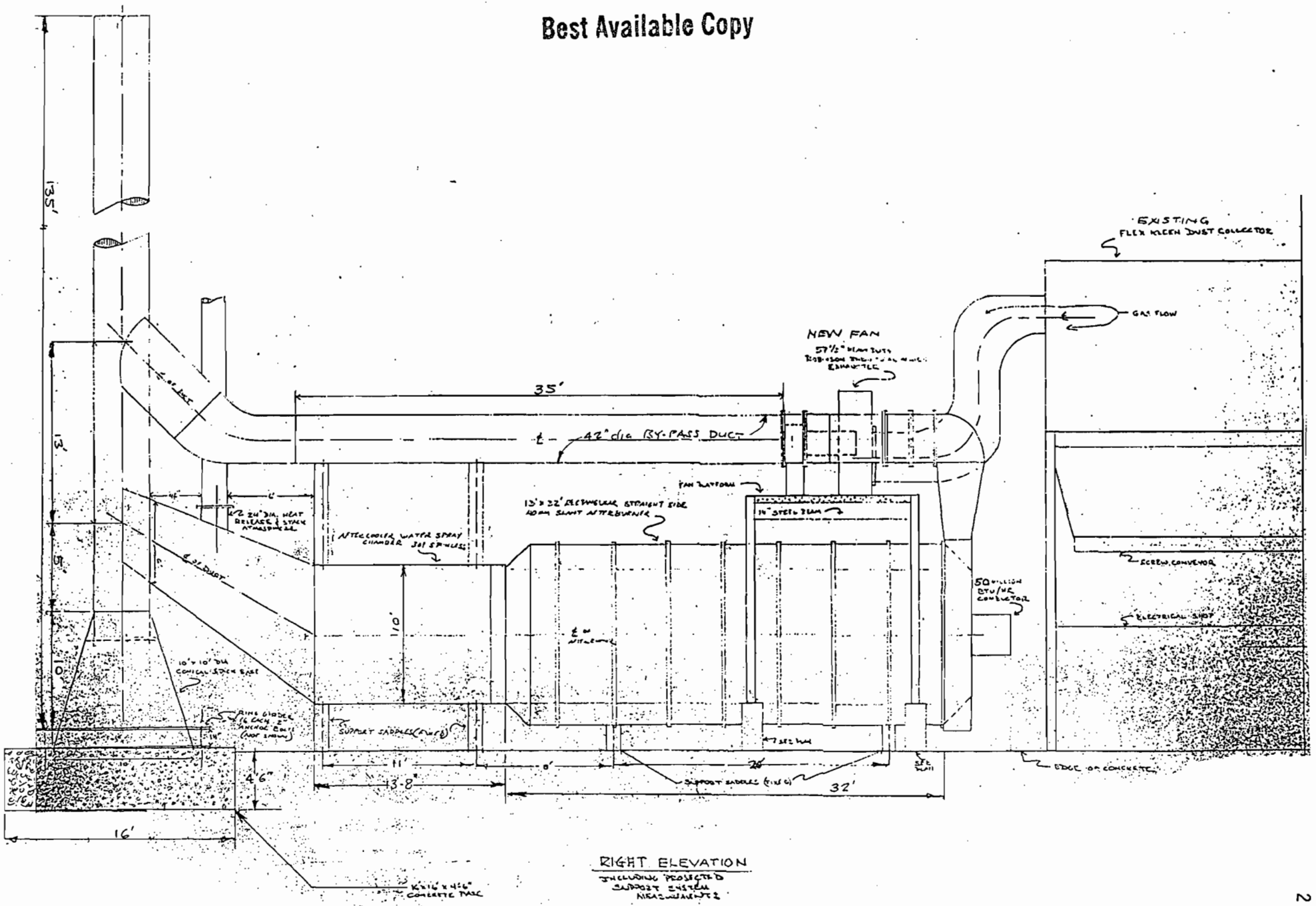
The tank will be constructed with two nozzles; one a top fill nozzle and the other nozzle to receive the liquid level sensors. On the roof section, there will be a 24" flanged manway for access to the tank interior.
11. The 100 GPM at 300 PSI pumping unit consists of two 25 HP drive motors. This pumping station will have two identical Gould pumps to transfer the water at pressure to the quench system. These pumps will be operated on an alternating basis to ensure that the system will always have water available.

SUMMARY

Installation of this system is the most cost effective manner to achieve decomposition of odorous gases and maintain compatibility with our neighbors. This system should be adequate to meet any anticipated changes in air quality requirements. A noteworthy feature of this system is that no additional waste streams will be generated which may lead to compliance or regulatory problems. Installation should provide MFM with a complete solution to both odor control and air emission concerns.



Best Available Copy



RIGHT ELEVATION
INCLUDING PROPOSED
SUPPORT SYSTEM
MEASUREMENTS

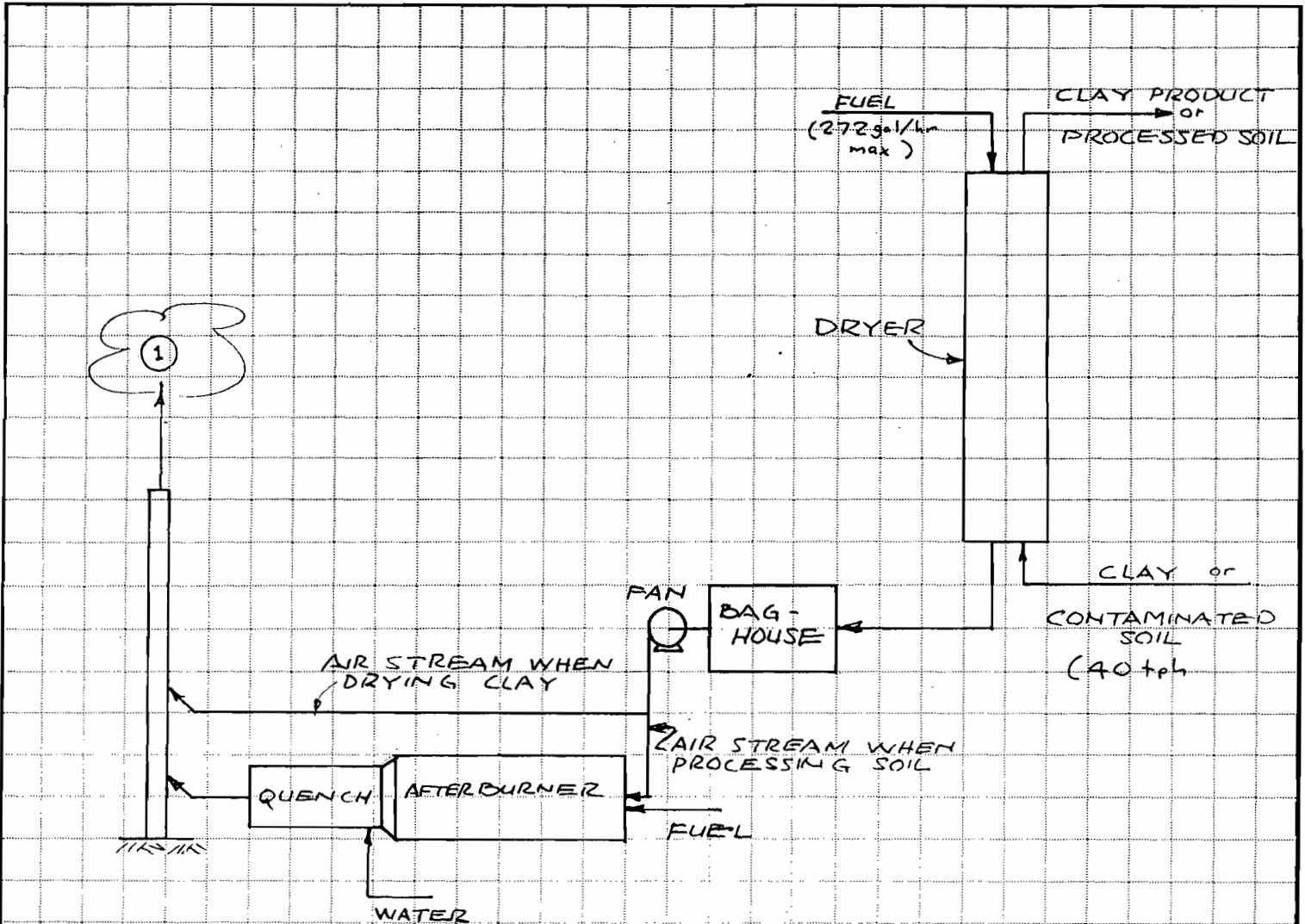


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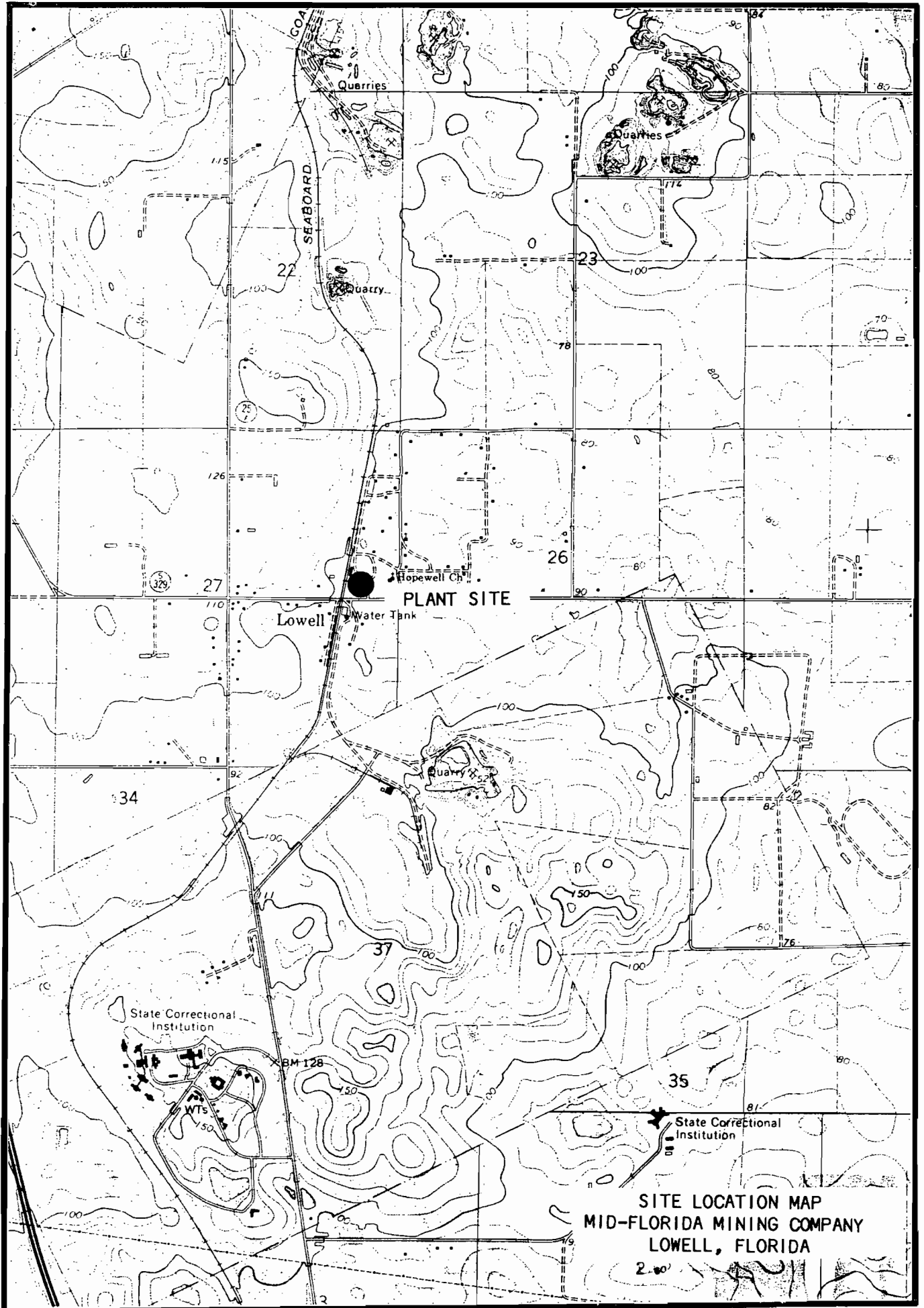
JOB _____

CALCULATED BY _____ DATE _____

SHEET NO. _____ OF _____



PROCESS FLOW DIAGRAM
MID-FLORIDA MINING CO.
LOWELL, FL





FUGITIVE BAGHOUSE

MILL BLDG



CONTROL ROOM

FUEL STORAGE TANK

EXISTING STACK

STORAGE BIN

COOLER

STORAGE BIN

CONVEYOR

7' DIA. DRYER

CONCRETE TANK FOUNDATION

CONCRETE TANK FOUNDATION

SCL. R.R. MAIN TRACK

SCL. R.R. SIDING

CONCRETE TANK FOUNDATION

DRYER BAGHOUSE

REMOVE EXIST. 44" O.D. STACK

PROPOSED AFTERBURNER

CLAY SHED

QUENCH SECTION

NEW 48" DIA STACK

MID-FLORIDA MINING CO. - LOWELL, FLORIDA

ATTACHMENT 4

JOB NO.

DATE

DRAWN JAH/LMS