



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



February 12, 1988

CERTIFIED MAIL NO. P 125 261 173

FEB 12 1988

Mr. Fred Ahlers  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

In order to settle certain environmental issues regarding Vicksburg Chemical Corporation, you have agreed to the conditions of Administrative Order No. 1316-88, which is enclosed.

If you have any questions about this matter, please contact Mr. Chuck Estes at telephone #601/961-5171.

Sincerely,

A handwritten signature in cursive script, appearing to read "Charles H. Chisolm".

Charles H. Chisolm  
Bureau Director

CHC:mh

Enclosure

BEFORE THE MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL  
JACKSON, MISSISSIPPI  
COUNTY OF HINDS

IN THE MATTER OF:

MISSISSIPPI DEPARTMENT OF  
NATURAL RESOURCES

COMPLAINANT

VS.

ORDER NO. 1316 88

VICKSBURG CHEMICAL CORPORATION  
MSD99071408†

RESPONDENT

AGREED ORDER

COMES NOW THE Mississippi Department of Natural Resources, Complainant, and Vicksburg Chemical Corporation, Respondent, in the above referenced administrative action and would show forth as follows:

1. On January 12, 1988, Respondent was contacted by Complainant and notified of Complainant's intent to cite Respondent for a certain violation and/or violations of requirements set forth in the Bureau of Pollution Control's letter of December 28, 1987, a copy of which is attached hereto and incorporated herein by reference; said violation being as follows:

- a. Two drums containing hazardous waste were not marked with accumulation dates in violation of Mississippi Hazardous Waste Management Regulations (MHWMR) Section 262.34 (a)(2);
- b. Two drums containing hazardous waste were not clearly marked with the words "Hazardous Waste" in violation of MHWMR Section 262.34(a)(3);
- c. The list of emergency coordinators was not updated as required by MHWMR Section 265.52(d).

and,

2. Complainant and Respondent do hereby agree, in lieu of a formal filing of Complaint by Complainant, to enter into this

Agreed Order wherein Respondent agreed to pay and Complainant agrees to accept, the sum of \$750.00 as a full and complete settlement thereof, said sum to be payable as follows:

Within 20 days after the date of entry of this order.

and,

3. Respondent further understands and agrees that, as part of the above referenced settlement, Respondent shall immediately comply with the above referenced regulations.

4. Respondent understands and agrees that it is fully entitled to an evidentiary hearing before the Commission on Natural Resources pursuant to Sections 49-17-31 and 49-17-41 of the Mississippi Code Annotated, and that it agrees to the above referenced settlement only after having been fully informed of its right to said hearing and having waived its right to such a hearing; and

5. Respondent understands and agrees that this settlement agreement in no way is an admission of liability on its part, and is entered into for the sole purpose of causing a swift resolution of this administrative matter.

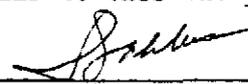
SO ORDERED, this the 10<sup>th</sup> day of February, 1988.

MISSISSIPPI DEPARTMENT OF  
NATURAL RESOURCES

BY:

  
J. I. PALMER, JR.  
EXECUTIVE DIRECTOR

AGREED to this the 2 day of FEBRUARY, 1988.

  
RESPONDENT

BEFORE THE MISSISSIPPI COMMISSION ON NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

IN THE MATTER OF:

MISSISSIPPI COMMISSION ON  
NATURAL RESOURCES

COMPLAINANT

VS.

ORDER NO. 1253 87

CEDAR CHEMICAL CORPORATION

RESPONDENT

ORDER OF DISMISSAL

The above styled cause came on this date for consideration and the Mississippi Commission on Natural Resources (the "Commission"), having heard and considered same, finds as follows:

1.

Based upon investigation by the Mississippi Department of Natural Resources (the "Department"), with respect to a surface impoundment (the "facility"), located at the Respondent's Vicksburg Plant, written Complaint dated July 9, 1986 was issued by the Commission charging that the Respondent had failed to comply with Parts 264 and 265 of the Mississippi Hazardous Waste Management Regulations ("regulations") applicable to closure and post-closure plans, groundwater assessment, and liability insurance, all with respect to the facility.

2.

The Respondent contends that the facility is not properly designated a hazardous waste facility subject to the regulations and based upon said contentions, Respondent has filed its motion to dismiss asserting lack of jurisdiction over the subject matter of the Complaint.

By order of the Commission dated August 26, 1986, (Order No. 1046-86), the Respondent was ordered to carry out certain activities with respect to the facility, subject to final disposition of Respondent's aforesaid motion to dismiss. The Department staff initially concluded that the Respondent's facility was a hazardous waste facility subject to the regulations on the basis of dinoseb manufacturing operations. The Commission conducted a hearing on the Respondent's motion on Tuesday, September 16, 1986, and ultimately concluded that pursuant to the "de minimis exception" to the Mixture Rule codified in the regulations at Section 261.3(a)(2)(iv)(D), the facility was not a hazardous waste facility pursuant to the regulations. At the request of the staff, however, the issue of whether the facility could be a hazardous waste facility by virtue of other past operations at the plant was left to subsequent investigation and hearing. The Department staff then subjected the sediment in the facility to another round of sampling and analysis to determine if the settlement contained any of the "characteristics" of hazardous waste listed in the regulations pursuant to the EP toxicity test. Again, the facility was found not to be a hazardous waste facility on that basis. The Department staff finally asserted in April, 1987, based upon an advisory opinion which it had sought from EPA, that from November, 1980 until October, 1982, the prior owner of the Vicksburg Chemical Plant had discharged to the facility "untreated process wastewater from production of toxaphene" and that it had generated "wastewater treatment sludge from the production of toxaphene" and contended that these two waste streams constituted hazardous waste pursuant to Section 261.32 of the regulations, "K098" and "K041", respectively.

The Respondent again denied that it was a RCRA regulated facility on the basis of toxaphene manufacturing operations of a previous owner and maintained that it had never generated K098 or K041 as the same are identified in the Listing Background Document

("LBD") for the two respective waste streams and further that any toxaphene found in the facility was a product of de minimis leaks and spills of the finished product toxaphene from packaging and shipping points located on the plant site. Accordingly, according to the Respondent, the de minimis exception granted for dinoseb was equally applicable to the toxaphene process.

5.

Mississippi's regulations for identifying hazardous waste were taken in toto from the federal regulations identifying the same. In this proceeding, this Commission had the unique opportunity of hearing from two men directly responsible for the development of those regulations, Gary Dietrich, who in 1980 served as Deputy Director of the Environmental Protection Agency and was directly responsible for the development of the hazardous waste listings under 40 CFR Part 261, including K098 and K041, and Matthew A. Strauss, presently Chief of the Waste Characterization Branch of the EPA in Washington, D.C., and one of Mr. Dietrich's primary assistants in the development of the regulations. Dietrich testified that EPA was operating with insufficient data at the time that the K098 and K041 listings were made, at least insofar as the Vicksburg facility is concerned. He pointed out that the LBD for K098 and K041 identified these waste streams solely on the basis of information generated from Hercules, Inc., at its Brunswick, Georgia, plant. Hercules' manufacturing process was substantially different from the Vicksburg Plant's process from manufacture of toxaphene. Hercules in its toxaphene process produced an impure chemical, camphene, from approximately 1,500 - 2,000 tons of pine stumps every day. Vicksburg did not produce camphene but instead bought pure camphenē. The resulting waste streams and methods of manufacturing were substantially different. The Listing Background Document states that the basis for the K098 and K041 listings is the heavy concentration of toxaphene in the process wastewater and in sludge resulting from treatment of the process wastewater. Up to 140 pounds of toxaphene each day was generated at the Hercules, Inc., Brunswick, Georgia, toxaphene plant. That should be

contrasted with the process waste stream generated at the Vicksburg Plant which the testimony of Plant Chemist, Dr. Bill Gastrock, showed contained no detectible level of toxaphene. In short, not only were the processes different, the toxaphene process waste streams generated were virtually incomparable. The affidavit testimony of Matthew A. Strauss was to the effect that while indeed the processes were different, the technical definition of K098 and K041 would include the Vicksburg waste streams despite the fact that they contained little or no toxaphene. Dietrich testified that in his opinion the K098 and K041 listings would have specifically excluded the Vicksburg wastes had they had the data which he presently has access to. Succinctly, Dietrich testified that the Vicksburg waste streams were not the type K098 and K041 were intended to cover. It is important to note that the present owner of the Vicksburg facility never manufactured toxaphene and the previous owner ceased operations in October, 1982.

6.

Equally important, aside from the technical regulatory interpretation issues, is the environmental impact that closing the surface impoundment would have. The Industrial Wastewater Section of the Bureau of Pollution Control recommended in 1983 that the impoundment should be kept open "to treat runoff from the plant and act as an emergency spill control impoundment" under the plant's water discharge permit. Dietrich testified that in his opinion the impoundment does serve an important environmental function and the closure of the impoundment would cause that function to be lost. He explained that the entire plant site which operated for many years prior to the adoption of the present environmental regulations is contaminated and the impoundment serves as a collection point for rain water runoff from the plant site. Dietrich further suggested that in the event of a large chemical spill, the impoundment would serve as a catch basin and without it, such a spill would quickly leak to navigable streams and waters. Because of its affinity for soil and low solubility in water, the toxaphene presently contained in sediments on the bottom of the

impoundment is not likely to leach from the impoundment. Indeed, analyses from the groundwater monitoring wells encircling the pond reveal no toxaphene.

7.

It is also significant to know the position of the staff of the Bureau of Pollution Control. The staff (and the Respondent) have conceded that continued groundwater monitoring, NPDES discharge reports, periodic inspections and sampling of the impoundment for possible leaching and necessary groundwater cleanup will be required regardless of whether the facility is designated a hazardous waste storage facility.

8.

This Commission is empowered by the statutes of the State of Mississippi to determine what material is hazardous and what material is not. Mississippi Code Annotated Section 17-17-27(1) authorizes this Commission to make determinations on whether any waste or any combinations of wastes is hazardous. The only restriction on the state statute is a provision that those regulations shall be "equivalent" to the EPA's Rules and Regulations. The EPA authorization of state hazardous waste programs requires only that the state programs be "consistent with the federal program" and that the state program adopt a list of hazardous wastes and characteristics for identifying hazardous wastes which are "equivalent to those under 40 CFR Part 261". Mississippi has done this. It has identified K098 and K041 as hazardous wastes. It did so on the basis of the EPA's Listing Background Document which identifies K098 and K041 as process waste streams with heavy concentrations of toxaphene. This record is clear, however, that the former owner of the Vicksburg Chemical Plant did not generate between 1980 and 1982 a process waste stream from the manufacture of toxaphene with "heavy concentrations of toxaphene". On the contrary, the record indicates, and indeed so does the Listing Background Document, that those waste streams contained no detectable limit of toxaphene. We, therefore, must

assume that the K098 and K041 in the regulations does not cover the process waste streams generated at the Vicksburg Chemical Plant in its manufacture of toxaphene between 1980 and 1982. Thus, insofar as the regulations are concerned, those waste streams identified would be limited solely to the Hercules Plant at Brunswick, Georgia. Such a finding is not in our opinion either inconsistent with the federal program or not equivalent to it. While testimony has been received that a technical interpretation of the federal program would require the waste streams at Vicksburg to be covered by the regulations, we believe that interpretation to be faulty. It is obvious from the Listing Background Document and from the testimony of Mr. Dietrich, one of the authors of that document, and we therefore find, that the basis on which each of the listings was promulgated has no application to wastes that were generated at the Respondent's Vicksburg Plant. We also find that, as in the case of dinoseb, toxaphene losses at the Vicksburg Plant were exempt from regulation under de minimis exception to the Mixture Rule, MHWMR Section 261.3(a)(2)(iv)(D).

9.

A determination that the facility is not a hazardous waste storage facility pursuant to the regulation, does not remove it from the entire environmental regulatory scheme which this Commission is charged with the responsibility to enforce. On the contrary, groundwater monitoring has been required of this facility pursuant not only to the regulations, but also on the basis of the Clean Water Act. The Respondent continues to have a responsibility to sample and analyze groundwater monitoring wells that have been installed on the perimeter of the surface impoundment on a regular basis and to report the analytical results of such samples to the Mississippi Department of Natural Resources on a quarterly basis. In the event the Department should determine on the basis of such analytical results the corrective action is necessary to protect human health or the environment, the Department still maintains the power and indeed the duty to require the Respondent to implement

such corrective action as shall be reasonably required. The Respondent maintains a closure trust fund for the Vicksburg Plant, which the Respondent is willing to maintain intact, in order to provide financial assurance that the surface impoundment will eventually be closed when it is no longer needed for waste management, including collection of contaminated storm water runoff. Moreover, the company maintains the responsibility of maintaining the integrity of the containment dikes around the surface impoundment. This obligation exists under both the Clean Water Act and RCRA. Further, the company must continue to comply with all provisions of its NPDES permit as it pertains to the treatment and discharge of a fluid from the surface impoundment, including not only non-hazardous wastewater discharge to the surface impoundment from inorganic production operations at the plant, but also surface and storm water runoff received from the surface impoundment.

IT IS THEREFORE ORDERED that the motion to dismiss filed by the Respondent is granted. This Commission's Order No. 1046-86 is hereby and forthwith vacated. Order No. 1153-86 is incorporated herein by reference.

ORDERED AND ADJUDGED, this the 5th day of August, 1987, by the Mississippi Commission on Natural Resources.

MISSISSIPPI DEPARTMENT OF  
NATURAL RESOURCES

BY:

  
CHARLIE L. BLALOCK  
EXECUTIVE DIRECTOR

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 from being returned to you. The return receipt fee will provide you the name of the person ordered 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.

3. Article Addressed to:

Mr. Fred Ahlers, Plant Manager  
Vicksburg Chemical Corp.  
P. O. Box 3  
Vicksburg, MS 39180

4. Article Number

R506 567 581

Type of Service:

- Registered       Insured  
 Certified       COD  
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X

6. Signature - Agent

X

7. Date of Delivery

4-29-87

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

PO Box 3  
Vicksburg MS 39180

**UNITED STATES POSTAL SERVICE  
OFFICIAL BUSINESS**



**SENDER INSTRUCTIONS**

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.



**PENALTY FOR PRIVATE  
USE. \$300**

**RETURN  
TO**



Print Sender's name, address, and ZIP Code in the space below.

DEPT. OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL  
P. O. BOX 10385  
JACKSON MS 39209



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
P.O. Box 20305  
Jackson, Mississippi 39209  
(601) 961-5000



April 23, 1987

CERTIFIED MAIL NO. P-506 567 581

Mr. Fred Ahlers, Plant Manager  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

At its meeting held on Wednesday, April 22, 1987, the Mississippi Commission on Natural Resources considered certain evidence regarding your operation in Warren County. Enclosed is Commission Order No. 1217-87, which has been issued as a result of that consideration. Please note that the Commission assessed a monetary penalty in the amount of \$750.00, which the company has agreed to pay in settlement of this matter.

Your cooperation in carrying out the provisions of the enclosed order is encouraged. As you know, appeals can be taken in accordance with the law.

If you have any questions, please contact Mr. Sam Mabry at telephone number 961-5171.

Sincerely,

Charlie L. Blalock  
Executive Director

CLB:CHC:mh  
Enclosure

cc: Mr. Bill Smith, Brunini, Grantham, Grower & Hewes, Jackson, MS  
(w/enclosure)  
Mr. Allen T. Malone, Apperson, Crump, Duzane & Maxwell, Memphis, TN  
(w/enclosure)

BEFORE THE MISSISSIPPI COMMISSION ON NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

IN THE MATTER OF:

MISSISSIPPI COMMISSION ON  
NATURAL RESOURCES

COMPLAINANT

VS.

ORDER NO. 1217 87

VICKSBURG CHEMICAL CORPORATION

RESPONDENT

ORDER

The above styled cause came on this date for consideration and the Commission, having heard and considered the same, finds as follows:

1.

The Respondent, Vicksburg Chemical Corporation, owns and operates a facility producing inorganic chemicals and pesticides, which processes have resulted in the generation of hazardous wastes and, as such, is subject to the provisions of laws of this State governing the storage and handling of hazardous wastes, the same appearing as Section 17-17-1, et. seq., and the rules and regulations of the Mississippi Commission on Natural Resources.

2.

On February 19, 1987, staff of the Bureau of Pollution Control discovered that the Respondent had not complied fully with all requirements pertaining to hazardous waste management at his facility.

3.

Respondent admitted that, in accordance with the Mississippi Hazardous Waste Management Regulations (MHWMR), Vicksburg Chemical Corporation has:

- a) stored hazardous wastes in improper containers in violation of MHWMR Section 265.171
- b) stored hazardous wastes in containers that were not properly closed in violation of MHWMR Section 265.173

4.

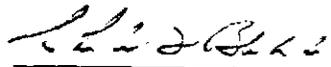
Premises considered, and with full knowledge and agreement of Vicksburg Chemical Corporation, the Commission hereby assesses a monetary penalty of \$750 against Vicksburg Chemical Corporation for the aforementioned acts. The Respondent has agreed to pay this negotiated penalty as settlement for the violations specified above. The company has since come into compliance with the aforementioned regulations, and has expressed a desire to carry out whatever requirements would be placed on the Company so as to resolve this matter, including, the waiving of service of a complaint in connection herewith, and the waiving of a formal hearing before the Commission.

IT IS, THEREFORE, ORDERED AND ADJUDGED that the Respondent, Vicksburg Chemical Corporation, pay to the Commission on Natural Resources a monetary penalty of \$750 within 60 days.

ORDERED AND ADJUDGED, this the 22nd day of April, by the Mississippi Commission on Natural Resources.

MISSISSIPPI DEPARTMENT OF  
NATURAL RESOURCES

BY:

  
CHARLIE L. BLALOCK  
EXECUTIVE DIRECTOR



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
P.O. Box 20305  
Jackson, Mississippi 39209  
(601) 961-5000



April 23, 1987

CERTIFIED MAIL NO. P-506 567 581

FILE COPY

Mr. Fred Ahlers, Plant Manager  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

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If you have any questions, please contact Mr. Sam Mabry at telephone number 961-5171.

Sincerely,

Charlie L. Blalock  
Executive Director

CLB:CHC:mh  
Enclosure

cc: Mr. Bill Smith, Brunini, Grantham, Grower & Hewes, Jackson, MS  
(w/enclosure)  
Mr. Allen T. Malone, Apperson, Crump, Duzane & Maxwell, Memphis, TN  
(w/enclosure)

BEFORE THE MISSISSIPPI COMMISSION ON NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

IN THE MATTER OF:

MISSISSIPPI COMMISSION ON  
NATURAL RESOURCES

COMPLAINANT

VS.

ORDER NO. 1217 87

VICKSBURG CHEMICAL CORPORATION

RESPONDENT

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On February 19, 1987, staff of the Bureau of Pollution Control discovered that the Respondent had not complied fully with all requirements pertaining to hazardous waste management at his facility.

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Respondent admitted that, in accordance with the Mississippi Hazardous Waste Management Regulations (MHWMR), Vicksburg Chemical Corporation has:

- a) stored hazardous wastes in improper containers in violation of MHWMR Section 265.171
- b) stored hazardous wastes in containers that were not properly closed in violation of MHWMR Section 265.173

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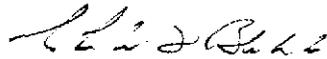
Premises considered, and with full knowledge and agreement of Vicksburg Chemical Corporation, the Commission hereby assesses a monetary penalty of \$750 against Vicksburg Chemical Corporation for the aforementioned acts. The Respondent has agreed to pay this negotiated penalty as settlement for the violations specified above. The company has since come into compliance with the aforementioned regulations, and has expressed a desire to carry out whatever requirements would be placed on the Company so as to resolve this matter, including, the waiving of service of a complaint in connection herewith, and the waiving of a formal hearing before the Commission.

IT IS, THEREFORE, ORDERED AND ADJUDGED that the Respondent, Vicksburg Chemical Corporation, pay to the Commission on Natural Resources a monetary penalty of \$750 within 60 days.

ORDERED AND ADJUDGED, this the 22nd day of April, by the Mississippi Commission on Natural Resources.

MISSISSIPPI DEPARTMENT OF  
NATURAL RESOURCES

BY:



CHARLIE L. BLALOCK  
EXECUTIVE DIRECTOR



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



MEMORANDUM

TO: File

FROM: Sam Mabry

DATE: June 18, 1987

SUBJECT: Penalty settlement for Vicksburg Chemical Corporation

A penalty of \$1874 was calculated using the EPA penalty computation worksheet. Because the facility is currently involved in a separate major RCRA legal proceeding before our Commission, the Bureau has accepted a decreased penalty settlement which will eliminate charges of harassment from the Company that could influence the legal proceedings. The Company agreed to a settlement of \$750.

SM:sae

IX. APPENDIX

PENALTY COMPUTATION WORKSHEET

Company Name: Vicksburg Chemical  
Regulation Violated 268.171 + 265.173  
Assessments for each violation should be determined on separate worksheets and totalled.  
*Condition of Containers + Management of Containers*

(If more space is needed, attach separate sheet.)

Part I - Seriousness of Violation Penalty

- 1. Potential for Harm: Minor
- 2. Extent of Deviation: Moderate
- 3. Matrix Cell Range: \$500 - \$1499  
Penalty Amount Chosen: \$1499  
Justification for Penalty Amount Chosen: Maximum of Range
- 4. Per-Day Assessment: One time only

Part II - Penalty Adjustments

	<u>Percentage Change*</u>	<u>Dollar Amount</u>
1. Good faith efforts to comply/lack of good faith:	<u>NA</u>	<u>0</u>
2. Degree of willfulness and/or negligence:	<u>NA</u>	<u>0</u>
3. History of noncompliance:	<u>+25%</u>	<u>\$375</u>
4. Other unique factors:	<u>NA</u>	<u>0</u>
5. Justification for Adjustments:		

\* Percentage adjustments are applied to the dollar amount calculated on line 4, Part I.

PENALTY COMPUTATION WORKSHEET (cont.)

6. Adjusted Per-day Penalty (Line 4, Part I + Lines 1-4, Part II):	<u>\$1874</u>
7. Number of Days of Violation:	<u>NA</u>
8. Multi-day Penalty (Number of days x Line 6, Part II):	<u>NA</u>
9. Economic Benefit of Noncompliance:	<u>NA</u>
Justification:	
10. Total (Lines 8 + 9, Part II):	<u>\$1874</u>
11. Ability to Pay Adjustment:	
Justification for Adjustment:	<u>NA</u>
12. Total Penalty Amount (must not exceed \$25,000 per day of violation):	<u>\$1874</u>

Potential for Harm - Minor

The likelihood of exposure to hazardous waste is minimal.

- 1) The uncovered drum consisted of a semi-solid which is unlikely to migrate.
- 2) Only one container was not in compliance.
- 3) Containers are stored on a concrete base connected to a collection sump.

Extent of Deviation - Moderate

The facility violated Section 265.171 which requires containers to be closed.

SUMMARY OF REGULATORY ACTIONS  
AND OTHER WORK PERFORMED AT  
CEDAR CHEMICAL CORPORATION  
VICKSBURG, MISSISSIPPI

40CFR 265.90 required that, by November 11, 1981, operators of surface impoundments or landfills must install and operate a groundwater monitoring system.

1. The first hydrogeological work performed at the Cedar Chemical site was done in September-October 1981. It is summarized in a report by Developers International Services Corporation (DISC) dated November 21, 1981. Four monitoring wells were installed as follows:
  - a) #1 - 30 feet BLS
  - b) #2 - 40 feet BLS
  - c) #3 - 30 feet BLS
  - d) #4 - 20 feet BLS

These wells were sampled:

- a) December 16, 1981
- b) April 13, 1982
- c) September 30, 1982
- d) December 27, 1982

See Memo to File from David Lee dated April 15, 1982

Four additional wells were installed in march 1983. Sampling occurred:

- a) June 3, 1983 (Wells 4,5,6,7,8 only)
- b) July , 1983 (Wells 4,5,6,7,8 only)
- c) October 31, 1983 (Wells 1,2,5,6,7,8)
- d) November 9, 1983 (MDNR sampled all 8 wells)
- e) February 1984 (Wells 1,2,5,6,7,8)
- f) December 1984 (MDNR sampled wells 1 and 8)
- g) May 1985 (Appendix VIII was done on all 8 wells)
- h) February 6, 1986 (Wells 1,4,9,10,11 for DNBP only)

- 2) A USEPA Site Investigation was conducted on October 28, 1981. Four sediment samples and two surface water samples were collected. Vertac submitted the report to MDNR on April 20, 1982. The focus of the investigation was a reclaimed pit (landfill) area just to the southeast of the lagoons. (I

believe this to be where the SWCA was placed in 1989).

- 3) Several soil samples were collected (see August 24, 1982 letter) to locate clean dirt for remedial activities. Additional soil samples were collected in this area on October 28, 1982.
- 4) Commission Order 599-82 was issued November 11, 1982.
- 5) The Part B was formally requested by EPA in early 1983 (perhaps January).
- 6) The dike to the lagoons ruptured in February 1983, releasing 700,000 gallons of wastewater into Stout's Bayou. MDEQ collected several samples.
- 7) In late February-early March 1983, four additional monitoring wells were installed by MCI of Memphis, Tennessee. See March 21, 1983 report by MCI.
- 8) Three seepage/leachate samples were collected by MDNR on March 1, 1983.
- 9) The Part B was submitted on August 10, 1983. EPA commented on September 16, 1983. MDNR issued comments September 29, 1983. A revised Part B was requested by MDNR on November 1, 1983. On December 22, 1983, Vertac resubmitted the revised Part B. Mississippi Commission on Natural Resources Order 717-84 was issued June 11, 1984. It required submittal of a groundwater assessment program and a revised Part B. The groundwater assessment plan was submitted on August 6, 1984. The revised Part B was submitted September 27, 1984. An interim report for the groundwater assessment program was submitted on April 15, 1985. Because many of Vertac's responses to "requests for additional information" were not in a form which could be incorporated into the Part B, MDNR requested on March 29, 1985 that Vertac resubmit a Part B, taking in all past comments and responses, plus additional info that MDNR felt was lacking. This revised Part B was submitted on June 18, 1985.
- 10) Wells 1 - 8 were sampled for Appendix VIII constituents on May 23, 1985.
- 11) A Notice-of-Violation (NOV) was issued to Vertac by EPA on September 12, 1985 due to failure by Vertac to submit exposure

information for the impoundment as required by 270.10(j)(2).

- 12) On November 14, 1985, MDNR sent an NOD to Vertac regarding its most recent (June 18, 1985) submittal of Part B.
- 13) On November 20, 1985, MCNR issued Order 948-85, requiring a revised closure/post closure, groundwater monitoring and corrective action plans.
- 14) In late 1985, Vertac installed four new monitoring wells, bringing the total to twelve onsite monitoring wells.
- 15) On July 9, 1986, Vertac filed a Motion-to-Dismiss, based on the idea that the South Plant surface impoundments should be exempt from RCRA regulation due to the "de minimis" exclusion of the mixture rule (40 CFR 261.3). The case was argued at the September 16, 1986, Mississippi Commission on Natural Resources hearing, but no verdict was given.
- 16) On July 10, 1986, a Show-Cause hearing was called for Vertac at MDNR offices on August 26, 1986.
- 17) On July 31, 1986, MNR Permit Board formally denied Vertac issuance of a hazardous waste storage permit.
- 18) Numerous sediment and water samples were collected by MDNR on September 3, 1986. Some splits were sent by Vertac to EPS Lab.
- 19) On December 17, 1986, the Commission ruled that, with regard to Dinoseb, the South Plant impoundments were exempt from RCRA regulation. EPA and MDNR then wanted to have the units regulated with regard to Toxaphene.
- 20) On August 5, 1987, the Mississippi Commission on Natural Resources ruled that the surface impoundment at Vertac (Cedar) was not a hazardous waste management unit for Toxaphene wastes. This, coupled with the ruling of the Commission on December 17, 1986, for Dinoseb, effectively ended the need for a RCRA permit for that unit.

However, the Drum Storage Area, which had been found to be mismanaged in previous inspections, was considered by EPA to not be a less-than-90 day storage unit.

- 21) Because that Cedar knew that EPA did not view the South Plant surface impoundments well in spite of the Commission's ruling, they offered to contain sediments from the impoundments by solidification and landfilling. The impoundments could then continue to be used for non-hazardous waste treatment. However, Cedar did not want to proceed without the blessings of EPA and MDNR (now DEQ). EPA and DEQ refused to formally approve the action until a closure plan was submitted.
  
- 22) The Closure/Retrofit plan was submitted in August 1988. The plan called for the removal of contaminated sediments from the surface impoundment system and solidification in a double-lined, capped, leachate collected Solid Waste Consolidation Area (SWCA). The impoundments were to then be retrofitted with a double-liner with leachate collection and leak detection.
  
- 23) Closure work began about January 1989 and concluded \_\_\_\_\_.

a: CEDRSMRY.DOC

40CFR265.90 required that by 11/19/81, operators of surface impoundments or landfills must install & operate a GWS monitoring system.

1. The first hydro work was done at the site in September/October 1981. It is summarized in a report by Developers International Services Corporation (DISC) dated November 21, 1981. Four monitoring wells were installed as follows:

- 1) #1 - 30 ft BLS
- 2) #2 - 40 ft BLS
- 3) #3 - 30 ft BLS
- 4) #4 - 20 ft BLS

- Dec 1984 (BPC wells 1+8)
- 9) Feb 1984 (Wells 1, 2, 5, 6, 7, 8)
- (10) May 1985 (Wells 1-8) App VIII
- 11) Feb 6, 1986 (Wells 1, 4, 9, 10, 11; DNDP only)

These wells were sampled

- 1) 12-16-81
- 2) 4-13-82 — ? missed a quarter?
- 3) 9-30-82
- 4) 12-27-82

Four additional wells were installed 3/83

- 5) 6-3-83 (wells 4, 5, 6, 7, 8)
- 6) 7- -83 (wells 4, 5, 6, 7, 8)
- ~~7) 8-23-83 (wells 4, 5, 6, 7, 8)~~
- 7B) MDEQ sampled all wells 11-9-83
- 8) 10-31-83 (wells 1, 2, 5, 6, 7, 8)

See memo to File (GW), from David Lee dated 4/15/82

2. A USEPA site investigation was conducted on October 28, 1981. Four sediment samples and two surface water samples were collected. Vertac submitted the report to MDEQ on 4/20/82. The focus of the investigation was a reclaimed pit <sup>(landfill)</sup> area just to the southeast of the lagoons. (I believe this to be where the SWCA was placed in 1989).

3. Several soil samples were collected (see August 24, 1982 letter) to locate clean dirt for remedial activities. Additional soil samples were collected in this area on October 28, 1982.

4. Commission order 599-82 was issued November 11, 1982

5. The Part B was formally requested <sup>by EPA</sup> in early 1983 (perhaps January)

6. The dike to the lagoons ruptured in Feb 1983, releasing about 700,000 gallons of wastewater into Stout's Bayou. MDEQ collected several samples

8. Three seepage/leachate samples were collected by DEQ on 3/1/83

In late February - early March 1983, 4 additional monitoring wells were installed by MCI of Memphis, Tennessee. See 3/21/83 report by MCI

42-182 100 SHEETS  
Made in U.S.A.  
NATIONAL

9. The Part B was submitted on August 10, 1983. EPA commented on September 16, 1983. MDEQ issued comments September 29, 1983. A revised Part B was requested by MDEQ on November 1, 1983. On December 22, 1983, Vertac resubmitted the revised Part B. Because many of Vertac's responses to "requests for additional information" were not in a form which could be incorporated into the Part B, MDNR requested on March 29, 1985 that Vertac resubmit a Part B taking in all past comments and responses, plus additional info MDNR felt was lacking.

10. (Mississippi Commission on Natural Resources Order 717-84 was issued on June 11, 1984. It required submittal of a GW assessment program and a revised Part B. The GW assessment plan was submitted August 6, 1984. The revised Part B was submitted September 27, 1984.

a) The interim report for the GW assessment program submitted 4/15/85

10. Wells 1-8 were sampled for App VIII constituents on May 23, 1985.

10. A Notice-of-Violation (NOV) was issued to Vertac by EPA on Sept 12, 1985 due to failure by Vertac to submit exposure information for the impairment as required by 270.10(c)(2).

This Part B was submitted on June 18, 1985. On November 14, 1985, MDNR sent a NOD to Vertac regarding its most recent Part B submittal.

11. On November 20, 1985, MDNR issued Order 948-85, requiring <sup>revised</sup> closure/part closure plan and groundwater monitoring and corrective action plan.

12. In late 1985, Vertac installed 4 new monitor wells (called #'s 9, 10, 11, and 12).

13. On July 9, 1986, Vertac filed a Motion-to-Dismiss.

14. On July 10, 1986, a Show Cause hearing was called for Vertac @ MDNR on August 26, 1986.

15. On July 31, 1986, MNR Permit Board formally denied <sup>Vertac</sup> issuance of a hazardous waste storage permit. Also, closure plan comments were issued.

16. Numerous sediment & water samples were collected by MDNR on September 3, 1986. Some splits were sent by Vertac to EPS.

for toxaphene wastes

After <sup>the Commission's</sup> ruling of December 17, 1986, that the impoundment was not a hazardous waste management unit for Dinoseb, this

4. On August 5, 1987, the Mississippi Commission on Environmental Quality ruled that the surface impoundment at Cedar was not a hazardous waste management unit, effectively ending the need for a RCRA permit for that unit.
1. After several submissions of a Part B application <sup>by Cedar</sup> and having found them ~~deficient~~, MDEQ requested a "show-cause" meeting on July 8, 1986.
2. Cedar filed a Motion-to-Dismiss based on the idea that the South Plant surface impoundments should be exempt from RCRA regulation due to the "de minimus" exclusion of the mixture rule (40CFR261.3). The case was argued at the September 16, 1986 ~~Mississippi Commission on Environmental Quality hearing~~ Mississippi Commission on Environmental Quality hearing, but no verdict was given.
3. On December 17, 1986, the Commission ruled that, with regard to Dinoseb, the South Plant impoundments were exempt from RCRA regulation. EPA and MDEQ then wanted to have the units regulated under RCRA with regards to Toxaphene.
5. However, the Drum Storage Area, which had been found mismanaged in previous inspections, was considered by EPA not to be a less-than-90 day unit.
6. Because Cedar knew that EPA did not view the South Plant surface impoundments well in spite of the Commission's ruling, they offered to contain sediments from the impoundments by solidification and landfilling. The impoundments could then continue to be used for nonhazardous waste treatment. However, Cedar did not want to proceed without the blessings of EPA and MDEQ. EPA + MDEQ refused to comment until a formal closure plan was submitted.
7. The Closure/Retrofit plan was submitted in August 1988. The plan called for the removal of contaminated sediments from the surface impoundment system and solidification in a double-lined Solid Waste Consolidation Area (SWCA). The impoundments were to then be retrofitted with a double-lined, leachate collection system.

leachate  
collected  
copper

DOCKET  
Vertac Chemical Corporation

<u>Number</u>	<u>Date</u>	<u>Description</u>
1	02/16/83	EPA and DNR letter requesting Part B
2	03/14/83	Memo describing a meeting on the Part B submittal
3	04/07/83	Vertac letter describing activities to replace the impoundment dike
4	04/25/83	Vertac letter describing contracts for dike impoundment
5	05/31/83	Vertac letter with revised Part A and information on tank storage
6	06/06/83	Commission order to repair the dike
7	06/09/83	Vertac letter revising inspection form
8	06/21/83	Vertac submittal of plans for modifying dike
9	06/30/83	Vertac modifications to contingency plans
10	07/18/83	EPA letter concerning review of the dike corrections
11	08/10/83	Part B received
12	08/24/83	DNR letter to EPA transmitting Part B applications
13	09/16/83	EPA letter reviewing proposed dike construction
14	09/29/83	DNR letter commenting on dike construction
15	10/26/83	Memo on inspection of dike construction
16	10/28/83	Vertac letter concerning dike construction
17	10/18/83	EPA letter on completeness review
18	11/01/83	DNR letter with completeness review
19	11/18/83	DNR inspection letter of impoundment dike
20	11/21/83	Vertac letter certifying dike completion
21	12/22/83	Vertac response to completeness review and Part B modifications

<u>Number</u>	<u>Date</u>	<u>Description</u>
22	01/24/84	Memo on conversation with Vertac concerning groundwater contamination
23	03/09/84	Vertac letter on possible groundwater contamination
24	06/11/84	BPC letter requiring additional Part B information
25	08/06/84	Vertac letter on groundwater assessment
26	08/14/84	Vertac request for extension for submittal of additional Part B information
27	09/13/84	BPC letter granting Part B extension
28	09/27/84	Vertac letter on additional Part B information
29	10/03/84	BPC letter on Vertac's groundwater assessment
30	11/14/84	Vertac letter on groundwater assessment Appendix VII scan
31	11/26/84	BPC letter on groundwater assessment
32	02/22/85	Vertac letter on Appendix VIII scan
33	02/28/85	BPC letter requiring Appendix VIII scan
34	03/12/85	EPA letter requiring Vertac to submit revised Part B in accordance with 1984 amendments
35	03/19/85	Letter from Vertac requesting BPC approval of Appendix VIII sampling proposal
36	03/29/85	Letter from Vertac

<u>Number</u>	<u>Date</u>	<u>Description</u>
37	03/29/85	Letter from BPC requiring a revised Part B and groundwater corrective action plan
38	04/11/85	Letter from EPA notifying Vertac of the 1984 HSWA requirements
39	04/22/85	BPC letter to Vertac approving Appendix VIII sampling plan
40	05/23/85	Letter from IT Corporation requesting extension of the deadline for Part B revision
41	05/28/85	Vertac letter confirming inability to meet June 19, 1985 submittal date.
42	06/05/85	BPC letter to Caron Falconer enclosing latest information on Vertac's groundwater
43	06/18/85	BPC letter granting an extension for Part B submittal
44	10/01/85	Vertac letter to Region IV stating intentions of submitting Exposure Report by 10/25/85
45	04/25/86	Facility Status Sheet - Part B
46	04/26/86	Facility Status Sheet - Closure

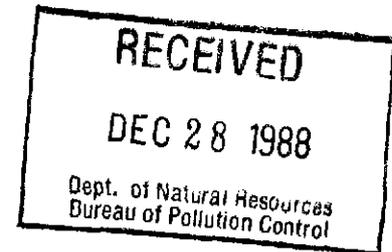
# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 677 981 802

Mr. Steve Spengler, P.E.  
Coordinator - TSD Branch  
Hazardous Waste Division  
Bureau of Pollution Control  
2380 U.S. Highway 80 West  
Jackson, Mississippi 39209



December 21, 1988

Subject: Cedar Chemical, Vicksburg Chemical Division  
South Pond Closure and Retrofit Post-Closure Activities

Dear Mr. Spengler:

As we discussed by telephone December 19, 1988, Vicksburg Chemical desires to modify the current groundwater monitoring program it operates at the Vicksburg facility. We currently sample and analyze fourteen wells for total arsenic, methylene chloride, toxaphene and dinitro-butylphenol on a quarterly basis.

We wish to reduce the frequency of sampling from quarterly to bi-annually with the exception of Well No. 1A. Additionally, we wish to discuss the elimination of wells which may be redundant for sampling purposes and wish to discuss which parameters are appropriate for future monitoring.

As groundwater monitoring activities influence the post-closure care cost estimate, we would very much like to meet with you to discuss the details involved in calculating the required amount of funding to be held in trust and for what period.

Please advise if January 17, 1989, is a convenient date to meet and discuss these items. Thank you for your consideration.

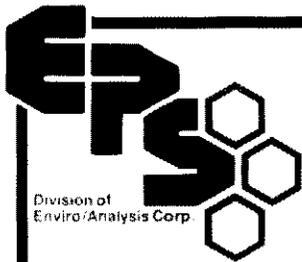
Sincerely,

A handwritten signature in dark ink, appearing to read "Steven T. Boswell".

Steven T. Boswell  
Director of Env. Affairs

STB: pc

xc: Mr. Ahlers  
Mr. Madsen  
Mr. Malone



# Environmental Protection Systems

Comprehensive Engineering Services and Analytical Testing

November 3, 1988  
File No. 1.89.3.0733

Mr. Louis H. Crawford, P.E.  
TDS Branch, Hazardous Waste Division  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, MS 39209

RECEIVED  
NOV - 4 1988  
Dept. of Natural Resources  
Bureau of Pollution Control

Dear Mr. Crawford:

Subject: Vicksburg Chemical Results

The "not determined" results for the Well No. 1A at Vicksburg Chemical was a result of no qualitative recovery of surrogate standard for that sample. This was the probable result of new analysts doing this complicated esterification process for the first time. I have required our new Organic Group to successfully esterify dinitrobutyphenol and a surrogate standard on at least three sets of blank water samples before analyzing the next quarter's samples from these wells.

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

Sincerely,

ENVIRONMENTAL PROTECTION SYSTEMS

*John P. Broussard*  
John P. Broussard  
Laboratory Coordinator

JPB/ncr

DIVISION OF SOLID WASTE

REVIEWED BY *[Signature]*

DATE 7 NOV 88

COMMENTS copy in Comp. file

copy to EPA

\_\_\_\_\_



**FILE COPY**

October 18, 1988

Mr. Steven Boswell  
Cedar Chemical Corporation  
Vicksburg Chemical Division  
P. O. Box 3  
Vicksburg, Mississippi 39180

Re: Closure/Retrofit Plan  
Surface Impoundment System  
Submitted August 4, 1988  
EPA ID No. MSD990714081

Dear Mr. Boswell:

The Bureau has completed its review of the Closure/Retrofit Plan for the surface impoundment system at your Vicksburg facility, submitted to this office on August 4, 1988. We have also reviewed International Technology Corporation's (IT) August 30, 1988, response to comments made on the plan during the meeting between representatives of the Bureau and Vicksburg Chemical on August 30, 1988.

As we have discussed, our review of this closure plan has not been made to ensure compliance with RCRA closure requirements for surface impoundments and therefore the closure may not meet the RCRA closure standards. However, the Bureau concurs that this plan would constitute an environmentally sound closure provided that the following changes are made:

1. The changes in the plan proposed in IT's August 30, 1988, letter are incorporated into the plan, including;
  - a) The equipment decontamination criteria and procedures as described in the first response in IT's letter.
  - b) Whenever the Action Leakage Rate (ALR) of 20 gallons per acre per day is exceeded, Vicksburg Chemical submits a Response Action Plan to the Bureau within 90 days from the time VOC determines the rate has been exceeded.
  - c) Post-closure care of the cover for the Solid Waste Consolidation Area (SWCA) including groundwater monitoring be conducted for a minimum of 30 years.

Mr. Steven Boswell  
October 18, 1988  
Page -2-

2. VCC should sample the soils left in place beneath the liners and the leachate collection and detection systems to determine the levels of contamination left in place that might impact the groundwater. The parameters analyzed for should at a minimum include arsenic, toxaphene, atrazine, bladex, dinoseb, and methyl parathion. Samples should be analyzed for both total concentrations of these parameters and using EP Toxicity Procedures.
3. VCC should determine the source of groundwater contamination detected in wells MW-1, MW-1A, and MW-15.
4. The post-closure cost estimate should include costs for anticipated well replacement or repair.
5. VCC's current trust agreement providing financial assurance for closure and/or post-closure should be fully funded to cover the entire amount of post-closure. These funds should not be used to reimburse VCC for costs incurred during closure.
6. VCC determine the leakage rate of the liner systems at least weekly.

If you have any questions, please contact me at 961-5171.

Sincerely,

Wm. Stephen Spengler, P.E.  
Coordinator - TSD Branch  
Hazardous Waste Division

WSS:mes

cc: Mr. James H. Scarbrough, EPA, Region IV

## RECORD OF TELEPHONE CONVERSATION

Name of firm or party

Cedar Chemical; Vicksburg Chemical Division

Address

Vicksburg

Contact

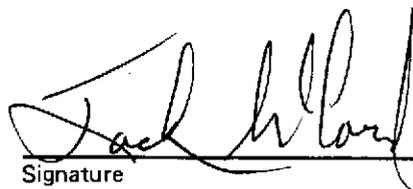
Steve Baswell

Phone

636-1231

I talked to Steve Baswell about VCC's closure and retrofit plan for their surface impoundment. During our conversation I made the following suggestions:

1. VCC should incorporate ET's responses to my comments that involve changes in the closure plan into the closure plan.
2. VCC needs to document the amount and concentrations of the residual contaminants that will be left in place beneath the liners after closure. Along with a total analysis for pesticides, they should also run ET-Tox for toxaphene.
3. VCC still needs to identify the source of groundwater contamination in wells 15 (plugged) and 1A.
4. For this to be an environmentally sound closure, there should be some financial assurance for post-closure. VCC still has a trust fund, but I'm uncertain if they are still paying into it, or if the Bureau really has legal access to it.



Signature

9-26-88

Date



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



MEMORANDUM

TO: Vicksburg Chemical File

FROM: Jack McCord

SUBJECT: Closure Plan for Surface Impoundment

DATE: August 22, 1988

**FILE COPY**

On this date, I met with Steve Boswell of Vicksburg Chemical Corporation (VCC) to discuss questions I had concerning the closure plan for their surface impoundment. VCC would like to bid out the closure in the next two weeks. I informed Mr. Boswell that it would be extremely unlikely that the Bureau would issue any formal opinion that the closure complies with all RCRA standards within the next few months. I also informed Mr. Boswell that by closing without formal approval VCC was risking a possible future action by EPA that could rule the closure was inadequate by RCRA standards.

During the meeting I expressed concern about the following elements of the closure plan:

1. VCC did not state what levels of contamination would be used for determining if equipment used during closure had been successfully decontaminated.
2. The proposed post-closure care period of only three years is entirely inadequate.
3. Neither the text or drawings in the closure plan make clear the number or location of the gas vents.
4. The equalization culverts that would penetrate the liners and connect the differing cells of the surface impoundment represent a significant potential for liner failure.
5. VCC fails to specify the levels of leachate generation that would trigger an investigation of possible liner failure and liner repair.
6. VCC does not address the potential for liner degradation due to exposure to sunlight.

7. VCC should explain why it will be necessary for the HDPE valve stem casing that provides access to the culvert gate valve to penetrate the liner.
8. The high level alarm in the leachate collection/leachate detection sump should be set so that the alarm would sound prior to the leachate backing up into the collection system.
9. VCC should specify the level of leachate collected in the sump that would activate the submersible pump.

I also expressed the concern that the proposed depth of the surface impoundment combined with the slickness and the steep slope of its side could pose a safety hazard at the site.

Mr. Boswell said he thought they could address all of my concerns with the possible exception of the equalization culverts. He would get with his consultants and make the necessary changes as quickly as possible.

JM:lr

# CEDAR CHEMICAL CORPORATION

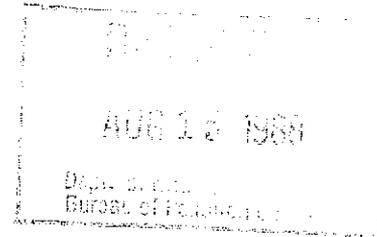
24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 677 980 764

August 12, 1988

Mr. Jack McCord  
Environmental Engineer  
Bureau of Pollution Control  
2380 Highway 80 West  
Jackson, Mississippi 39209



Subject: 30 Day Extension for Waste Disposal

Dear Mr. McCord:

As requested in the letter dated July 14, 1988, from Mr. Sam Mabry, please find attached copies of the returned manifests for the drums described in previous correspondence.

There were weight discrepancies reported by Ensco, Inc., and they are noted on the returned manifests. Forty-two drums were disposed rather than the thirty-six originally described. Six were added for the convenience of disposal at the same time.

If there are questions concerning this matter, please contact me.

Sincerely,

  
Steven T. Boswell  
Director of Env. Affairs

STB: pc

DIVISION OF SOLID WASTE

REVIEWED BY STB

DATE 8/15/88

COMMENTS Sent to EPA

in weekly mail



*EES*

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-88

AR 10-88(9-88)

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. MSD99071408108029		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Cedar Chemical Corporation P.O. Box 3, Vicksburg, MS 39180 601 - 636-1231				A. State Manifest Document Number <b>AR-106546</b>			
4. Generator's Phone ( )				B. State Generator's ID MSD990714081			
5. Transporter 1 Company Name EnSCO		6. US EPA ID Number ARD069748192		C. State Transporter's ID ARD069748192		D. Transporter's Phone 504-389-0988	
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Transporter's ID H10 PC 708		F. Transporter's Phone	
9. Designated Facility Name and Site Address ENSCO INC. AMERICAN OIL ROAD EL DORADO AR 71730				10. US EPA ID Number ARD069748192		G. State Facility's ID SAME	
				H. Facility's Phone 501-8637173			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers	13. Total Quantity
a. RQ Substituted Nitrophenol Pesticide, Solid N.O.S. (Dinoseb) UN2779						No. Type	14. Unit Wt/Vol
J. Additional Descriptions for Materials Listed Above Waste dinoseb from tank cleanout. Job #311082						K. Handling Codes for Wastes Listed Above STEVEN T. BOSWELL 601-636-1231	
15. Special Handling Instructions and Additional Information Wear chemical gloves and eye protection when handling. Avoid skin contact. In case of spill, dike and contain. Place in bins or drums. Use non-alkaline absorbents.							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name Steven T. Boswell				Signature <i>Steven T. Boswell</i>		Month Day Year 08 02 88	
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name Blaine Richard		Signature <i>Blaine Richard</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name		Signature	
19. Discrepancy Indication Space  NO 12, 899							
20. Facility Owner or Operator. Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name JANICE STANDRIDGE				Signature <i>Janice Standridge</i>		Month Day Year 08 03 88	

501-863-7173



American Oil Road  
P.O. Box 1957  
El Dorado, Arkansas 71731

DATE: 8-8-98

COMPANY NAME: Cedar Chemical Corporation

ATTENTION: \_\_\_\_\_

This letter will serve to notify you of the following discrepancies on  
AR- 106546 received at ENSCO, INC., on \_\_\_\_\_ (Date),  
Plant # JPS - 8089 (E.O.N.).

Weight Discrepancy  $\pm$  10%. The correct weight is 12,899

Generator's EPA or State I.D. # corrected or added \_\_\_\_\_

Generator's address corrected or added \_\_\_\_\_

Container count changed from \_\_\_\_\_ to \_\_\_\_\_

Manifest created from AR-\_\_\_\_\_. Documentation on file.  
# of drums \_\_\_\_\_

D.O.T. Description corrected or added \_\_\_\_\_

Additional Comments: \_\_\_\_\_

This letter is being used to fulfill ENSCO's obligation to comply with the  
Arkansas State Hazardous Waste Management Code. We at Ensco, Inc. appreciate  
your cooperation in this matter.

If you DO NOT agree with this final information, contact your sales corres-  
pondent immediately to reconcile any discrepancies.

Gerald Cameron  
Material Handling Manager

GC/sm



*EES*

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-88

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. MSD99071408108028		Manifest Document No.		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.					
3. Generator's Name and Mailing Address Cedar Chemical Corporation P.O. Box 3, Vicksburg, MS 39180						A. State Manifest Document Number <b>AR-106547</b>							
4. Generator's Phone (601) - 636-1231						B. State Generator's ID MSD99071408108028							
5. Transporter 1 Company Name Enesco			6. US EPA ID Number ARD069748192			C. State Transporter's ID ARD069748192		D. Transporter's Phone 504-389-0988					
7. Transporter 2 Company Name			8. US EPA ID Number			E. State Transporter's ID H10 PC708		F. Transporter's Phone					
9. Designated Facility Name and Site Address ENSCO, INC AMERICAN OIL RD ELDERADO AR 71730				10. US EPA ID Number AKR1069748192		G. State Facility's ID Same as generator		H. Facility's Phone 501 862 7173					
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. RQ Substituted Nitrophenol Pesticide, Liquid N.O.S. (Dinoseb) UN2779						019DM		17600 P				P020	
b.													
c.													
d.													
J. Additional Descriptions for Materials Listed Above Waste dinoseb from tank cleanout. Job # 311082						K. Handling Codes for Wastes Listed Above STEVEN T. BOSWELL 601-636-1231							
if no alternate TSD, return to generator													
15. Special Handling Instructions and Additional Information Wear chemical gloves and eye protection when handling. Avoid skin contact. In case of spill, dike and contain. Place in bins or drums. Use non-alkaline absorbents.													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and Arkansas state regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name Steven T. Boswell				Signature <i>Steven T. Boswell</i>				Month Day Year 08 02 88					
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name Blaine Richard				Signature <i>Blaine Richard</i>				Month Day Year 08 02 88					
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name				Signature				Month Day Year					
19. Discrepancy Indication Space 112 7187													
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name JANICE STANBRIDGE				Signature <i>Janice Stanbridge</i>				Month Day Year 08 03 88					

August 10, 1988

**FILE COPY**

Mr. James R. Scarbrough, P. E., Chief  
RCRA Branch  
U. S. Environmental Protection Agency  
345 Courtland Street, N.E.  
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

Re: Cedar Chemical's Surface  
Impoundment Closure Plan

Enclosed for your review is one copy of Cedar Chemical's closure plan for the surface impoundment at their Vicksburg facility. It is our intent to closely coordinate with the Region in our review of this document.

If you have any questions regarding activities at this facility, please contact Jack McCord of my staff at (601) 961-5171.

Sincerely,

Wm Stephen Spengler, P. E., Coordinator  
TSD Branch, Hazardous Waste Division

WSS:JM:cm  
Enclosure



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



MEMORANDUM

TO: Vicksburg Chemical (VCC) File  
FROM: Jack McCord  
THROUGH: Steve Spengler  
SUBJECT: Status of Work Being Done at Vicksburg Chemical  
DATE: July 15, 1988

Today, I spoke to Steve Boswell concerning the work being done at Vicksburg Chemical. During our telephone conversation Steve made me aware of the following items:

1. He had not yet received our letter granting a 30 day extension for their drums of mixed dinoseb and sulfuric acid wastes. However, they were expecting Cecos to approve the waste stream next week and be able to dispose of the waste shortly. They have received non-reacting drum liners and expect to receive 70 new drums on Monday. If Cecos does not approve the waste stream VCC will be able to repackage the waste for shipment anyway.
2. The wells and piezometers VCC proposed to remove in the letter dated June 21, 1988, have been removed and plugged. A new well has been added also as proposed in the letter. VCC will be submitting a plan for adding this well to their sampling and analysis plan.
3. VCC has recently changed primary contractors for finalizing their closure plan. The new contractor is IT Corporation. Although they are still about 1 month behind they are now making substantial progress.
4. They will be shipping the drums out of their returned product storage area to Chem Waste Management within the next couple of weeks. They will then rent a cement grinder and try and make some more progress on cleaning the floors both there and in the hazardous waste storage area. They ultimately would like to establish a new less than 90 day drum storage area in a more secure place.

JM:els  
cc: Mr. James Scarbrough, EPA

# FILE COPY

July 14, 1988

Mr. Steven T. Boswell  
Manager, Environmental Affairs  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Boswell:

Re: Request for a 30 Day Extension  
of the 90 Day Storage Limit  
Vicksburg Chemical Corporation  
MSD990714081

Based on conversations with my staff, and your letter dated July 6, 1988, it is my understanding that you are no longer requesting an emergency permit under the Mississippi Hazardous Waste Management Regulations (MHWR) Section 270.61. You are instead requesting a 30 day extension of the 90 day storage limit for the thirty-six drums containing Dinoseb (P020) contaminated with sulfuric acid that you previously wished to be allowed to treat on-site. The reason for this request is to allow time for Vicksburg Chemical to contract a firm capable (1) of handling the material while preventing additional deterioration of the drums and (2) of safely transporting the material for ultimate disposal.

In accordance with MHWR Section 262.34(b) Vicksburg Chemical will be given an extension of the storage limit to expire 30 days from the date of this letter. In order to document that Vicksburg Chemical has disposed of the waste within the specified time period, we request that Vicksburg Chemical submit to our office copies of all manifests used to ship this waste to a permitted or interim status treatment, storage, or disposal company within 15 days after expiration of this extension.

If you have any questions, please contact Jack McCord of my staff, at 961-5171.

Sincerely,

Sam Mabry, Director  
Hazardous Waste Branch

SM:JM:lr

cc: Mr. James Scarbrough, EPA

# CEDAR CHEMICAL CORPORATION

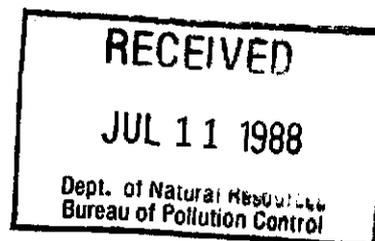
24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 677 980 758

July 6, 1988

Mr. Jack McCord  
Environmental Engineer  
Bureau of Pollution Control  
2380 Highway 80 West  
Jackson, Mississippi 39209



Subject: Vicksburg Chemical  
Hazardous Waste Drum Storage Area  
30 day Extension of Accumulation Time Limit

Dear Mr. McCord:

As we discussed by telephone today, July 6, 1988, Vicksburg Chemical requests the issuance of a 30 day extension to the time limit for accumulation of wastes at its drum accumulation area. This extension will allow time for overpacking and subsequent off-site disposal of the materials held.

Also, as we discussed, Vicksburg Chemical withdraws its request made July 1, 1988, for a short term permit to allow on-site solidification of those wastes. On-site treatment was considered but the idea has been dismissed due to the chance for spills during handling.

If there are questions concerning this matter, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Steven T. Boswell".

Steven T. Boswell  
Director of Env. Affairs

STB: pc

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 677 981 857

Mr. Sam Mabry, Director  
Mr. Steve Spengler  
Mr. Jack McCord  
Division of Hazardous Waste  
Mississippi Department of Natural Resources  
P.O. Box 10385  
Jackson, Mississippi 39209

July 5, 1988



Subject: Vicksburg Chemical Plant, Surface Impoundment Closure

Gentlemen:

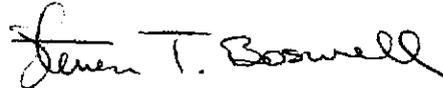
This letter is sent to inform you that it has become necessary for Vicksburg Chemical to select a replacement design engineering firm for the construction of the retrofit of a double liner and sludge disposal cell in the surface impoundment at the Vicksburg Facility. This obviously will cause a delay in submitting the final construction plans for your review.

The current work on the design has entailed determination of the volume of material to be solidified, determination of material to be used for pozzolanic stabilization and predicting the resulting volume of the stabilized material. Site plan drawings have been prepared including one-foot contour mapping and pond bottom contours. Soil borings have been taken in the center dike to determine its ability to withstand hydraulic loading during the sequential dewatering and lining process. A review of the pond's dike construction has been done and plans for inspection during construction are being prepared. With the already available data, the newly selected engineering firm will be able to produce the final design in a shorter period than otherwise.

We regret the delay at this late date, but believe that it is a necessary step we must take in order to assure the proper outcome of this undertaking. We now estimate having plans ready for review by August 1, 1988.

Please contact me with any questions you may have.

Sincerely,



Steven T. Boswell  
Director of Env. Affairs

STB: pc

xc: Mr. Ahlers  
Mr. Madsen  
Mr. Malone

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 113 213 024

July, 1, 1988

Mr. Jack McCord  
Environmental Engineer  
Bureau of Pollution Control  
2380 Highway 80 West  
Jackson, Mississippi 39209

RECEIVED

JUL - 5 1988

Dept. of Natural Resources  
Bureau of Pollution Control

Subject: Vicksburg Chemical  
Hazardous Waste Drum Storage Area  
Short Term Permit

Dear Mr. McCord:

As we discussed by telephone today, July 1, 1988, Vicksburg Chemical requests the issuance of a short term permit to allow treatment of containerized waste currently held in anticipation of off-site disposal.

The treatment is needed to effect safer handling of the material. The material to be treated consists of waste Dinoseb (P020) contaminated with sulfuric acid. When this particular material was drummed, there were no apparent liquids and no absorbent was added. Subsequently, the acid mentioned above has seeped out of the material and has corroded the containers. Four out of thirty-six drums have developed pin-hole seepage. Rather than re-containerizing the material as is, we wish to solidify it prior to drumming. The procedure we wish to use requires adding absorbent "outside" a container and therefore the request for short term permit.

The procedure to be used would be as follows:

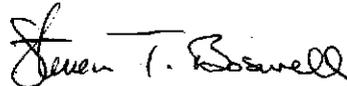
1. One drum at a time will be opened (seeping drums first), and the contents placed on a screen to drain as much free liquid as possible from the material. A small volume of water will be used to rinse off residual acid.
2. The liquid will be collected and placed in a lined, closed-head drum for off-site disposal.
3. The separated solids will be mixed with cement dust to neutralize and solidify these materials. Requisite safety equipment is present.

4. The solidified material will be re-containerized for off-site disposal.

To prevent a recurrence of this situation, removable, plastic, fiber reinforced drum liners have been purchased. All damaged or contaminated drums and equipment will be disposed off-site. We expect this procedure to require six weeks for completion.

If there are questions concerning this matter, please contact me.

Sincerely,



Steven T. Boswell  
Director of Env. Affairs

STB: pc

DIVISION OF SOLID WASTE

REVIEWED BY ST

DATE 7-6-88

COMMENTS changed mind

7-6-88 want extension

**FILE COPY**

June 20, 1988

Mr. Allen T. Malone  
Apperson, Crump, Duzane, & Maxwell  
Attorneys at Law  
100 North Main Building  
20th Floor  
Memphis, Tennessee 38103

Dear Mr. Malone:

Re: Cedar Chemical Corporation  
MSD990714081  
Vicksburg, Mississippi

As you are probably aware, the Bureau of Pollution Control has received preliminary information regarding the proposed closure of the surface impoundment at Cedar Chemical Corporation. As discussed with the company we are withholding formal comments until such time as we receive a complete submittal. Upon receipt of the Closure Plan referenced in your letter of June 1, 1988, we intend to make a timely review with comments to the facility. We will also forward a copy of the Closure Plan to EPA Region IV for their review. However, based upon our discussions with Region IV we do not expect that EPA will provide formal comments to the Bureau on the Closure Plan.

Due to the Mississippi Commission on Natural Resources ruling on August 5, 1987, the Bureau will not bring the closure plan before the Permit Board for approval as a formal RCRA closure. However, the Bureau will provide comments on the closure plan's technical merits using RCRA requirements as guidance. Although the Bureau is not regulating Cedar Chemical's surface impoundment as a RCRA hazardous waste unit, we will continue to work with the facility to ensure that the impoundment is closed in an environmentally safe manner.

If you have any questions feel free to contact me at (601) 961-5171.

Sincerely,

Sam Makry, Chief  
Hazardous Waste Branch

SMJEM:sae

cc: Fred Ahlers, Vicksburg Chemical  
Jim Scarbrough, U.S. EPA Region IV

CHARLES W. METCALF, 1940-1924  
WILLIAM P. METCALF, 1872-1940  
JOHN W. APPERSON, 1896-1985

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLE  
JAMES F. RUSSELL  
JOHN L. RYDER  
THOMAS R. BUCKNER  
TONI CAMPBELL PARKER  
J. KEITH MCCORMIC  
MELODY W. OLIVER  
WILLIAM B. MASON, JR.

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26TH FLOOR  
100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103  
901/525-1711

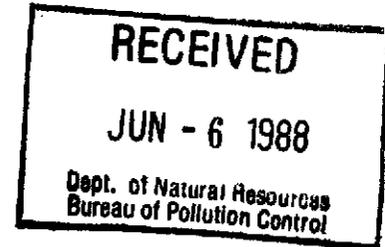
TELECOPY 901/521-0789

June 1, 1988

EAST OFFICE

SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

Mr. Sam Mabry, Director  
Mr. Steve Spangler  
Mr. Jack McCord  
Division of Hazardous Waste  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209



Re: Vicksburg Chemical Plant/Surface Impoundment

Gentlemen:

I have been requested by management of Cedar Chemical Corporation to document in this letter the Company's intentions with regard to the Surface Impoundment which was the subject of hearings before the Mississippi Commission on Natural Resources in 1986 and 1987 (Commission Orders 1153-86 and 1253-87). As you know, consistent with the Commission's Orders, the Company has continued to use the Surface Impoundment to accept non-hazardous waste water generated by plant operations as well as storm water run-off, which wastes are treated and discharged pursuant to the Company's NPDES Permit.

Last November, a Jackson newspaper reported that EPA was displeased with the Commission's determination that the Surface Impoundment is not subject to regulations applicable to hazardous waste treatment, storage and disposal facilities. The same article, quoting the Regional Administrator for EPA, Region IV, indicated that EPA was pursuing legal action against Cedar. Primarily as a result of this article, we requested a meeting with EPA, to which representatives of the Bureau were invited. Representatives of Cedar met with Allyn Antley and other EPA representatives in Atlanta on December 17, 1987, to discuss the regulatory status of the Vicksburg Plant, including the results of EPA's RCRA inspection of the Plant in February, 1987.

At our meeting in Atlanta, we explored briefly whether EPA would object to a Closure Plan for the Surface Impoundment involving consolidation and capping sludges in place while using

Mr. Sam Mabry, et al.

June 1, 1988

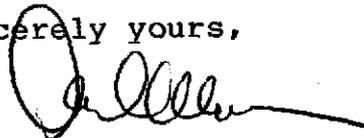
Page Two

the remainder of the unit to continue accepting treating and discharging non-hazardous wastes. Mr. Antley stated that such a plan is not necessarily inconsistent with RCRA requirements, but indicated that it is the Bureau's function to pass on any proposed closure plan.

On February 11, 1988, Fred Ahlers, Steve Boswell and I met in your offices to discuss conceptual plans for closure of the Impoundment along the lines suggested in our meeting in Atlanta last December and confirmed in my letter of January 26, 1988 to Art Prestage. We were encouraged to proceed with development of a closure plan outlined at the meeting. Subsequently, Cedar has submitted conceptual drawings; there have been a number of meetings and conversations between Steve Boswell and Bureau personnel to refine the Closure Plan; and detailed drawings and work plans for the proposed closure are scheduled to be presented to you the third week of June, 1988.

This letter is to assure you that Cedar's management is committed to implement the proposed Closure Plan which you will review later this month, provided that the plan receives final approval by your office, and assuming that EPA Region IV is in accord. Jim Scarbrough's letter of February 5, 1988 requested that the Company's submissions be closely coordinated with his office. I assume that is happening. For obvious reasons the Company is reluctant to implement its proposed Closure Plan at a cost estimated by the Company to exceed \$1,500,000, unless we have a high degree of comfort that EPA will not attempt to block the Company from continuing to use the unit for acceptance, treatment and discharge of non-hazardous wastes, once the plan has been implemented. If the Company can obtain such assurances promptly, we expect that the closure can be completed, as proposed, by November of this year. Accordingly, we respectfully request that you expedite review of the proposed Closure Plan and furnish us with the Bureau's position as well as the position of Region IV as soon as possible after the plan has been submitted.

Sincerely yours,



Allen T. Malone

ATM: jw

cc: Mr. J. Arthur Prestage  
Ms. Zylpha K. Pryor



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



MEMORANDUM

TO: Hazardous Waste Generators, Transporters, Treatment,  
Storage and Disposal Facilities

FROM: Mississippi Bureau of Pollution Control

DATE: March 1, 1988

SUBJECT: The 1987 Hazardous Waste Biennial Report

Enclosed please find 1987 Hazardous Waste Biennial Report forms that appear appropriate for your facility based on our records. Mississippi Hazardous Waste Management Regulations, implementing the Resource Conservation and Recovery Act, require facilities handling hazardous wastes to prepare and submit a Biennial Report by March 1st of each even numbered year covering the activities during the previous year. However, this year significant changes have been made in the reporting forms in order to gather more definitive information regarding the handling, treatment, and disposal of hazardous waste and waste reduction efforts. These changes have resulted in delays at EPA in preparation of these forms and their issuance. Therefore, the Mississippi Bureau of Pollution Control requires the forms be completed and returned to the Bureau of Pollution Control by May 1, 1988. This requirement is consistent with the federal EPA action.

If you have any questions, please contact Mr. Jim Hardage or Mr. John Lister at the Bureau at 961-5171, or Dr. Charlie Waggoner at Mississippi State University at 325-3584. Dr. Waggoner is helping to repond to facility requests for information regarding completion of these forms.

CD:eb



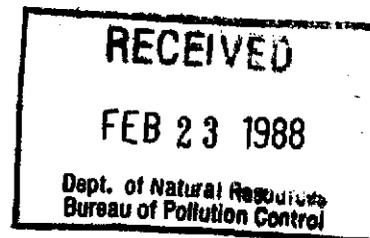
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

FEB 17 1988

4WD-RCRA



CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. C. Alan Spaes  
Vice President  
Citizens and Fidelity Bank  
and Trust Company  
115 East Fifty-Seventh  
Suite 1220  
New York, New York 10022

Re: FOI-4-RIN-067-88  
Cedar Chemical Corporation  
Vicksburg, Mississippi  
Memphis, Tennessee

Dear Mr. Spaes:

This is in response to your Freedom of Information Act (FOIA) request for information regarding the referenced company. Per conversations with my staff regarding the exact nature of the material you requested, Region IV found pertinent information in the Waste Management Division. Additional information in the other Environmental Programs administered by EPA may be found in the State files.

EPA has determined that we must withhold parts of the requested records because they are predecisional and are therefore exempt from disclosure under FOIA. See 5 U.S.C. Section 552(b)(5) and 40 CFR Section 2.118(a)(5). An index of withheld records, classified by exemption is enclosed.

Should you wish to appeal this denial, you must submit a written appeal to the following address within thirty days of receipt of this letter.

Freedom of Information Officer (A-101)  
United States Environmental Protection Agency  
401 M Street, S.W.  
Washington, D.C. 20460  
Re: FOI-4-RIN-067-88

Your appeal should reference the above RIN number, the date of this determination and my name, title and address.

Total fees for searching and duplicating these files were \$160. Please remit payment in this amount to the following address.

U.S. Environmental Protection Agency  
P.O. Box 100142  
Atlanta, Georgia 30344  
Re: FOI 4-RIN-067-88

Should you have questions regarding the withheld information or appeal procedure, please contact Zylpha K. Pryor, Assistant Regional Counsel at (404) 347-2641. Should you have any questions regarding this denial, please contact Walton Jones at (404) 347-3004.

Sincerely yours,

*Lee A. DeHihns, III*

Lee A. DeHihns, III  
Acting Regional Administrator

Enclosure

cc: Walton Jones - FOI Officer  
Sam Mabry - MSDNR

CEDAR CHEMICAL CORPORATION  
FOI-4-RIN-067-88

Documents Withheld

Exclusion - 40 CFR Part 2.118(a)(5)

July 31, 1987 - Letter to Sam Mabry, MSDNR, from James Scarbrough,  
EPA-Region IV, regarding Mississippi facilities  
compliance status.

June 26, 1986 - Letter to Charles Chisolm, MSDNR, from James Scarbrough,  
EPA-Region IV; removed references to other facilities.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

FEB 05 1988

4WD-RCRA

RECEIVED

FEB - 9 1988

Dept. of Natural Resources  
Bureau of Pollution Control

Mr. Sam Mabry, Director  
Hazardous Waste Division  
Bureau of Pollution Control  
Mississippi Department of Natural  
Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

Dear Mr. Mabry:

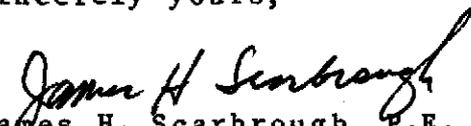
This letter is to confirm our position on Vicksburg Chemical Company as discussed with you and your staff and Allan Antley, Beverly Foster, and Jason Darby of my staff on February 4, 1988.

We agree in substance with the letter sent you by the company's counsel. That is, they are encouraged to seek technical assistance from the State regarding a "voluntary" submission of a closure plan designed to meet the Resource Conservation and Recovery Act (RCRA) standards for a regulated facility. We would like any such submission and review to be closely coordinated with the Region.

Due to the legal issues posed by the Commission's decision not to regulate this facility, the State appears to be barred from formal closure plan public notice and post-closure permit issuance. However, if the company voluntarily rescinds its "non-regulated" status or otherwise becomes regulated, the up-front technical work and actual field implementation would already be on-going and would expedite formal closure plan public notice and permit processing.

Thank you for working with us. We stand ready to assist you as requested. If you need further contact on the closure issues, please contact Beverly Foster, Chief, AL/MS Unit, Waste Engineering Section at (404) 347-3433. For information regarding compliance, please contact Allan Antley, Chief, Waste Compliance Section at (404) 347-7603.

Sincerely yours,

  
James H. Scarbrough, P.E.  
Chief, RCRA Branch  
Waste Management Division

CHARLES W. METCALF, 1840-1924  
WILLIAM P. METCALF, 1872-1940  
JOHN W. APPERSON, 1898-1985

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
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J. KEITH MCCORMIC  
MELODY W. OLIVER  
WILLIAM B. MASON, JR.

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26TH FLOOR  
100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103  
901/525-1711

TELECOPY 901/521-0789

EAST OFFICE  
SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

January 26, 1988

**RECEIVED**  
FEB 1 1988

**ATTORNEY GENERAL'S OFFICE**

Mr. J. Arthur Prestage  
Special Assistant Attorney General  
Office of the Attorney General  
Carroll Gartin Justice Building  
Post Office Box 220  
Jackson, Mississippi 39205-0220

Re: Cedar Chemical Corporation  
Vicksburg Plant

Dear Art:

As you know from our meeting last month in Atlanta with Allan Antley and other EPA personnel, it is the position of Region IV that it is up to the Bureau of Pollution Control to approve any closure plan with regard to the subject Surface Impoundment.

The purpose of this letter is to request a meeting next week at the Bureau of Pollution Control to attempt to reach an agreement on a conceptional plan for closure of the Surface Impoundment at the Vicksburg Plant which has been under discussion for some time. Specifically, Cedar would like to explore the possibility of a closure plan that would permit consolidation of pond sediment into one section of the existing pond followed by dewatering, fixation and capping the pond sediment in place in a manner that would permit the company to continue using the remainder of the pond for receipt and discharge of non-hazardous waste streams pursuant to its NPDES Permit. Allan Antley indicated at our meeting that there are various closure alternatives available, including dewatering and capping the pond in place.

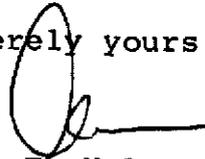
I still have no idea what, if any, action EPA intends to take with respect to the Commission's Order last year. I am enclosing a copy of a letter from Zylpha Pryor which doesn't really tell me anything. In any event, I can see no disadvantage in beginning to explore a closure plan intended to be equivalent to closure of a hazardous waste facility pursuant to

Mr. J. Arthur Prestage  
January 26, 1988  
Page Two

the RCRA regulations, even though the pond is not classified as a facility required to meet such regulations. Regardless of the likelihood that EPA would initiate an action that might ultimately overturn the Commission's ruling of last year, Cedar could determine independently that it would be desirable to take remedial action with respect to the pond sediments to further assure that there will be no future releases of wastes or pollutants. In fact, if an agreement on a conceptual plan can be reached, Cedar is prepared to commission an environmental engineering firm to prepare a detailed plan with drawings and schematics of the type that would normally need to be submitted in connection with the closure of hazardous waste facilities under RCRA.

Please let me know if the people at the Bureau who would be responsible for approval of a closure plan would be willing to sit down with Steve Boswell and me next week to try to reach conceptual agreement on a mutually acceptable closure plan. That, incidentally, was the reason that I left a message for you to call me last week.

Sincerely yours,



Allen T. Malone

ATM:jw

cc: Mr. Steve Boswell



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

JAN 14 1988

Allen T. Malone, Esquire  
Apperson, Crump, Duzane & Maxwell  
26th Floor  
100 North Main Building  
Memphis, Tennessee 38103

Re: Vicksburg Chemical Facility  
Vicksburg, Mississippi

Dear Allen:

We are always willing to meet with facility representatives to discuss any matters of concern. I trust that the December 17th meeting was informative for you and clarified EPA's position regarding Vicksburg Chemical's regulatory status.

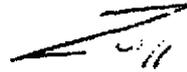
While the practical effect of EPA's efforts regarding your facility could result in an overturn of the Mississippi Commission's ruling, that is not our primary objective. More exactly, we are seeking to enforce the regulations governing Mississippi facilities. To that end, we continue to evaluate data on Vicksburg Chemical and consider enforcement alternatives. EPA representatives will remain available to discuss compliance issues with the facility regardless of our enforcement posture.

Some of the factual allegations contained in your letter require a response as they are points of contention. Briefly, we cannot concede that the presence of the surface impoundment is yielding positive environmental benefits. The fact that its closure would result in expenses and hardship to the facility cannot permit EPA to overlook the long-term negative environmental and regulatory impact of its remaining open. The status and regulation of Vicksburg Chemical Company deserve and are receiving high priority attention from EPA - Region IV.

Additionally, EPA cannot concede that only wastes covered by the de minimis exclusion have been placed into the surface impoundment. Preliminary review by EPA indicates that three hazardous wastes have been treated, stored or disposed of in the impoundment. Those wastes are designated by hazardous waste numbers K041, K098 and P020. Finally, future review of material may reveal additional wastes managed in the impoundment.

I appreciate Steve Boswell's continued efforts to secure piping diagrams and the information responsive to Jeaneanne Gettle's questions. I will certainly apprise you of EPA's need for additional information from Vicksburg Chemical.

Sincerely yours,



Zylpha K. Pryor  
Assistant Regional Counsel

cc: Jeaneanne Gettle



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

JAN 28 1988

REF: 4WD-RCRA

RECEIVED  
FEB 2 1988

J. Arthur Prestage  
Special Assistant Attorney General  
Office of Attorney General  
Carroll Gartin Justice Building  
P.O. Box 220  
Jackson, Mississippi 39202-0220

ATTORNEY GENERAL'S OFFICE

RE: Comments concerning HSWA 3004(t), 3005(e), 3005(a)  
3006(f), and 1004(22) statutory equivalence

Dear Mr. Prestage:

The Environmental Protection Agency's (EPA) Review Team has completed its review of Mississippi's response to our comments regarding Mississippi's analogs to HSWA 3004(t), 3005(a), 3005(e), 3006(f), and 1004(22). The review indicated that no statutory modifications will be required regarding the above State analogs as long as the Attorney General provides appropriate explanation and certification of equivalence when a program revision application is submitted.

EPA will continue to assist the Attorney General's Office and the Bureau of Pollution Control in addressing any future delegation issues and in the pursuit of HSWA authorization.

Sincerely yours,

  
Lee A. DeHihns, III  
Acting Regional Administrator



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



M E M O R A N D U M

TO: Hazardous Waste Generators, Transporters, Treatment,  
Storage and Disposal Facilities

FROM: Mississippi Bureau of Pollution Control

DATE: January 1, 1988

SUBJECT: The 1987 Hazardous Waste Biennial Report

Mississippi Hazardous Waste Management Regulations implementing the Resource Conservation and Recovery Act require facilities handling hazardous wastes to prepare and submit a Biennial Report by March 1st of each even numbered year covering the activities during the previous year.

This year significant changes have been made in the reporting forms in order to gather more definitive information regarding the handling, treatment, and disposal of hazardous waste and waste reduction efforts.

The Mississippi Bureau of Pollution Control will be issuing the revised EPA Forms 8700-13 A and B for Biennial Reporting this year and mailing them to you in January as early as possible. The forms should be completed and returned to the Bureau of Pollution Control by March 1, 1988, as required by law.

If you have any questions please contact Mr. Jim Hardage at the Bureau at 961-5171.

CD:sae

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 113 213 008

December 23, 1987

Mr. Jack McCord  
Environmental Engineer  
Bureau of Pollution Control  
2380 Highway 80 West  
Jackson, Mississippi 39209

Subject: Commission Order No. 1253 87  
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone December 15, 1987, enclosed are the results and groundwater elevations for the November 4, re-sampling of Cedar's wells for dinitro-butyl-phenol (all wells) and methylene chloride (well 13 only).

Our laboratory contractor reported interference in several samples and is unable to report exact results in those samples. Maximum estimated concentrations are reported in those cases. Sampling for the last quarter of 1987 has been completed and samples are in route to a different contract laboratory at the time of this letter.

All wells will be analyzed for the parameters previously reported (DNBP, toxaphene, methylene chloride and arsenic).

If there are questions concerning this matter, please contact me.

DIVISION OF SOLID WASTE

REVIEWED BY SM

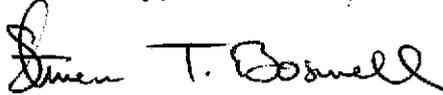
DATE 12-28-87

COMMENTS Sent Copies

to EPA Week of 12-28-87

STB: pc

Sincerely,



Steven T. Boswell  
Director of Env. Affairs

CHARLES W. METCALF, 1840-1924  
WILLIAM P. METCALF, 1872-1940  
JOHN W. APPERSON, 1898-1985

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN S. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
THOMAS R. SUCKNER  
TONI CAMPBELL PARKER  
J. KEITH MCCORMIC  
MELODY W. OLIVER  
WILLIAM B. MASON, JR.

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

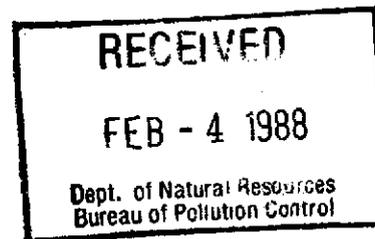
26TH FLOOR  
100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103  
901/525-1711

TELECOPY 901/521-0789

December 21, 1987

EAST OFFICE  
SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

Ms. Zylpha K. Pryor  
Assistant Region Counsel  
Hazardous Waste Law Branch  
U. S. Environmental Protection Agency  
Region IV  
345 Courtland Street, N.E.  
Atlanta, Georgia 30365



Re: Vicksburg Chemical Plant  
Vicksburg, Mississippi

Dear Zylpha:

We appreciate the time which you, Allan Antley, Doyle Brittain and others in your office took to meet with us last week to discuss the Surface Impoundment in use at Cedar Chemical's Vicksburg Plant. I remain concerned that EPA is considering efforts to overturn the determination of the Mississippi Commission on Natural Resources to the effect that the Surface Impoundment is not a regulated unit under RCRA as promulgated in the State of Mississippi. I was relieved, however, that data developed to date do not suggest to EPA that conditions at the site present any hazard of the type which would call for action under RCRA Section 7003. Cedar's consultants certainly share that view.

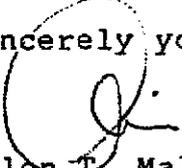
The purpose of this letter is to confirm our offer to assist in the generation of information of the type that might otherwise be sought under RCRA Section 3013. Specifically, although Mississippi's Bureau of Pollution Control was provided complete information on past operations relative to the Surface Impoundment at the Vicksburg Plant, including all available piping diagrams, Steve Boswell is currently making inquiries to determine if additional information is available that would be responsive to the specific questions raised by Jeaneanne Gettle at our meeting (pertaining to past operation and plugging of sumps, as well as the possible existence of a ditch with liquid material flowing from the area of the closed-out landfill.)

Ms. Zylpha K. Pryor  
December 21, 1987  
Page Two

Investigation to date has indicated clearly that no hazardous wastes (other than those covered by the de minimis exception to the mixture rule) have been discharged to the Impoundment by former owners and operators of the Vicksburg Plant at any time subsequent to the effective date of the RCRA regulations. While I realize that EPA disagrees with the Mississippi Commission's ruling on the scope of the K098 and K041 hazardous waste listings, I continue to hope that Region IV has more important issues to litigate than this one - particularly inasmuch as the presence of the Surface Impoundment affords positive environmental benefits, which its closure would eliminate, not to mention the substantial expense and hardship which such a closure would involve.

If there is additional information which either EPA or the Mississippi Bureau of Pollution Control might be interested in obtaining, whether pursuant to RCRA Section 3013 or otherwise, please notify me.

Sincerely yours,



Allen T. Malone

ATM:jw

cc: Mr. Art Prestage  
Mr. Steve Boswell

**FILE COPY**

November 16, 1987

Mr. James H. Scarbrough, Chief  
Residuals Management Branch  
Environmental Protection Agency  
345 Courtland Street, N. E.  
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

Re: Vicksburg Chemical Corporation

Enclosed are the following documents as requested by the Waste Compliance Section of your Branch:

September 24, 1987	Letter from VCC on groundwater sampling,
June 1, 1987	data stipulated to in Commission Hearing,
May 19, 1987	memo from Matt Straus to James Scarbrough,
April 29, 1987	letter from Al Malone on toxaphene,
March 9, 1987	letter from VCC transmitting groundwater data,
February 9, 1987	letter from BPC to VCC on returned product storage area,
April 18, 1986	letter from VCC updating closure/post closure cost estimate,
February 25, 1985	letter from VCC on financial test,
February 21, 1985	letter from VCC confirming groundwater contamination,
February 21, 1985	letter from VCC on future use of impoundment,
January 9, 1985	letter from VCC on liability insurance.

If additional information is needed, please contact Jack McCord of my staff at (601) 961-5171.

Sincerely,

Charles Estes, P. E., Coordinator  
Hazardous Waste Division

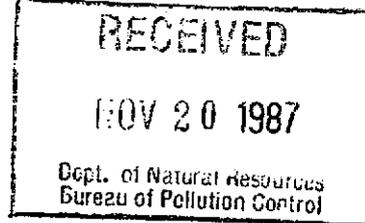
CE:JEM:sae  
Enclosure

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 113 212 999



November 16, 1987

Mr. Jack McCord  
Environmental Engineer  
Bureau of Pollution Control  
2380 Highway 80 West  
Jackson, Mississippi 39209

Subject: Commission Order No. 1253 87  
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone November 13, 1987, enclosed are the groundwater elevations for the September 29 sampling of Cedar's wells. The levels previously remitted were from the November 4, sampling and were mistakenly sent with the analyses for the September 29, sampling.

Also, as we discussed, our laboratory contractor lost the sample of MW-1A from the November sampling due to breakage of the sample bottle. Results for that well were reported for the September sampling at a level of 0.34 mg/l.

If there are questions concerning this matter, please contact me.

Sincerely,

Steven T. Boswell  
Director of Env. Affairs

STB: pc

DIVISION OF SOLID WASTE  
REVIEWED BY AT  
DATE 11-23-87  
COMMENTS Sent to EPA 11-23-87



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



MEMORANDUM

TO: Vicksburg Chemical File  
FROM: Jack McCord  
SUBJECT: Quarterly Groundwater Sampling  
DATE: November 13, 1987

Steve Boswell called to tell me that after Vicksburg Chemical re-sampled their wells because of previous elevated detection limits for dinoseb, that the lab had dropped and broken the sample for Well 1A. Since the previous analysis had shown detectable levels of dinoseb in Well 1A, I told Mr. Boswell that resampling 1A would not be necessary. Mr. Boswell also told me he had sent me the incorrect groundwater elevations, but that he was sending me the correct ones.

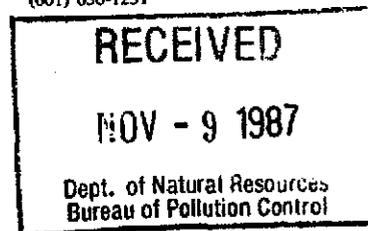
JM:cm  
cc: Mr. James H. Scarbrough, EPA

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 113 212 998



November 6, 1987

Mr. Jack McCord  
Environmental Engineer  
Bureau of Pollution Control  
2380 Highway 80 West  
Jackson, Mississippi 39209

Subject: Commission Order No. 1253 87  
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone November 5, 1987, please find enclosed the results of the sampling of Cedar's groundwater monitoring wells as described in my letter of September 24.

The wells have been re-sampled for dinitro-butylphenol as those analyses were not done by a method having great enough sensitivity. We will repeat the sampling of well MW-13 for methylene chloride. The resampling was conducted on November 4. As no other sample contained methylene chloride, we suspect the sample was contaminated.

Also, please find enclosed the plan locations of wells 13, 14 and 15. If there are questions concerning this matter, please contact me.

Sincerely,

Steven T. Boswell  
Director of Env. Affairs

STB: pc

## DIVISION OF SOLID WASTE

REVIEWED BY SM

DATE 11-9-87

COMMENTS detection limits  
too high for DMBP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

OCT 28 1987

RECEIVED  
NOV - 2 1987  
Dept. of Natural Resources  
Bureau of Pollution Control

4WD-RCRA

ENFORCEMENT  
CONFIDENTIAL

Mr. Sam Mabry, Director  
Hazardous Waste Division  
Bureau of Pollution Control  
Department of Natural Resources  
Post Office Box 10385  
Jackson, Mississippi 39209

Re: Vicksburg Chemical Company (VCC)  
EPA ID No.: MSD990714081

Dear Mr. Mabry:

By this letter, EPA is providing notice to you, per the Memorandum of Agreement, of our intent to issue a 3008(a) Complaint and Compliance Order to the referenced facility.

We have determined this facility to be in violation of certain requirements of RCRA. Specifically, the facility lost interim status on November 8, 1985, due to its failure to certify compliance with all applicable financial requirements. Subsequently, VCC failed to complete a groundwater assessment program or monitor existing wells. Additionally, VCC failed to operate its storage area so as to comply with 40 CFR Part 262.34(a)(1). Therefore, the unit is not considered less than ninety (90) day storage and cannot operate without interim status or a permit.

If you have any questions regarding this matter, please contact Jeaneanne M. Gettle of my staff at (404) 347-7603.

Sincerely yours,

James H. Scarbrough, P.E.  
Chief, RCRA Branch  
Waste Management Division

DIVISION OF SOLID WASTE

REVIEWED BY DM

DATE 11-9-87

COMMENTS Spoke to Jeaneanne  
11-9-87

# CEDAR CHEMICAL CORPORATION

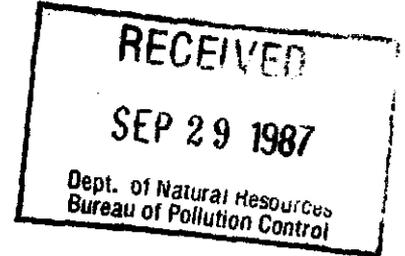
24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 113 212 993

September 24, 1987

Mr. Jack McCord  
Environmental Engineer  
Bureau of Pollution Control  
2380 Highway 80 West  
Jackson, Mississippi 39209



Subject: Commission Order No. 1253 87  
Condition No. 9, Groundwater Monitoring

Dear Mr. McCord:

As we discussed by telephone yesterday, Cedar will immediately begin a groundwater sampling program to comply with Condition No. 9 of the above Order.

For the first round of sampling, well numbers 1A, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 will be sampled and analyzed for toxaphene, dinitro-butylphenol, arsenic and methylene chloride. Groundwater elevations will be determined prior to bailing and sampling.

Sampling will be conducted on a quarterly schedule as required by the Order. We request that if no significant levels of methylene chloride are found that this analysis be reduced in frequency or eliminated. Incidentally, sampling conducted by the USEPA in February of this year did not detect methylene chloride in wells 1, 2, 4, 6 or 8.

The first sampling should have been conducted by the time you have received this letter. We will report the results to you promptly as they are received.

If there are questions concerning this matter, please contact me.

DIVISION OF SOLID WASTE

REVIEWED BY JM

Sincerely,

DATE \_\_\_\_\_

Steven T. Boswell  
Steven T. Boswell  
Director of Env. Affairs

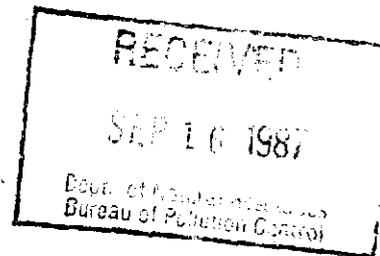
STB: pc

COMMENTS sent to

EPA 11-16-87

SEP 11 1987

4WD-RCRA



Mr. Tom Goldman  
Commission Chairman  
Commission on Natural Resources  
P.O. Box 1625  
Meridian, Mississippi 39301

Dear Mr. Goldman:

The purpose of this letter is to call your attention to serious concerns regarding the State of Mississippi's administration of the hazardous waste management program under the authority of the Resource Conservation and Recovery Act. On two occasions, the Commission on Natural Resources has failed to take action that the Environmental Protection Agency considers appropriate for an authorized State. Specifically, the Agency does not approve of the Commission's decisions regarding Vertac (also known as Vicksburg Chemical Company) and Southern Pine Wood Preserving. These decisions are of special concern because the State's Division of Solid/Hazardous Waste Management has staff who are capable of affectively handling both cases.

I would like to meet with you and the Commission to discuss these concerns in more detail. Please place me on the agenda for one of your future meetings. The date should be coordinated with my secretary, Gloria Knight, at 404/347-4727.

Sincerely yours,

Original Signed By:

Lee A. Dahhns, III  
Acting Regional Administrator

cc: Mr. Sam Mabry, Director  
Division of Solid/Hazardous Waste  
Management  
Mississippi Department of Natural  
Resources

J.I. Palmer, Jr.  
Executive Director  
Mississippi Department of Natural  
Resources

**FILE COPY**

July 15, 1987

Mr. James Scarbrough, P. E., Chief  
Residuals Management Branch  
U. S. Environmental Protection Agency  
Region IV  
345 Courtland Street, N. E.  
Atlanta, Georgia 30365

Dear Mr. Scarbrough:

Re: Cedar Chemical Corporation  
MSD990714081

Enclosed for your records is a copy of the transcript of the May 27, 1987, hearing before the Mississippi Commission on Natural Resources held to determine if the Cedar Chemical Corporation surface impoundment is subject to the Mississippi Hazardous Waste Management Regulations.

If additional information is needed, please contact me at (601) 961-5171.

Sincerely,

Sam Mabry, Director  
Hazardous Waste Division

SM:JEM:sae  
Enclosure

**FILE COPY**

June 3, 1987

Mr. Pat Tobin, Director  
Waste Management Division  
Environmental Protection Agency  
Region IV  
345 Courtland Street, NE  
Atlanta, Georgia 30365

Dear Mr. Tobin:

This is to express my appreciation for the support Jim Scarbrough provided to our hazardous waste program in the Vicksburg Chemical Company matter, and for your special efforts to arrange for Matt Strauss to be available to testify.

I recognize fully the resource strain on you and your staff such support causes. However, it is only through such State-Federal cooperation that the complex RCRA program can be implemented.

Sincerely,

Charles H. Chisolm  
Bureau Director

CHC:SM:hdb

**FILE COPY**

June 3, 1987

Ms. Marcia Williams, Director  
Office of Solid Waste  
WH-562  
Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460

Dear Ms. Williams:

This is to express my appreciation for the generous support to our hazardous waste program provided by Mr. Matt Strauss of your staff in the Vicksburg Chemical Company matter.

His time and expertise in preparing a detailed regulatory interpretation and traveling twice to Mississippi to assess the site and then to testify were invaluable to the State's case. Although this kind of commitment to support authorized state programs is essential if the extremely complex RCRA regulatory program is to be implementable, I recognize fully the resource strain such support must place on you and your staff. Thank you for allowing Mr. Strauss the time required to help us.

Yours truly,

Charles H. Chisolm  
Bureau Director

CHC:SM:hdb



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



M E M O R A N D U M

TO: Vicksburg Chemical File

FROM: Jack McCord

SUBJECT: Vicksburg Chemical Sludge Sampling Results

DATE: June 1, 1987

**FILE COPY**

The attached is analytical data on Vicksburg Chemical's impoundment sludge, hand delivered to the Bureau on May 26, 1987. The data is a combination of data obtained by both the Bureau and Vicksburg Chemical and is the data that Vicksburg Chemical would stipulate to at the May 27, 1987 hearing.

JMc:hdb  
Attachment

DIVISION OF SOLID WASTE

REVIEWED BY AM

DATE \_\_\_\_\_

COMMENTS sent to

EPA 11-16-87

<u>Laboratory Number</u>	<u>Sample Marked</u>	<u>Toxaphene</u>
726,113	A	334 <i>PPM</i>
726,114	B EP EXT	244 ND @ 0.004
726,115	C	167
726,116	D	322
726,117	E	487
726,118	F EP EXT F TCLP	56 ND @ 0.1 ND @ 0.04
726,119	G	62
726,120	H	6.3
726,121	I	84
726,122	J EP EXT	18.1 ND @ 0.04
726,123	K	1.8
726,124	L	1.2
726,125	M	ND @ 1
726,126	N	ND @ 1
726,127	O	ND @ 1
726,128	P	22
726,129	Q	29
726,130	R	4.6
726,131	S	42.9

*Results Reported in parts per  
million —*

Well SamplesAnalysis for Toxaphene

87053026 - Location 1A	<0.24
87053027 - Location 2	<0.24
87053028 - Location 4	<0.24
87053029 - Location 5	<0.24
87053030 - Location 6	<0.24
87053031 - Location 8	<0.24
87053032 - Location 9	<0.24
87053033 - Location 10	<0.24
87053034 - Location 11	<0.24
87053035 - Location 12	<0.24
87053036 - Location 14	<0.24
87053037 - Location 15	<0.24

Results reported in mg/l

Cedar Chemical Corporation, Vicksburg

In 1986, Cedar Chemical, Vicksburg, filed a petition with the Commission contending that the Company's surface impoundment is not properly designated as a hazardous waste facility and is not subject to the hazardous waste regulations. Specifically, the Company argued that past use of the surface impoundment as a catchment basin for storage, treatment, or disposal of spills in connection with production of pesticides at the Vicksburg plant constitutes "de minimus" losses.

This matter was heard on September 16, 1986, where evidence was presented relating to the pesticide Dinoseb (DNBP). At its December 17, 1986, meeting the Commission ruled that the impoundment was not regulated for purposes of Dinoseb. However, it determined that the question of whether it was regulated for purposes of another pesticide formerly manufactured at the plant, Toxaphene, had not yet been determined. The Commission on that date issued Order No. 1153-86, incorporating the ruling on Dinoseb. The Order additionally provided that a subsequent hearing would be set to determine whether the surface impoundment is regulated because of Toxaphene-related wastes, after the Bureau of Pollution Control staff and the Company had developed their arguments.

The purpose of this hearing today is to hear the arguments relating to the Toxaphene waste streams so that the Commission can make a final determination as to whether the impoundment is covered under the hazardous waste regulatory program.

CC:els

DIVISION OF SOLID WASTE

REVIEWED BY SM

DATE 5-27-87

COMMENTS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

MISSISSIPPI

Department of Natural Resources  
Bureau of Pollution Control  
Division of Solid Waste Management  
P.O. Box 10385  
Jackson, Mississippi  
39209

Sam Mabry \*

Director, Division of Solid Waste  
Management, Superfund  
Superfund

601/961-5062

Chuck Estes

Coordinator, Hazardous Waste Section

Telecopy Number:

DIVISION OF SOLID WASTE

REVIEWED BY Received 5-16-87

DATE 5-17-87

COMMENTS AM

sent to EPA 11-16-87



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAY 19 1987

OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

**SUBJECT:** Regulatory Determination With Respect to Cedar Chemical Corporation (formerly Vicksburg Chemical Corporation) Located in Vicksburg, Mississippi

**FROM:** Matthew A. Straus, Chief *Matthew A. Straus*  
Waste Characterization Branch

**TO:** James E. Scarborough, Chief  
Residuals Management Branch, EPA Region IV

This memorandum is in response to your request that a regulatory interpretation be made as to whether Vicksburg Chemical Corporation's (VCC) facility in Vicksburg, Mississippi [now operated by Cedar Chemical Corporation] <sup>1/</sup> generated EPA Hazardous Waste Nos. K098 (Untreated Process Wastewater from the Production of Toxaphene) and K041 (Wastewater Treatment Sludge from the Production of Toxaphene) after November 19, 1980; in addition, you also asked whether VCC's on-site surface impoundments are subject to regulation under the hazardous waste rules. Based on all the materials reviewed (see Attachment A for list of documents) and my visit to VCC's facility on January 23, 1987, I believe that VCC generated EPA Hazardous Waste Nos. K098 and K041 after November 19, 1980. In addition, I have determined that the surface impoundments located at VCC's facility in Vicksburg, Mississippi are subject to the hazardous waste regulations. The remainder of this memo explains the basis for my decision and responds to a number of statements made by Mr. Fred Ahlers, Plant Manager at VCC's Vicksburg facility, Mr. Allen T. Malone, who is representing Cedar Chemical Corporation, and Mr. Gary Dietrich, Senior Vice President of ICF Technology, who is also representing the Cedar Chemical Corporation. (It should be noted that since some of the material contained in this memorandum is obtained from documents marked as confidential, the memorandum must be handled as confidential.)

<sup>1/</sup> Throughout this memorandum, I will refer to this facility as the Vicksburg Chemical Corporation (VCC) facility even though it is now operated by the Cedar Chemical Corporation.

DESCRIPTION OF PROCESS AND WASTE GENERATED 2/

Toxaphene was produced at VCC's facility in Vicksburg, Mississippi until October, 1982. In the manufacturing process, purchased camphene was chlorinated in the presence of a solvent to produce toxaphene. (See Figure 1 for block flow diagram of the toxaphene process.) The toxaphene produced from the reactor was then diluted and sold as a 90 percent product.

As a part of the reaction step, a hydrogen chloride/solvent mixture was generated. This mixture was separated; the solvent that was recovered was reused, while the hydrogen chloride was sent to an acid recovery system. The hydrogen chloride that was reclaimed was dissolved in water and sold.

The "waste streams" that were generated in this process are spills and leaks from various parts of the manufacturing process and a dilute hydrogen chloride waste from the acid recovery system. These wastes were discharged to the on-site surface impoundments; these wastes were then sent through an activated carbon filter and then discharged to the Mississippi River under an NPDES permit.

BASIS FOR DECISION

In determining that VCC's facility in Vicksburg, Mississippi generated EPA Hazardous Waste Nos. K098 and K041 after November 19, 1980, a number of key points had to be addressed. In particular: (1) what unit processes are part of the toxaphene manufacturing process; (2) was a "wastewater" generated from the toxaphene manufacturing process; and (3) were the on-site surface impoundments part of the wastewater treatment system. (The first two questions apply to EPA Hazardous Waste No. K098 (untreated process wastewater) while the third question addresses EPA Hazardous No. K041 (wastewater treatment sludge).

2/ The description of VCC's toxaphene manufacturing process is taken from several documents supplied by Ceder Chemical Corporation or their representatives.

- (1) What unit processes are part of the toxaphene manufacturing process?

The issue is whether the acid recovery system is part of the toxaphene manufacturing process or whether it is a completely separate process? (See letter dated January 23, 1987, from Gary Dietrich to Matthew Straus where it states, "The muriatic acid recovery system associated with the toxaphene manufacturing process did generate a scrubber wastewater, but I contend that this was not as "untreated process wastewater from the production of toxaphene" as defined by the K098 listing. Rather, it was a wastewater generated by an entirely separate unit process (i.e., the muriatic acid recovery process.")

First, in reviewing the actual regulation, the listing language itself is not limited to any steps in the production process; thus, any wastewater that comes from any of the steps in the production of toxaphene are covered by the listing. Where the Agency wished to limit itself, it has used listing descriptions limited to wastes from a particular process step. By not doing it here, the Agency intended no such limits. See, e.g., EPA Hazardous Waste No. K097 (Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane); EPA Hazardous Waste No. K073 (Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production); and EPA Hazardous Waste No. K033 (Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane). The listing here (K098) is not limited to "wastewater from the chlorination of camphene in toxaphene production." Moreover, based on a review of the listing background document (LBD) for the toxaphene listings, a review of the various blockflow diagrams of the toxaphene manufacturing process, and based on a number of statements made by a Mr. Fred Ahlers of Cedar Chemical (and cited on the next page), I have determined that the acid recovery system is an integral part of the toxaphene manufacturing process. More specifically, the LBD for the toxaphene listings, in describing the wastes generated by this process, specifically includes the wastes generated by the acid recovery system (see page 5, last paragraph of the LBD where it states, "At Vertac's Vicksburg plant, the toxaphene

containing process wastewater stream seem to be the bleed stream from the caustic soda scrubber for off-gas cleanup in the HCl absorption and recovery step..., along with residual toxaphene from past spills..."). Thus, the support documentation to the toxaphene listings which Cedar Chemical Corporation personnel (and their representatives) has reviewed makes it clear that the acid recovery system is a part of the toxaphene manufacturing process. In addition, in reviewing the various blockflow diagrams (e.g., flow diagram contained on page 4 of the LBD; flow diagram provided by Cedar Chemical Corporation in Attachment J to their letter dated November 10, 1986, to Sam Mabry, Director, Division of Hazardous Waste, Mississippi Department of Natural Resources (DNR) from Fred Ahlers, Plant Manager at VCC's Vicksburg facility; and the flow diagram contained on page 40 of the Report Wastewater Treatment Technology Documentation for Toxaphene Manufacture), I find that these sources include the acid recovery step as part of the toxaphene manufacturing process. This point is further supported by several statements made by a representative of the Cedar Chemical Corporation. In particular:

°The November 10, 1986, letter from Fred Ahlers to Sam Mabry indicates (on page 2) that 10,744 tons of by-product, Muriatic Acid (HCl) were produced between November, 1980 through October, 1982 at the Toxaphene facility; this statement strongly supports the argument that the acid recovery step is a part of the toxaphene manufacturing process.

°The November 10, 1986, letter from Fred Ahlers to Sam Mabry states (on page 6) that, "In fact, the only "waste streams" associated with toxaphene production at the Vicksburg Plant would have consisted of any de minimis losses associated by minor leaks and spills, and scrubber water generated from operation of the Plants air emission control procedures in connection with its HCl recovery system (muriatic acid or HCl being a by-product of the toxaphene production process).

- (2) Was a "wastewater" generated from the toxaphene manufacturing process?

Several of the documents that I reviewed (which are cited in this paragraph) stated that no process wastewater is generated from the production of toxaphene

(see, for example, Attachment J to the November 10, 1986, letter from Fred Ahlers to Sam Mabry where it states, "There was no process wastewater from the production of Toxaphene nor was there any wastewater treatment sludge generated in the Vicksburg Toxaphene Process" and page 41 of the Report Wastewater Treatment Technology Documentation for Toxaphene Manufacture where it states, "Toxaphene produces no liquid wastewater,..."). I believe these statements are in error. There is a wastewater stream from the production of toxaphene, although there is not a continuous process stream coming from the chlorinator (i.e., where camphene is reacted with chlorine).

In dealing with this question, however, one must first determine what is meant by the term "wastewater." Under the hazardous waste rules, the Agency has not specifically defined the term wastewater. However, wastewater has been defined in the effluent guidelines and standards regulations. In particular, a process wastewater means "any water which, during manufacturing or processing comes into direct contact with or results from the production or use of any material, intermediate product, finished product, or product. See 40 CFR 401.11(q). Since a wastewater stream is generated from the toxaphene manufacturing process (i.e., scrubber water from the acid recovery system--see previous subparagraph for a discussion of this point) and since this water stream contains various pollutants as well as comes into direct contact with various materials used in the toxaphene manufacturing process, a wastewater stream was generated at VCC's toxaphene manufacturing process at their plant in Vicksburg, Mississippi. This point appears to be substantiated in reviewing VCC's permit application for their NPDES permit (Attachment A to the November 10, 1986, letter from Fred Ahlers to Sam Mabry) where it states (on page 6) that the average flow of wastewater from the Toxaphene Plant to both outfalls #1 and #3 is 0.005 million gallons per year.

FOR ALL OF THE ABOVE REASONS, THE LISTED WASTE (EPA HAZARDOUS WASTE NO. K098-UNTREATED PROCESS WASTEWATER FROM THE PRODUCTION OF TOXAPHENE) WAS GENERATED AT VCC'S FACILITY IN VICKSBURG, MISSISSIPPI. IN ADDITION, SINCE THIS LISTED

HAZARDOUS WASTE WAS DISCHARGED TO THE SURFACE IMPOUNDMENTS LOCATED AT VCC'S FACILITY IN VICKSBURG, MISSISSIPPI, THE SURFACE IMPOUNDMENTS ARE SUBJECT TO REGULATION UNDER THE RCRA HAZARDOUS WASTE PROGRAM.

- (3) Are the on-site surface impoundments part of the wastewater treatment system?

Another issue is whether the on-site surface impoundments are used to treat the wastewater and thus, generate and store EPA Hazardous Waste No. K041 (Wastewater treatment sludge from the production of toxaphene). Based on the information provided by Cedar Chemical and their representatives, I have determined that the on-site impoundments are used as part of the wastewater treatment system (i.e., are used to treat the wastewater). In particular, in the report "Wastewater Treatment Technology Documentation for Toxaphene Manufacture," it indicates (on page 42) under the subheading Wastewater Treatment that the effluent from the toxaphene process at the Vicksburg facility is "discharged to a final neutralization and settling pond located on-site..." Under the definition of treatment in the RCRA hazardous waste program, both neutralization and settling are considered treatment. Thus, the impoundments are used to treat the wastewaters. This point is further substantiated in a letter dated January 23, 1987, from Gary Dietrich, Senior Vice-President of ICF to myself where it states:

"The three surface impoundments (in series) at the Cedar Chemical (formerly Vicksburg Chemical) facility receive sewered process wastewaters, floor drainage, and stormwater from the facility and discharge these wastewaters through an activated carbon filter to the Mississippi River under an NPDES permit. As such, these impoundments serve a necessary water pollution control purpose by preventing the discharge of these wastewaters into the small local surface water stream and by facilitating the carbon treatment of these wastewaters before they are discharged into the Mississippi River."

FOR ALL THESE REASONS, THE LISTED WASTE (EPA HAZARDOUS WASTE NO. K041-WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF TOXAPHENE) WAS GENERATED IN THE SURFACE IMPOUNDMENTS AT VCC'S FACILITY IN VICKSBURG, MISSISSIPPI. SINCE THE IMPOUNDMENTS CONTAINED (AND MAY STILL CONTAIN) THE LISTED WASTE, THE IMPOUNDMENTS ARE SUBJECT TO REGULATION UNDER THE RCRA HAZARDOUS WASTE PROGRAM.

## COMMENTS

In the previous section, I indicate the reasons that the waste streams that were generated from the toxaphene manufacturing process at VCC's facility in Vicksburg Mississippi are a listed hazardous wastes. In this section, I will respond to a number of comments/statements made by representatives of the Cedar Chemical Corporation.

°De minimis Loss Provision - In reviewing the documents submitted by Cedar Chemical and their representatives, they appear to believe that de minimis losses of commercial chemical products that occurred and are associated and included as the basis for listing the untreated process wastewater from toxaphene production (K098) are exempt from regulation under the mixture rule exemption. See §261.3(a)(2)(iv)(D). This is not supported by EPA's rules. Under this part of the mixture rule exemption, it indicates that de minimis losses<sup>3/</sup> of commercial chemical products that are discharged to wastewaters (that are subject to regulation under Section 402 or 307(b) of the Clean Water Act) are not automatically considered hazardous wastes, unless the wastewater is a listed hazardous waste or the wastewater exhibits one or more of the hazardous waste characteristics. The purpose of this provision was to avoid the unnecessary regulation of wastewater treatment units that only receive de minimis losses of commercial chemical products. Since the Agency has specifically listed the wastewaters from toxaphene production, and since we have not specifically excluded this listing or any part of it from the mixture rule exemption, the commercial chemical product exemption in §261.33(a)(2)(iv)(D) does not apply in this case.

°Intent of Listings - In the November 10, 1986, letter from Fred Ahlers to Sam Mabry, it indicates (on pg. 5; answer to Question 11) that "no toxaphene contaminated process wastewater or sludges of the type contemplated by EPA's Background Document were generated at the Vicksburg Plant." This is simply not the case. The LBD clearly describes the wastestreams that were generated at Vicksburg and recognizes that there is some difference between these wastestreams and those generated at the Hercules facility. In particular:

<sup>3/</sup> De minimis losses is defined to include minor spills, leaks from pipes and valves, minor leaks from process equipment, leaks from well-maintained pump packings and seals, etc.

"At the Hercules Plant, wastewater is generated from the toxaphene production process (leaks, spills, and washdowns), as well as from the scrubbing of vent gases in the HCl absorption and recovery step... The sludge results from the addition of diatomaceous earth and lime to the wastewater. The solids are allowed to settle in holding ponds and...

"At Vertac's Vicksburg plant, the toxaphene containing process wastewater stream seems to be the bleed stream from the caustic soda scrubber for off-gas cleanup in the HCl absorption and recovery step... These effluent streams, discharged at a flow rate of about 0.63 liters/sec (10gpm), along with residual toxaphene from past spills, are piped to an equilization pond, and then treated in activated carbon absorption units."

Therefore, the LBD describes Vertac's wastestreams and does not (as the letter states) contemplate something different.

° Intent of Footnote on pg. 6 of the LBD - In the November 20, 1986, letter from Allen T. Malone to Sam Mabry, it says (on pg. 3) that the footnote on page 6 of the LBD "makes it clear that the classification (K041) had nothing to do with any such wastes generated at the Vicksburg Plant." Again, this is simply not the case. The footnote on page 6 simply says that there is no data (at the time the LBD was prepared) on the quantity of wastewater treatment sludges generated at the Vertac Plant nor was there any data available on the concentration of toxaphene in these sludges. It does not (as the letter implies) say that the wastes generated at Vertac do not meet the listing description. [It should be noted that since the LBD was prepared, analytical data has been collected by the Mississippi DNR on the concentration of toxaphene in the sludges contained in the surface impoundments at VCC's facility in Vicksburg, Mississippi (see Attachment B). This data demonstrates that the concentration of toxaphene in these sludges is significant (i.e., up to 2,300ppm.)

Please feel free to give me a call at (FTS) 8-475-8551 if you have any questions.

cc: S. Mabry (Mississippi DNR)

Attachments

Attachment A - List of Documents Reviewed

- ✓ 1. Memorandum (undated) from James E. Scarbrough, Chief, Residuals Management Branch, EPA Region IV to Matt Straus, Chief, Waste Characterization Branch, WCB, OSW [Attachments to memo are listed separately].
- ✓ 2. Letter dated October 22, 1986, from Sam Mabry, Director, Hazardous Waste Division, Mississippi DNR to James Scarbrough, Chief, Residuals Management Branch, EPA Region IV
3. Listing background Document to Toxaphene Listings (Version includes proprietary information relevant to VCC's facility in Vicksburg, Mississippi)
4. Letter (with attachments) dated November 10, 1986, from Fred Ahlers, Plant Manager, Cedar Chemical Corporation to Sam Mabry, Director, Hazardous Waste Division, Mississippi DNR; Attachments to the letter include: (1) VCC NPDES Permit Application dated June 26, 1981 (Attachment A); (2) VCC NPDES Permit Application dated January 3, 1986 (Attachment B); (3) Letter from MDNR Bureau of Pollution Control dated November 8, 1985 (Attachment C); (4) MDNR Generator Annual Hazardous Waste Report - 1981 (Attachment D); (5) MDNR Generator Annual Hazardous Waste Report - 1982 (Attachment E); (6) MDNR Generator Annual Hazardous Waste Report - 1983 (Attachment F-1); (7) MDNR Facility Annual Hazardous Waste Report - 1983 (Attachment F-2); (8) EPA Facility Biennial Hazardous Waste Report for 1985 (Attachment G); (9) Piping Diagram-North Plant (Attachment H); (10) Letter dated February 18, 1983 from R. F. Maraman, Chief Chemist, VCC to MDNR Bureau of Pollution Control (Attachment I); (11) Schematic of VCC's Toxaphene Production Process (Attachment J); and (12) Schematic of what is believed to be Hercules' Toxaphene Production Process (Attachment K).
5. Three Mississippi Commission Orders against VCC: (1) Compliant No. 599-82, November 10, 1982; (2) Complaint No. 717-84, June 11, 1984; and (3) Complaint No. 948-85, November 20, 1985.
6. Letter dated November 20, 1986, from Allen T. Malone of the Law Offices of Apperson, Crump, Duzane, and Maxwell to Sam Mabry, Director, Hazardous Waste Division, Mississippi DNR.

7. Wastewater Treatment Technology Documentation for Toxaphene Manufacture, Report prepared by the Midwest Research Institute for the U.S. Environmental Protection Agency, EPA 400/9-76-013 (PB-253 676), February 6, 1976.
8. Mixture Rule Amendment, 46 FR 56582, November 17, 1981.
- ✓ 9. Letter (undated) from James H. Scarbrough, Chief, Residuals Management Branch, EPA Region IV to Charles H. Chisolm, Director, Bureau of Pollution Control, Mississippi DNR.
10. Analytical Data of VCC's Sludge Taken from the On-site Surface Impoundments.
11. Three RCRA Site Inspection Reports at VCC's Wicksburg facility: (1) Jim Cook, Inspector, November 22, 1985; (2) Andrew Kromis, Inspector, July 27, 1981; and (3) Jane Stone, Inspector, August 7, 1986.
12. Data from a grab sample in 1983 from an area near the impoundments.
13. An excerpt from VCC's Part B Permit Application.
- ✓ 14. Letter dated February 21, 1985, from Dick Karkkainen, Director of Environment and Safety, Vertac Chemical Corporation to Chuck Estes, Hazardous Waste Section, Mississippi DNR.
15. Letter dated January 23, 1987, from Gary Dietrich, Senior Vice President, ICF Technology to Matthew Strauss, Chief, WIB, OSW.

ATTACHMENT B

#2

2

Sampling Plan  
Vicksburg Chemical Impoundment  
MSD990714081  
Vicksburg, Mississippi

Parameter: Toxaphene  
Arsenic  
Dinoseb  
Acid Extractables  
Base Neutral Compounds

Total Extractions will be run for all parameters. If any samples contain over 0.5 mg/l of toxaphene, then both the Extraction Procedures Toxicity and the Toxicity Characteristic Leaching Procedure will be run on the sample with the highest level of toxaphene.

Safety: Due to the nature of the material in the impoundment and the probability that the sampling will require the use of a boat, a separate site safety plan will be prepared by the contractor.

Equipment: Samples may be collected from a boat using shelby tubes, split spoons, push tubes, or equivalent methods.

Coring equipment used to collect samples should be such that disturbance of the soil column is minimized.

Sample containers and ice chests will be provided by the MBPC.

Sample Types: Grab sediment samples.

Split Samples: Splits of all samples will be offered to Vicksburg Chemical Company.

Sampling Points: A series of 26 discrete sample point locations have been selected on a 50 ft. grid for the impoundment with the exception of sample points 1 and 1A which will be taken near the mouth of the inlet pipe [see illustration #1].

Sample Compositing: The samples from the 26 discrete sampling points will be composited per the following scheme:

\*6 ft. - 4 ft. core depth

	<u>Sample Number</u>
Composite discrettes 1 & 1A	VC-A
Composite discrettes 2 & 5	VC-B
Composite discrettes 3 & 4	VC-C
Composite discrettes 6, 7, & 8	VC-D

\*4 ft. - 2 ft. core depth

Composite discrettes 1 & 1A	VC-E
Composite discrettes 2 & 5	VC-F
Composite discrettes 3 & 4	VC-G
Composite discrettes 6, 7, & 8	VC-H

\*2 ft. - 0 ft. core depth

	<u>Sample Number</u>
Composite discrettes 1 & 1A	VC-I
Composite discrettes 2 & 5	VC-J
Composite discrettes 3 & 4	VC-K
Composite discrettes 6, 7, & 8	VC-L
Composite discrettes 9, 10, 11 & 12	VC-M
Composite discrettes 13 & 14	VC-N
Composite discrettes 15 & 16	VC-O
Composite discrettes 17 & 18	VC-P
Composite discrettes 19 & 20	VC-Q
Composite discrettes 21, 22, & 24	VC-R
Composite discrettes 23 & 25	VC-S

Sample Collection: Samples 1, 1A, and 2 through 8 shall be collected in 2 ft. portions to a total depth of 6 ft. Sample points 9-25 should be collected to a maximum depth of 2 ft. Illustration #2 provides information as to the expected sediment depths. All samples will be collected according to EPA QA/QC standards. Samples shall be composited in glass or stainless steel bowls that have been cleaned with acetone and hexane and covered with aluminum foil prior to use. The samples will be thoroughly mixed using stainless steel spoons prior to placing in the sample container.

All sampling activities will be conducted under the supervision of a representative of MBPC.

JM:els



CHARLES W. METCALF, 1940-1924  
WILLIAM P. METCALF, 1972-1940  
JOHN W. APPERSON, 1986-1986

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
TONI CAMPBELL PARKER  
J. KEITH MCCORMIC  
MELODY W. OLIVER  
WILLIAM B. MASON, JR.

SAMUEL RUBENSTEIN  
JOHN HART TODD  
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100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103  
901/525-1711

EAST OFFICE  
SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

April 29, 1987

RECEIVED

MAY - 1 1987

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL  
DIVISION OF SOLID WASTE

REVIEWED BY \_\_\_\_\_

Mr. Sam Mabry, Director  
Division of Hazardous Waste  
Mississippi Department of  
Natural Resources  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209

Re: Cedar Chemical Corporation DATE \_\_\_\_\_  
Vicksburg Chemical Division COMMENTS \_\_\_\_\_  
Order No. 1153-86

*Sent to EPA  
11-16-87*

Dear Mr. Mabry:

On behalf of Cedar Chemical Corporation, the respondent in the referenced Order of Dismissal issued December 17, 1987 by the Mississippi Commission on Natural Resources (the "Order"), this is to respond to your letter to Mr. Fred Ahlers, Vicksburg Plant Manager, dated April 15, 1987.

It having been finally determined in the Order that the handling of wastes in connection with past Dinoseb production at the Vicksburg Plant does not afford a basis for regulating the Plant's "Surface Impoundment" under RCRA, the Department now asserts that past toxaphene production at the Plant (which ceased in October, 1982) brings the Surface Impoundment under the regulatory framework of RCRA, as adopted in Mississippi by the Mississippi Hazardous Waste Management regulations ("MHWMR"). To come to such a conclusion, you had to determine that the prior owner of the Vicksburg Plant either discharged to the Surface Impoundment "untreated process wastewater" from toxaphene production (listed hazardous waste No. K098) or that sediment in the Surface Impoundment constitutes "wastewater treatment sludge" from toxaphene production (listed hazardous waste No. K041).

You have acknowledged that interpretation of the applicable MHWMR in this case is based entirely on an advisory opinion issued by Mr. Matthew Strauss with EPA's Office of Solid Waste. Pursuant to the Department's regulations, we request that you furnish us with a copy of Mr. Strauss' opinion as soon as possible in order for us to prepare for the May 27th hearing.

Mr. Sam Mabry  
April 29, 1987  
Page Two

By letter dated January 23, 1987 to Mr. Strauss, Mr. Gary Dietrich, who served as EPA's Deputy Director in charge of hazardous waste listings at the time the "toxaphene rule" was promulgated, and who previously testified before the Commission in this case, expressed the opinion that the above K098 and K041 listings have no applicability to the wastes previously generated at the Vicksburg Plant. A careful review of EPA's background document will show that the decision to list K098 and K041 as hazardous wastes was based on data relating to a toxaphene plant previously operated by Hercules Inc. at Brunswick, Georgia. The Hercules Plant produced process wastewater resulting in seven tons per day of wastewater treatment sludge containing toxaphene at levels of approximately 10,000 parts per million. The manufacturing process used at the Vicksburg Plant generated no such process wastewater nor did it result in any sludge of the kind described in the background document with respect to the Hercules Plant. These undisputed facts have been documented in prior submittals on behalf of Cedar, all of which should be part of the record for review by the Commission.

You have suggested that a "delisting petition" would have been the proper procedure for removing past waste streams at the Vicksburg Plant from the hazardous waste designations proposed in your letter. Cedar's only response is that the personnel at the Plant would never have dreamed that scrubberwater produced from recovery of HCl (containing non-detectible concentrations of toxaphene) or de minimis and incidental leaks and spills that might have occurred in the course of toxaphene production at the Plant could have possibly been considered "untreated process wastewater from production of toxaphene" or that the sediments at the bottom of the Surface Impoundment could ever be considered "wastewater treatment sludge" as intended by K098 and K041.

Putting aside issues relating to the scope reasonably intended by the K098 and K041 hazardous waste listings, we submit that subjecting the Surface Impoundment at the Vicksburg Plant to RCRA regulation will actually do more harm than good in terms of protecting the environment. It is important to direct the Commission's attention to the following facts:

The Surface Impoundment which is used to handle, treat and discharge non-hazardous wastes generated daily at the Vicksburg Plant is essential to the Plant's ability to continue operating.

Mr. Sam Mabry  
April 29, 1987  
Page Three

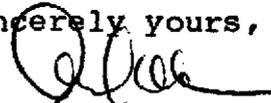
If the Surface Impoundment is designated a hazardous waste unit under RCRA, Cedar would be required to discontinue use of the Impoundment, and replace it with new facilities in order to keep the Vicksburg Plant operational. It is doubtful that Cedar or any other company could justify the costs of constructing above-ground tanks to replace the Surface Impoundment, coupled with the costs of closing the Impoundment.

The Surface Impoundment presently collects storm water run-off which typically contains sediments contaminated with pesticides. In its present operations, Cedar treats the water leaving the Impoundment, and discharges it to the Mississippi River daily, pursuant to its NPDES Permit. As a result, operation of the Impoundment and pretreatment system prevents the uncontrolled migration of toxaphene and other contaminants to surface waters and streams at the Plant site. Closure of the Impoundment would eliminate this valuable function.

These unfortunate results which would flow from subjecting the Surface Impoundment to RCRA regulations can be avoided by rejecting the unreasonable interpretation of the MHWMR advanced by EPA. As you have acknowledged, the Department is fully capable of assuring that the Surface Impoundment poses no threat of contamination to groundwater, whether or not it is determined to be a hazardous waste unit under RCRA. In fact, assuming that EPA's interpretation of the MHWMR is rejected, Cedar is nevertheless committed to continued groundwater monitoring at the Vicksburg Plant.

We believe the sensible approach is for the Department to continue to regulate the Surface Impoundment so as not to eliminate the useful environmental and operating functions which it now serves. That was precisely the approach suggested by Mr. Dietrich in his letter of January 23, 1987 - an approach which would not only help protect the environment at the Vicksburg Plant but would also help protect the jobs held by numerous residents of Warren County who depend on the Plant for their livelihood.

Sincerely yours,



Allen T. Malone

ATM:jw  
cc: Mr. William L. Smith  
Brunini, Grantham, Grower & Hewes



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

RECEIVED

APR 24 1987

APR 16 1987

DEPT. OF NATURAL RESOURCES  
BUREAU OF ENVIRONMENTAL CONTROL  
OFFICE OF  
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Headquarters Support at State Commission Hearing

FROM: Marcia Williams, Director *Marcia*  
Office of Solid Waste

TO: Pat Tobin, Director  
Waste Management Division, EPA Region IV

This is in response to your memorandum of March 26, 1987, concerning your request to have Matt Straus testify at the Mississippi Department of Natural Resources Commission hearing on May 27, 1987. As you know, I believe it is vital to support the Regions and the States in the implementation/enforcement of the hazardous waste regulations. Therefore, Matt Straus will attend the hearing and will be available to provide testimony on behalf of the State. In fact, Matt has already been in contact with Sam Mabry of the Mississippi Department of Natural Resources and is scheduled to meet with him on April 29 in Washington D.C. regarding the hearing.

With regard to Mr. Straus' written report on the situation, he will get it prepared and sent to the Region and the State by the first week of May. Please feel free to contact Matt Straus at 8-475-8551 if you have any further questions regarding this matter.

cc: Doyle T. Brittain (Region IV)  
Sam Mabry (Mississippi DNR) ✓

April 15, 1987

**FILE COPY**

Mr. Fred Ahlers, Plant Manager  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

In accordance with Mississippi Commission on Natural Resources Order No. 1153-86, this letter states the basis for the Bureau of Pollution Control to regulate the Vicksburg Chemical Corporation surface impoundment as a hazardous waste facility.

It is the Bureau's position that

1. After the November 19, 1980, effective date of the Mississippi Hazardous Waste Management Regulations (MHWMR), the surface impoundment continued for some time to receive a listed hazardous waste, K098, "untreated process wastewater from the production of toxaphene" (MHWMR 261.32); and
2. The impoundment now contains a second listed hazardous waste, K041, "wastewater treatment sludge from the production of toxaphene" (MHWMR 261.32).

Because both listed wastes have been placed (or generated) in the impoundment after the effective date of the MHWMR, the impoundment is a regulated hazardous waste impoundment.

The Bureau bases its determination that K098 was discharged into the impoundment after November 19, 1980, on the following language in your letter of November 10, 1986, to me (see enclosure):

In fact the only "waste streams" associated with toxaphene production at the Vicksburg plant would have consisted of any de minimis losses occasioned by minor leaks and spills, and scrubber water generated from operation of the plant's air emission control procedures in connection with its HCl recovery system (muriatic acid or HCl being a by-product of the toxaphene production process).

The EPA Background Listing Document (see enclosure) describes the listed K098 toxaphene wastewater as "leaks, spills and wash (washdowns) as well as the scrubbing of vent gases in the HCl absorption and recovery step."

The wastewater described in Vicksburg Chemical's November 10, 1986, letter seems essentially identical to the description of K098 in the Background Listing Document. The same letter indicates further that the muriatic acid waste streams from the toxaphene production process continued to be generated and discharged into the pond until October, 1982.

Mr. Fred Ahlers, Plant Manager  
Vicksburg Chemical Corporation  
Page -2-

Sampling and analyses have shown quantifiable levels of toxaphene to be present in the sludge in the impoundment (see enclosure). The Bureau's position is that the impoundment sludge, therefore, meets the KO41 listing description: "wastewater treatment sludge from the production of toxaphene."

Vicksburg Chemical Company has, both in your November 10, 1986, letter and in Mr. Allen Malone's letter of November 20, 1986 (see enclosure), argued that the KO98 and KO41 listings relate only to the toxaphene waste streams generated at the time of listing (November 19, 1980, effective date) by the Hercules, Inc., Brunswick, Georgia, plant, and not to Vicksburg Chemical's wastes. However, the Bureau finds nothing either in the specific language of the listing descriptions or in the Background Listing Document itself to substantiate this position taken by the company. The listings are generic to any toxaphene wastewaters or sludges. The MHWMR specify procedures for petitioning EPA to exclude a listed waste produced at a particular facility if the petitioning owner/operator believes that the waste produced at the facility "does not meet any of the criteria under which the waste was listed as a hazardous waste" (MHWMR 260.22). It is the Bureau's position that this "delisting" procedure is the only appropriate means prescribed in the regulations for addressing the company's contention that its wastes are essentially different from the waste streams on which the listings were based.

In summary, the Bureau asserts that the Vicksburg Chemical Company surface impoundment is a regulated hazardous waste unit, having received and stored listed hazardous wastes after the effective date of the applicable regulations. As provided by Commission Order No. 1153-86, the company has fourteen days from receipt of this letter to provide a written response to the Bureau. Also, in accordance with the order and as discussed with one of the company's attorneys, Mr. Bill Smith, a hearing on the matter will be scheduled for the May 27, 1987, regular Commission meeting. We will inform you of the time of the hearing as soon as the schedule is final.

Please call me if you have any questions regarding this letter or the enclosures.

Sincerely,

Sam Mabry, Director  
Hazardous Waste Division

SM:els

Enclosure

cc: Mr. Bill Smith, Brunini, Grantham, Grower, & Hewes  
Mr. Allen Malone, Apperson, Crump, Duzane, & Maxwell  
Mr. Matt Strauss, EPA, Washington  
Mr. James H. Scarbrough, EPA, Atlanta

MAR 25 1987

Headquarters Support at State  
Commission Hearing

Director, Waste Management Division  
U.S. Environmental Protection Agency, Region IV

Marcia Williams, Director  
Office of Solid Waste

This requests that Matt Strauss, Chief of the Waste Identification Branch, attend the May 27, 1987, Mississippi Department of Natural Resources Commission hearing in Jackson, Mississippi. He is needed to testify as to his determination on the regulatory status of Vertac Chemical Corporation, Vicksburg, Mississippi.

Mr. Strauss' testimony in the May hearing is critical to the states case, because of his expertise in this area. He became involved in this case at the request of EPA Region IV. Mr. Strauss visited the above-mentioned facility and studied documents pertaining to the argument that the facility is not regulated for toxaphene wastewater (K098), sludge generated in toxaphene production (K041) and dinoseb (P020). In January the commission ruled the facility not regulated for P020, however, they will rule on the toxaphene issue in May.

Mississippi has not yet received Mr. Strauss' written report and has asked that it be sent as soon as possible. The State needs to review the report and allow the company time to do so prior to the hearing.

If you require additional information regarding this matter, contact Doyle T. Brittain of my staff at FTS 257-7603, or Sam Mabry of the Mississippi Department of Natural Resources at (601) 361-5171.

/s/ Patrick M. Tobin

Patrick M. Tobin

Gettle/ljd/disk Gettle 4

MAK  
3/25/87

Brittain  
PDES  
3/25/87

Antley

MA  
3/25

Scarborough

MAK  
3/25/87

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
P 113 206 271

**RECEIVED**

FEB 19 1987

February 16, 1987

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Jack McCord  
Mississippi Department of Natural Resources  
Bureau of Pollution Control  
Industrial Wastewater Control Section  
2380 Highway 80 West  
Jackson, MS 39204

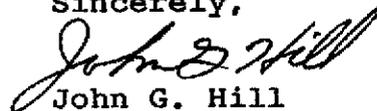
Re: Commission Order No. 1046-86

Dear Mr. McCord:

Per requirement number 4 of the subject Order (submission date as subsequently modified) attached is the additional monitoring data (Table 1) and documentation of the installation of the three new wells (Appendix 4)

JGH/ld  
Enc.

Sincerely,



John G. Hill  
Environmental Engineer

cc - F. Ahlers



# ICF TECHNOLOGY

January 23, 1987

Mr. Matthew Strauss  
Chief, Waste Identification Branch  
Office of Solid Waste  
Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460

Subject: RCRA Status of Surface Impoundments at Cedar Chemical

Dear Matt,

Thank you for meeting with me on Wednesday afternoon of last week. As I promised, this letter is to summarize the points that I made on the subject situation.

The three surface impoundments (in series) at the Cedar Chemical (formerly Vicksburg Chemical) facility receive sewered process wastewaters, floor drainage and stormwater from the facility and discharge these wastewaters through an activated carbon filter to the Mississippi River under an NPDES permit. As such, these impoundments serve a necessary water pollution control purpose by preventing the discharge of these wastewaters into the small local surface water stream and by facilitating the carbon treatment of these wastewaters before they are discharged into the Mississippi River.

The stormwater influent into these impoundments carries some amount of sediment from the facility site which, over the many years of pesticide production at the facility, have become unavoidably contaminated from de minimus leaks and spills of pesticide product. The floor drainage influent into these impoundments also carry small amounts of pesticide residues from building and containment structures that derive from de minimus leaks and spills of pesticide product. These sediments and residues settle in the impoundments and over the years have formed a contaminated sediment in the impoundments. Because toxaphene was produced at the facility for over a decade, the

sediments in the ponds contain concentrations of toxaphene that range from non-detectable to 2330 ppm. Happily, because of its affinity to absorb onto soil sediments, this toxaphene is and has been well contained in these sediments and has not migrated into the environment. EP and TCLP analyses yield non-detectable levels (<0.04 ppm) of toxaphene in extracts and toxaphene has not been detected in groundwater monitoring well surrounding and downgradient from the impoundments. Carbon filtration of the impoundment discharges to the Mississippi River have controlled migration of toxaphene to surface waters.

Notwithstanding the above-described environmental protection benefit served by the impoundments, the State and Region IV have raised the question of whether the impoundments are hazardous waste units by virtue of containing and having received toxaphene. My reading of the hazardous waste regulations indicate that the impoundments would be hazardous waste units by virtue of toxaphene if (1) the sediments in the impoundments exhibit the characteristic of EP toxicity for toxaphene, (2) greater than de minimus losses of toxaphene product were discharged to the impoundment, or (3) EPA Hazardous Waste K098 or K041 were discharged to the ponds. As described below, my analysis indicates that none of these criteria are or were met and, therefore, the impoundments are not hazardous waste units by virtue of toxaphene content or wastewater influents.

Analyses of the sediments in the impoundments, based on sampling and analyses performed by the State, show that they do not exhibit the characteristic of EP toxicity for toxaphene. EP extract toxaphene concentrations of 0.1, 0.04 and 0.04 ppm were obtained against the characteristic concentration limit of 0.5 ppm. A previous State sample showed an EP extract concentration of 0.02 ppm toxaphene. In addition, analyses of samples taken by Cedar Chemical show that the sediments do not exhibit any of the other characteristics of hazardous waste, including the EP toxicity characteristic for the heavy metals. Consequently, the impoundments cannot be regarded as hazardous waste units by virtue of containing sediments that exhibit characteristics of hazardous waste.

Cedar Chemical reports that there were no discharges of discarded commercial product to the impoundments, including discharges resulting from significant spills or leaks of toxaphene product, during the period of toxaphene manufacture. There were, however, de minimus losses of toxaphene product from the manufacturing process as a result of occasional pipe flange, pump packing, hose coupling and other minor leaks. Over time, these losses were washed into the impoundments through the floor drainage and stormwaters collected by the facility's sewer system. Indeed, it was these losses that produced the toxaphene concentrations currently found in the impoundment sediments. These current concentrations of toxaphene in the sediments are in the same order of magnitude as concentrations of DNEP in the sediments.

Cedar Chemical has made a demonstration to the State that the DNBP concentrations in the impoundments could only have resulted from de minimus losses of DNBP product from the manufacturing process. Cedar Chemical is prepared to make the same demonstration with respect to toxaphene. In summary, there were no discharges of discarded toxaphene product to the impoundments other than discharges resulting from de minimus losses of toxaphene product from the manufacturing process. Hence the impoundments cannot be regarded as hazardous waste units by virtue of receiving discarded toxaphene product.

As indicated by the attached flow diagram, the toxaphene manufacturing process employed by Cedar Chemical did not generate a process wastewater. The muriatic acid recovery system associated with the toxaphene manufacturing process did generate a scrubber wastewater, but I contend that this was not an "untreated process wastewater from the production of toxaphene" as defined by the K098 listing. Rather, it was a wastewater generated by an entirely separate unit process; i.e., the muriatic acid recovery process. Furthermore, it was a wastewater that contained no detectable amount of toxaphene (see page 41 of Reference 4 of the listing background document) because the low volatility of toxaphene prevented detectable amounts from being entrained in the reactor vent gases that were passed over to the muriatic acid recovery system. In summary, K098 wastes were not discharged into the impoundments.

Because no process wastewater was generated by the toxaphene manufacturing process, there was no wastewater to treat. Therefore, no K041 waste (i.e., "wastewater treatment sludge from the production of toxaphene") was generated or discharged into the impoundments.

The State and Region IV seem to believe that the Listing Background Document for Toxaphene Production support their contention that the scrubber wastewater that was generated by the muriatic acid recovery system was a K098 waste. A careful review of the Background Document clearly reveals that the conclusion to list K098 and K041 wastes as hazardous wastes was based exclusively on the toxaphene contained in the process wastewaters and wastewater treatment sludges generated by the Hercules plant in George. In items I.1 and I.2 on page 1 of the document, the following two considerations were the only considerations respecting toxaphene generation used to list toxaphene production wastes and these considerations are based exclusively on data from the Hercules plant:

"Toxaphene is present in each of these waste streams; in the case of the wastewater treatment sludge, if it is found it is found in very high concentrations."

"Approximately 7 tons of wastewater treatment sludge containing about 140 lbs. of toxaphene are generated per

production day. About 19,000 tons of sludge are already disposed of in a landfill in Georgia."

With respect to the first of these considerations, there is no data presented in the Background Document to support the fact that the scrubber wastewater stream or any other wastewater stream generated by the Cedar Chemical plant contains any toxaphene. (There is a statement on page 5 of the Document which states that "Analysis of the bleed stream (Cedar Chemical's scrubber wastewater stream) indicated the presence of chloroform at 8 ng/l, carbon tetrachloride at 625 ng/l, chlorobenzene at 146 ng/l, and toxaphene at 33 ng/l", but this information is attributed to the Georgia Department of Natural Resources which leads one to believe that it pertains to a bleed stream from the Hercules plant rather than the Cedar Chemical plant). Instead, there is information on page 41 of the effluent guidelines document which was used in the development of the Background Document (see reference 4 of the Background Document) which states: "The only liquid waste produced in the toxaphene process at the Vicksburg, Mississippi, plant is the neutralized HCl waste discharged at a rate of about 10 gpm from the caustic scrubber (Meiners and Mumma, 1975c). Chemical analyses performed by independent testing laboratories on samples of this effluent have not detected any toxaphene."

With respect to the second consideration, there is no evidence in the Background Document that the Cedar Chemical plant (1) generated a wastewater treatment sludge, (2) generated 7 tons of wastewater treatment sludge, or discharged 140 pounds of toxaphene per production day. In fact, if one hypothesizes that the 10 gpm of scrubber wastewater contained 1 mg/l of toxaphene on the basis that this was the detection limit of the analytical method used by the independent testing laboratory in the analysis reported on page 41 of the effluent guideline document used to support the Background Document, the daily discharge of toxaphene through the scrubber effluent would have been 0.12 pounds/day, a far cry from the 140 pounds/day used in the second consideration.

Furthermore, virtually all of the discussion in the Background Document describing the generation and management of wastewaters and wastewater treatment sludges that contain toxaphene and describing the consequences of mismanagement of these wastes is based on information about the Hercules plant (see pages 3 through 8 of the Background Document). Only one paragraph on pages 5 and 6 describe the generation and management of wastewaters at the Cedar Chemical plant and there is no discussion of the consequences of mismanagement of these wastewaters. In short, the Cedar Chemical plant is implicated for the discharge and potential mismanagement of large quantities of toxaphene-containing wastewaters and wastewater treatment sludges based on information from the Hercules plant.

As you and I both know, the toxaphene and other Background

Documents were hurriedly written in the early months of 1980 in order to support the listing of hazardous wastes in the regulations that we had to promulgate and did promulgate in May of that year. We did not have the luxury for a great deal of quality control and, in hindsight, one of the consequences of that paucity of quality control was, in my opinion, the poor support for the listing of toxaphene process wastes in the Background Document discussed in this letter. Indeed, in my opinion, if we would have had better quality control, we probably would have written a toxaphene listing description that clearly excluded the scrubber effluent from the Cedar Chemical plant because the data clearly did not support the listing of that waste stream.

I hope this information and these views are helpful to you in advising the State and Region IV of the regulatory status of the Cedar Chemical impoundments. If you would like to further discuss this matter with me, please give me a call at 862-7271.

Sincerely yours,

*Gary*  
Gary N. Dietrich  
Senior Vice President

Attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

JAN 20 1987

4WD-WC

RECEIVED

JAN 19 1987

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Sam Mabry, Director  
Division of Solid/Hazardous Waste  
Management  
Mississippi Department of Natural  
Resources  
Post Office Box 10385  
Jackson, Mississippi 39209

Dear Mr. Mabry:

As was requested by the Mississippi Department of Natural Resources (MSDNR), EPA Region IV has undertaken a background review of the regulatory status of the ~~Vickroy~~ **Chemical Corporation (VCC)**. In conducting this review, EPA has requested, and MSDNR has agreed to supply, a copy of the piping diagram recently generated by VCC. The diagram is critical to our evaluation of VCC.

To date, EPA has not received the diagram. Please forward a copy of the document to Paul Peronard of my staff as soon as possible. Thank you for your anticipated cooperation in the matter.

Sincerely yours,

James H. Scarbrough, P.E., Chief  
Residuals Management Branch  
Waste Management Division

DIVISION OF SOLID WASTE  
REVIEWED BY cxh  
DATE 1-19-87  
COMMENTS Paul picked this  
up on 1-14-87



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



M E M O R A N D U M

TO: Vicksburg Chemical File  
FROM: Jack McCord  
SUBJECT: Sampling Reconnaissance Trip  
DATE: January 13, 1987

On the above referenced date Paul Peronard of EPA Region IV, personnel from the EPA Athens lab, and I visited Vicksburg Chemical in preparation for a sampling inspection to be conducted in mid February.

John Hill of Vicksburg Chemical, accompanied us on a tour of the plant. Areas looked at during the tour included the hazardous waste surface impoundment, the hazardous waste and returned product drum storage areas, the north plant impoundment, the product drumming area, the Dinoseb and specialty products (formerly toxophene) production facilities, and the bayous adjacent to the south plant's hazardous waste disposal lagoon. We also checked the sampling access upstream of the plant for Stouts and Hatcher Bayous and the downstream access for Hennessey's Bayou.

The surface impoundment was at the highest level I have observed. The level was within 6 to 8 inches of the top of the finger dike, and the inlet pipe was completely covered.

The Dinoseb production area was flooded with approximately four inches of water. John Hill called for a vacuum truck to remove the water, but it had not arrived by the time we left the plant.

The returned product drum storage area was much cleaner than it was in September. The floor was stained yellow, but there was no spill and absorbent material on the floor.

JMc:hdb  
cc: Chuck Estes



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV  
345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

JAN 6 1987

4WD-WC

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JAN 12 1987

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Sam Mabry, Director  
Hazardous Waste Section  
Mississippi Bureau of  
Pollution Control  
Post Office Box 10385  
Jackson, Mississippi 39209

Dear Mr. Mabry:

Per your phone conversation with Jeaneanne Gettle on Monday, January 5, 1987, this confirms that EPA Waste Compliance personnel in conjunction with EPA Environmental Services Division, Athens, will be conducting a reconnaissance at Vertac Chemical Corporation, Vicksburg, Mississippi on January 13, 1987. This reconnaissance is in preparation for a site investigation to be scheduled in February.

If you have any questions, please call Jeaneanne Gettle at 404/347-7603.

Sincerely yours,

*Allan E. Antley*

Allan E. Antley, Chief  
Waste Compliance Section



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

343 COURTLAND STREET  
ATLANTA, GEORGIA 30333

4WD-RM

Mr. Charles H. Chisolm, P.E., Director  
Bureau of Pollution Control  
Mississippi Department of Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

Dear Mr. Chisolm:

The discussion of the regulatory status of Vertac Chemical Company (VCC) hinges around waste streams resulting from two operations: (1) the production of dinoseb, and (2) the past production of toxaphene. Based upon a review of the information submitted by VCC and available in the EPA compliance file, the surface impoundment at VCC is a RCRA regulated unit for the treatment, storage and disposal of K098 and K041 (untreated wastewater and wastewater treatment sludge from the production of toxaphene) and possibly P020 (any residue of any commercial product or manufacturing intermediate having the generic name listed in the paragraph 261.33(e) or (f) (dinoseb)). A summary of the facts in this matter are given below:

Toxaphene listing: VCC had a toxaphene wastewater stream which flowed into the surface impoundment through October 1982. This is confirmed by VCC's Notification of Hazardous Waste Activity, Part A Application, at least one EPA Inspection Report, the background listing document for K041 and K098, the February 6, 1976, "Wastewater Treatment Technology Documentation for Toxaphene Manufacture" published for the EPA by the Midwest Research Institute; VCC's response, dated November 10, 1986, to the information request from MSDNR; and in Mr. Allen T. Malone's (Attorney for Cedar Chemical) letter of November 20, 1986, to Sam Mabry. Several wastewater streams, some untreated, were discharged into the surface impoundment, thus justifying the listing for K098 (untreated process wastewater from the production of toxaphene). In addition, sludge has been found in the surface impoundment with concentrations up to 2,320 ppm toxaphene. This would meet the listing for K041 (wastewater treatment sludge from the production of toxaphene).

In the letter of November 20, 1986, Mr. Malone presents some specious arguments as to why the surface impoundment is not a regulated unit. These, along with responses, are given below:

1. Mr. Malone mentions that he is encouraged that the "... toxaphene concentrations do not appear to be of regulatory significance".

- A. It is EPA's position that 2,320 ppm toxaphene is a major regulatory concern. Quoting from page 6 of the background listing document:

"Toxaphene is an exceptionally dangerous waste constituent. It is extremely toxic, highly bioaccumulative, and has been reported to cause cancer in laboratory animals. It is also been shown to be mutagenic. Toxaphene is regulated as a toxic pollutant under §307(a) of the Clean Water Act. After an adjudicatory proceeding, a discharge concentration limitation of 1.5 ppb has been established for toxaphene discharges into navigable waters, and this discharge limitation was judicially upheld in Hercules, Inc. vs EPA, 598 F. 2d 91 (D.C. Cir 1978). (The administrative and judicial records are incorporated by reference into this listing background document.) The Agency has also established a national interim primary drinking water standard of .005 mg/l for toxaphene. (That administrative record is likewise incorporated by reference.)

The wastes are listed as toxic based on the potential for waste mismanagement and resulting environmental harm. Toxaphene is both mobile and persistent, having frequently been found in clarified and treated municipal drinking water."

- 2. Mr. Malone implies throughout the letter that since only the Hercules plant in Brunswick, Georgia, is discussed in any detail in the background listing document, (BLD) the processes utilized at Hercules must be duplicated in order to have K041 and/or K098.
  - A. It is EPA's position that the BLD is only used to provide a basis for listing a particular type waste stream and to give some examples of facilities that have this type waste stream. It is by no means inclusive of all possible variations that may result in a particular listed hazardous waste. If such were the case, the size of the BLD for woodtreating and electroplating wastes alone would dwarf the regulations themselves. The listings provided in 40 CFR 263.31-33 are designed to "stand on their own," with the BLD only providing limited clarification.
- 3. Mr. Malone implies that the VCC facility, its waste streams and its sludges, are entirely dissimilar to those described in the BLD.
  - A. On page 3 of the BLD in a discussion of the two toxaphene manufacturers in the United States (Hercules and Vertac), the following statement is made:

"Toxaphene is produced in essentially the same manner by both domestic manufacturers."

The BLD further delineates the generated waste streams at the Hercules plant. The description includes "leaks, spills and washdowns" from the production area. This is analogous to VCC's sump and drain system which collected production spills and routed them to the surface impoundment. Although VCC's sump and drain system has been described enumerable times (albeit with

greatly varying descriptions being provided) one only has to look to the first paragraph on page 6 of VCC's November 10, 1986, response to MSDNR's request for information to find documentation by VCC that leaks occurred and were routed untreated to the surface impoundment. As for the nature of the sludge found in the surface impoundment, the BLD mentions several times that toxaphene concentrations of 10,000 ppm were found in the wastewater treatment sludge at Hercules. At VCC, toxaphene concentrations in the wastewater treatment sludge were found in the hundred to thousands ppm range. This is certainly an appreciable level of toxaphene, and quite comparable to those found at Hercules.

4. Mr. Malone asserts that the toxaphene waste stream should be exempted by the "de minimus" exclusion found in 40 CFR 261.3.
  - A. It is EPA's position that the de minimus exclusion only applies to "discarded commercial products" found in 40 CFR 261.33. The K041 and K098 listings are found in 40 CFR 261.32. Even if the de minimus exclusion was deemed relevant by some stretch of the regulations, the quantities and concentrations found in the surface impoundment preclude the losses from being de minimus.
5. Cedar Chemical states that "no toxaphene contaminated process wastewater or sludges of the type contemplated by EPA's background document were generated at the Vicksburg plant".
  - A. EPA disagrees. The background document states that K041 wastewater "is generated from the toxaphene production process (leaks, spills and washdowns), as well as from the scrubbing of vent gases in the HCl absorption and recovery step. Cedar Chemical states on page six "the only 'wastestreams' associated with toxaphene production at the Vicksburg Plant would have consisted of de minimus losses occasioned by minor leaks and spills, and scrubber water generated from operation of the plant's air emission control procedures associated in connection with its HCl recovery system." By the company's own admission, they clearly meet the background document example of the K041 wastewater listing. De minimus is not applicable to §261.32 hazardous wastes from specific sources.

Additionally, as the federal background document was developed, only two companies in the nation produced toxaphene--Hercules, Georgia and Vertac, Mississippi. A footnote in the background document states that no information is available from Vertac on the amount of wastewater treatment sludges generated.

6. The company submitted a schematic of the Vicksburg process (Attachment J) and the Hercules process (Attachment K). Their position is that the background document is based on the Hercules process which they state is different from their operation.
  - A. EPA disagrees. The background document shows the Hercules schematic in Figure 1. This figure is different from Cedar Chemical's Attachment K submitted to represent the Hercules process. In

fact, Figure 1 of the background document is identical to Attachment J of the Vicksburg process in the areas of concern (K041 and K098 production).

7. The company states that "Cedar believes that the sludge from toxaphene wastewater treatment referred to in the Background Document and classified as K098 under RCRA resulted from the filtration of toxaphene solution through diatomaceous earth in accordance with the process utilized by Hercules, Inc., at its Brunswick, Georgia Plant, producing, according to the Background Document, approximately 7 tons per day of sludge containing approximately 1% toxaphene by weight."
  - A. This assumption is incorrect. As stated earlier, the definition for K098 wastewater is leaks and spills from the toxaphene production process along with scrubber effluent from the HCl recovery process not "the filtration of toxaphene solution through diatomaceous earth." In addition, the filtration of toxaphene solution is shown only on Attachment K submitted by Cedar Chemical Corporation to represent the filters the K098 scrubber wastewater through diatomaceous earth and lime to remove any toxaphene. [Cedar Chemical does not present this in their schematic; the correspondence from the company dated November 10, 1986, does not address what happens to the K041 scrubber water and leaks and spills; and this is critical in knowing the regulatory status of the facility].
8. Cedar Chemical states "no such sludge was produced in the process utilized at the Vicksburg Plant, nor did the Vicksburg toxaphene process involve the discharge of any untreated process wastewater, as that term was intended in connection with the K098 RCRA classification."
  - A. The background document does not discuss "discharge of untreated process wastewater", therefore, this is not the correct definition for the K098 classification. It is true that treated process wastewater is not included under the listing, but Cedar Chemical does not state explicitly that they generate process wastewater to be treated; however, they do generate process wastewater (see discussion under #1) and the handling of the wastewater prior to treatment would be regulated.
9. Cedar Chemical concludes by stating that "It is believed that the Vicksburg Plant was able to avoid the generation of process wastewater (K098) and sludge (K041) of the type generated by Hercules, Inc., at its Brunswick, Georgia Plant by utilizing high purity camphene, which it purchases as a raw material (toxaphene being produced by the chlorination of camphene). Hercules produced a relatively low purity product requiring substantial filtration which the Vicksburg Plant process did not require."
  - A. EPA disagrees. The background document states that the K098 is generated from production spills and leaks and the scrubbing of HCl vent gases. It also states that K098 is generated from treatment of the K041 wastewater. It is unclear how Cedar Chemical "avoid(s) the generation of process wastewater due to a difference in camphene." Also, the reference to the filtration is Hercules' method of wastewater treatment, not production.

10. Mr. Malone stated in the letter of November 20, 1986, that: "You may have already noted that the footnote at page 6 of the background document makes it clear that the classification (K041) had nothing to do with any such waste generated at the Vicksburg plant."
  - A. The grounds for this conclusion are not appropriate. The footnote merely states that data on the wastewater treatment sludges at Vertac were unavailable. In talking with personnel at Headquarters, it was found that this was apparently because (1) Vertac did not have such information, (2) were unwilling to provide such information, and/or (3) were unwilling to allow EPA to gather such information.
  
11. Mr. Malone states in the November 20, 1986 letter, that the "HCL scrubber (sic) water generated in connection with toxaphene production at the Vicksburg plant in fact contained no detectable toxaphene concentrations." He then concludes that it would be "illogical" to regulate the impoundment.
  - A. The facts are rather clear that:
    - i) Wastewater (some untreated) from the toxaphene production area was routed to VCC's surface impoundment, meeting the listing for K098.
    - ii) Large quantities of sludge, with high concentrations of toxaphene present have been found in VCC's surface impoundment. These sludges were formed from wastewater emanating from VCC's toxaphene production area. This meets the listing for K041.
    - iii) Based on this information, it would be illogical not to regulate the surface impoundment as handling K041 and K098.

Since 1980, EPA and MSDNR have maintained that the surface impoundment at VCC regularly received, and therefore was a regulated unit for treatment, storage, and disposal of PO20 (found in 40 CFR 261.33(e)). Only recently, when VCC was informed that the surface impoundment must go through full 265 closure (vis-a-vis LOIS) has VCC maintained that the unit should not be regulated due to the de minimus exclusion. VCC's argument has two supporting foundations: (1) By extrapolation of sampling data, the amount of losses from VCC's operations are rather small on a daily basis, and (2) the only source of dioxin flowing into the impoundment was from the production area, i.e., that no dioxin from the drum storage area goes into the impoundment. These assertions are addressed below:

1. Small quantities: During the MSDNR-BPC commission hearing held on September 15, 1986, VCC presented Mr. Gary Dietrich, a former Deputy Director for the EPA, as an expert witness. Among other things, Mr. Dietrich presented some rough calculations as to the quantity of waste dioxin deposited into the surface impoundment and plant site. Mr. Dietrich states that approximately 1365 pounds of dioxin have

been deposited in the surface impoundment over 13 years (found on page 26 of the hearing transcript). This is based on an estimated volume of sludge in the impoundment, and assumed a dinoseb concentration range of 2-173 ppm. If we assume Mr. Dietrich's basic logic is correct, there are still some problems with his calculations:

- a. Mr. Dietrich used average dinoseb concentrations of 12, 74, & 39 ppm. The most recent sampling data indicates dinoseb concentrations up to 5900 ppm, making his calculations off by a factor of roughly 100. If we assume, as a conservative estimate, that his average concentrations are off by a factor of 50, that would make approximately 58,500 pounds of dinoseb in the impoundment.
- b. Mr. Dietrich used a sludge depth of 3.9 feet. The most recent sampling has shown significant concentrations of dinoseb in the sludge to a depth of 6 feet. Accounting for the increase in volume this would make the total amount of dinoseb deposited around 87,750 pounds.
- c. Mr. Dietrich calculated the dinoseb losses per day based on twice his calculated value of 1365 pounds, yielding an average loss .6 pounds per day to the impoundment. This calculation is based on several erroneous assumptions:
  - 1) Mr. Dietrich does not account for the dike breach in 1983, in which the entire liquid content, and undoubtedly some of the sludge content, was emptied into a nearby stream.
  - 2) Mr. Dietrich assumes the surface impoundment received dinoseb waste every day for 13 years. This does not allow for the period when the dike broke and/or shut down in the dinoseb process.
  - 3) No accounting was made for the material apparently taken from inside the impoundment and used to repair a washout in the dike in 1985.
  - 4) A well run facility with only de minimus losses would surely not have leaks as an every day part of their operation.

Even working with Mr. Dietrich's assumption of 13 continuous work years (4745 days), this would give a dinoseb loss of 18.49 pounds per day to the surface impoundment alone. This also assumes that the material spilled was 100% dinoseb, not a commercial grade or intermediate product. This would indicate that an even greater amount of material was spilled. This is an extremely large quantity of such a highly toxic substance to spill on a daily basis.

2. Only Production Losses: During the September 16, 1986, commission hearing, and in several recently submitted documents, VCC has stated that no waste from their drum storage went to the surface impoundment. This brings up several questions:
  - a. Why is it that the sump in the drum storage area has never been routed to the surface impoundment like every other sump and drain in the South Plant (with the exception of the MSMA area)?

- b. In VCC's Part B application, the statement is made:

"...soil within plant boundaries will additionally flow as sediment particles during rain. The sediment particles will settle within the 3 million gallon surface impoundment. It is possible that some of the soil may have been contaminated by operations in the past and be categorized as P020 (dinoseb) or P123 (toxaphene)."

If it is true, as VCC has maintained, that the only spills have been de minimus losses in the production area (which has a concrete floor and drainage system), then how and when did the soil become contaminated? Mr. Dietrich, in the September 16, 1986, commission hearing, indicated that soils in and around the plant area have dinoseb concentrations in the 1 to 10 ppm range. How did this material get there?

- c. Also, in VCC's Part B application is the statement that: "Spills and leaks from the process area or product storage area or water from clean up of such a spill fall within P020 of RCRA paragraph 261.33. Such spills flow to the 3 million gallon surface impoundment." If VCC acknowledges spills and clean up of spills of commercial product (meeting exactly the description found in 40 CFR 162.33(e)), why should this be exempted from regulation?
- d. VCC has submitted and agreed to 3 previous BPC commission orders (November 11, 1983; June 18, 1984; and November 22, 1985). In each of these commission orders, VCC has agreed that the surface impoundment is a RCRA regulated unit. Why now should the EPA not believe VCC's earlier admissions? Is the impoundment operated differently? If so, why has VCC not sought either to have the impoundment delisted or closed?
- e. All EPA inspection reports and inspectors back to 1981 have indicated that spilt material from the drum storage area has flowed to the surface impoundment. Why has VCC provided EPA inspectors with this information in the past and then recently changed the process description?
- f. On February 21, 1985, Mr. Dick Karkkainen, Director of Environment and Safety, VCC, sent a letter to Mr. Chuck Estes. In that letter the following statement was made: "the purpose of the impoundment is to collect rainwater run off from the south plant and serve as a spill collection system in the south plant (spills will flow through the drainage system to the impoundment or will flow to a sump and be pumped to the impoundment). The exception to this flow pattern is the MSMA plant where rainwater and spills are contained within MSMA plant boundaries." If, as VCC maintains, the sump and drain system in the drum storage area is not connected to the surface impoundment, why did Mr. Karkkainen state that the only exception to the normal South Plant drainage system is the MSMA plant?

- g. Also in the February 21, 1985, letter to Mr. Estes, Mr. Karkkainen concedes that "...we have deferred to the judgement of the Bureau of Pollution Control that the impoundment is a hazardous waste unit...". Why, after six years of RCRA regulation, has VCC changed this position, other than that it is now faced with the expense of RCRA closure?
- h. If Vertac Chemical originally submitted a Part A application as a protective filer, why did they not indicate this, until 1986, either on the Part A application or in some correspondence with EPA or MSDNR?
- i. VCC has already detected significant levels of dinoseb contamination in the groundwater and, as of yet, has not proceeded with any action to delineate the size and extent of the plume of contamination. How can such groundwater contamination result from de minimus losses at a "well run" facility in a "well-maintained" surface impoundment?

In citing the "de minimus" exclusion found at 40 CFR 261.3(a)(2)(iv)(D):

"A discarded commercial chemical product, or chemical intermediate listed in 261.33, arising from de minimis losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "de minimus losses include those from normal material handling operation (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks or process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purges; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinses from empty containers or from containers that are rendered empty by that rinsing."

VCC has maintained that they have had only "minor leaks of process equipment." However, judging from the quantity and concentrations of dinoseb found throughout the facility, the "minor leaks" theory is questionable. In reviewing the facility file, past inspection reports, past Commission Orders, the extensive history of non-compliance, and recent sampling data, the concept that any operation at this facility is "well maintained" is not established. VCC has presented so many conflicting statements regarding their dinoseb operation that to accept on face value their recent assertion of the de minimus exclusion would be premature and ill-founded. It is, therefore, recommended that the surface impoundment be regulated as treating, storing, and disposing of P020.

As a side issue, the sump in the drum storage area apparently serves now as a catch basin only. Recent guidance from the Office of Solid Waste

indicates that this unit should be regulated as a hazardous waste storage tank (if it can be certified as a tank) or as a land disposal unit.

Sincerely yours,

James H. Scarbrough, P.E., Chief  
Residuals Management Branch  
Waste Management Division

cc: Mr. Sam Mabry, Mississippi Department  
of Natural Resources

James E. Scarbrough, Chief  
Residuals Management Branch, Region IV

Matt Strauss, Chief  
Waste Identification Branch  
Office of Solid Waste, HQ

As was discussed with Ms. Lebleu-Biswas of your staff on December 15, 1986, I am forwarding to you a complete packet of information on the Vicksburg Chemical Corporation (VCC), Vicksburg, Mississippi. The regulatory issues at VCC stem from two areas (1) VCC's claim to the "de minimus" exclusion (found in 40 CFR 261.3) for their dinoseb (P020) waste streams, and (2) whether the facility's past toxaphene waste streams met the listing requirements for K041 and K098. Region IV Waste Compliance Section requests confirmation of its decision that VCC's surface impoundment is a RCRA regulated land disposal unit.

Below is an outline of the pertinent documents (along with a brief description of each document) submitted for review:

Document #1

Letter from James H. Scarbrough, Chief, Residuals Management Branch Region IV, EPA to Sam Mabry, Director, Hazardous Waste Division, Mississippi Department of Natural Resources.

This document outlines Region IV's position that VCC's surface impoundment is a regulated unit. In addition, it addresses several specific arguments brought forward by VCC on the dinoseb and toxaphene issues.

Document #2

This is a copy of analytical data sampled throughout VCC's "south plant". The first set of data is a series of sludge samples taken from the surface impoundment (note the extremely high levels of both dinoseb and toxaphene). The second set of data is taken from various sights at VCC. Note that pond No. 1 and lagoon No. 2 are contiguous parts of VCC's surface impoundment, and are considered to be one unit. Also, note that the "returned product area" is VCC's hazardous waste drum storage area.

Document #3

A series of EPA inspection reports dating back to July 27, 1981. Note the repeated drum storage spills, violations and the general description of contamination throughout the site.

Document #4

A copy of data from a grab sample taken in 1983 from the area near the impoundment as described.

Document #5

A letter from Allen T. Malone, Attorney for Cedar Chemical Corporation (the parent company of VCC) to Sam Mabry. This letter presents VCC's arguments concerning the toxaphene issues. The attachments to this letter include schematics of VCC's operation.

Document #6

A letter from VCC giving some basic descriptions of VCC's spill collection system. The "modifications" described in paragraph #1 were actually repairs to the dike after it failed in 1983.

Document #7

An excerpt from VCC's Part B application. Note the description of the process wastes streams and VCC statement that P020 is generated.

Document #8

Three Mississippi Commissioners Orders against VCC. These Commissioners Orders demonstrate that VCC has consented to regulation several times in the past. It is only when faced with closure have the exemption issues come forth.

Document #9

The transcript of the Mississippi Commission meeting discussing the regulation of VCC for dinoseb.

If you have any questions, please call Paul Peronard (FTS 257-7603). Thank you for your prompt attention.

Vertac Chemical Corporation

Environmental Engineer  
West Compliance Unit

Matt Strauss, Chief  
Waste Identification Branch, EPA HQ's

Per our phone conversation of December 1, 1986, I am forwarding to you information generated by Vertac Chemical Corporation, in defense of their position that their surface impoundment is not subject to RCRA regulation. Specifically, that they do not generate nor have ever generated K041 and K098.

We are requesting your offices input as to whether or not their argument is correct. We are to respond to the state no later than COB 12/8/86, therefore, we request feedback from your office early Monday morning (12/8/86).

Thank you for your assistance. If you have any questions, please call me or Paul Peronard at FTS 257-7603.

Jeananne M. Gettle

10 10 108 0002002  
Commission Hearing

Director, Waste Management Division  
U.S. Environmental Protection Agency, Region IV

Marcia Williams, Director  
Office of Solid Waste

This requests that Matt Strauss, Chief of the Waste Identification Branch, attend the May 27, 1987, Mississippi Department of Natural Resources Commission hearing in Jackson, Mississippi. He is needed to testify as to his determination on the regulatory status of Vertac Chemical Corporation, Vicksburg, Mississippi.

Mr. Strauss' testimony in the May hearing is critical to the states case, because of his expertise in this area. He became involved in this case at the request of EPA Region IV. Mr. Strauss visited the above-mentioned facility and studied documents pertaining to the argument that the facility is not regulated for toxaphene wastewater (K098), sludge generated in toxaphene production (K041) and dinoseb (P020). In January the commission ruled the facility not regulated for P020, however, they will rule on the toxaphene issue in May.

Mississippi has not yet received Mr. Strauss' written report and has asked that it be sent as soon as possible. The State needs to review the report and allow the company time to do so prior to the hearing.

If you require additional information regarding this matter, contact Doyle T. Brittain of my staff at FTS 257-7603, or Sam Mabry of the Mississippi Department of Natural Resources at (601) 961-5171.

Patrick M. Tobin

# FILE COPY

November 26, 1986

Mr. Allen T. Malone  
Apperson, Crump, Duzane, & Maxwell  
Attorneys-at-Law  
100 North Main Building  
26th Floor  
Memphis, Tennessee 38103

Dear Mr. Malone:

Re: Supplemental Information Relating to  
Cedar Chemical Corporation's Plant,  
Vicksburg, Mississippi

We have received your letter of November 20, 1986, and the enclosed information which supplements Mr. Fred Ahlers' response to our October 22, 1986, questionnaire.

Both the Bureau of Pollution Control and EPA Region IV staff are continuing to evaluate Mr. Ahlers' response. The evaluation will include consideration of the new information, copies of which are being forwarded to EPA. We will make a formal response to Mr. Ahlers' submittal when review and analysis are completed.

Enclosed are copies of the analytical results from the Bureau's sampling of the surface impoundment in question, as requested in your letter. Please feel free to contact me if you have questions concerning these results.

Sincerely,

Sam Mabry, Director  
Hazardous Waste Division

SM;sae  
Enclosure

Summary  
of  
Results  
of Late  
October Impoundment  
Sampling  
at  
Vicksburg Chemical

id =	Marked	O.S PPM	Toxaphene [PPM]	PCB (PPM) (Analyte 1259)	DNB P ug/kg	Utriazine ug/kg	Unk ug/kg	Notes
6113	A *	43.8	530	ND @ 10 PPM	64,000	2,000,000	1,700,000	1,2-dimethyl parathion
6114	B ✓	7.1	223	55.4	40,000	3,000,000		
	EP EXT							
	F	0.067	ND @ 0.0004	ND @ 0.0004	3,700	37,000	5,000	
6115	C □	14.5	650	ND @ 10	770,000	2,000,000	3,000,000	
6116	D ○	9.0	322	37.1	170,000	8,000,000	800,000	
6117	E *	14.3	2,320	ND @ 10	5,900,000	3,200,000	8,000,000	Methyl Parathion
118	F ✓	46.7	541	ND @ 10	330,000	75,000,000		
	EPEXT							
	F	0.06	ND @ 0.1	ND @ 0.0004	3,800	51,000	3,000	2,4-dimethyl p. 2 -
	TCLP							
	F	1.36	ND @ 0.04	ND @ 0.0004	6,300	45,000	700	4-nitrophenol - E
119	G □	40.1	391	ND @ 10	1,100,000	30,000,000		4-nitrophenol - 50 4-nitrophenol - E 2,4-dinitrophenol - 6
120	H ○	7.7	6.33	ND @ 10	35,000	15,000,000		4-nitrophenol - 7
121	I *	11.4	17.5	ND @ 10	1,400,000	8,000,000		
122	J ✓	216	18.1	ND @ 10	160,000	2,000,000		
	EP EXT							
	J	1.6	ND @ 0.04	ND @ 0.0004	3,700	49,000		
123	K □	108	1.82	ND @ 10	620,000	360,000		4-nitrophenol - 3
124	L ○	93.5	1.18	ND @ 10	15,000	22,900		4-nitrophenol - E
125	M	29.2	ND @ 1	ND @ 10	11,000	13,000		
126	N	41.0	ND @ 1	ND @ 10	10,000	230,000		
127	O	57.8	ND @ 1	ND @ 10	4,000	1,500,000	140,000	
128	P	16.9	27.0	51.9	6,000	1,000,000		4-nitrophenol - E p-nitrophenol
129	Q	46.2	29.1	4.65	92,000	300,000		
130	R	50.3	4.60	4.16	60,000	8,000		
131	S	96.5	42.9	33.8				

ND - none detected at stated level

Results of Samples  
taken at Vicksburg Chemical  
9-3-86

note: Vicksburg Chemical analyzed for additional parameters, including toxaphene, but we don't have those results

*Summary*  
**SAMPLE RESULTS - VICKSBURG CHEMICAL**

Sample #	Sample Type/Location	DNBP(ppm)	Atrazine(ppm)	Total chrome ppm	Total Arsenic ppm	Total Lead ppm
VC-1	Water; Influent pipe to lagoon	8	0.03			
VC-2	Water; Influent pipe to lagoon			0.03	.29	.008
VC-3	Sludge; Pond No. 1	13,000	5			
VC-4	Sludge; Pond No. 1			123	362	142
VC-5	Water; Lagoon No. 2	6	0.03			
VC-6	Water; Lagoon No. 2			.05	.74	.01
VC-7	Sludge; Lagoon No. 2	5.8				
VC-8	Sludge; Lagoon No. 2			10.2	21	5.3
VC-9	Water; sump near returned product area	130	15			
VC-10	Water; sump near returned product area			.03	2.47	.05
VC-11	Water; sump below product drumming area	260	.2			
VC-12	Water; sump below product drumming area			108	.68	2.9
VC-13	Solids; returned product area	330,000				
VC-14	Solids; returned product area			47.1	44.3	16.7
VC-15	Soil; N.W. of NDBP plant	96				
VC-16	Soil; N.W. of DNBP plant			40.1	27.8	170
VC-17	Water; sump N.W. of DNBP plant	300	0.01			
VC-18	Water; sump N.W. of DNBP plant			2.03	.02	.02

# TORAPHENE SCHEMATIC

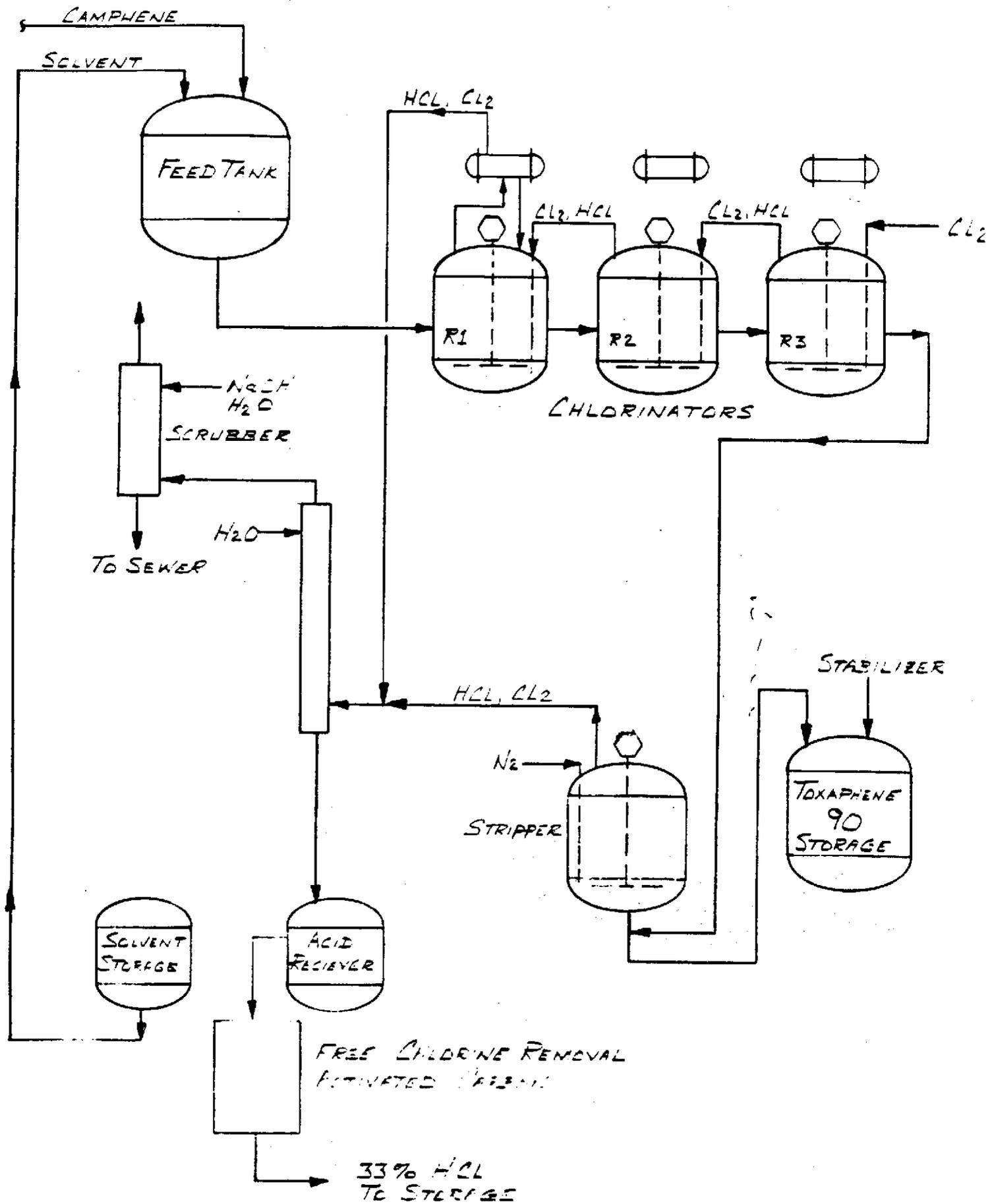


Figure 1

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26TH FLOOR

100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103

901/525-1711

EAST OFFICE

SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

CHARLES W. METCALF, 1840-1924  
WILLIAM P. METCALF, 1872-1940  
JOHN W. APPERSON, 1898-1985

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
TONI CAMPBELL PARKER  
J. KEITH McCORMIC  
MELODY W. OLIVER

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

November 20, 1986

**RECEIVED**

NOV 24 1986

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Sam Mabry  
Director, Division  
of Hazardous Waste  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

Re: In the Matter of: Mississippi Commission on  
Natural Resources v. Cedar Chemical Corporation  
Order No. 1046-86

Dear Sam:

I was shocked and disappointed to learn yesterday that the Commission deferred until the December meeting a ruling on Cedar's Motion to Dismiss the Complaint in the referenced matter, and adjourned without giving Walter Weems an opportunity to appear and state our position. In our conference call Tuesday, you agreed to put the matter at the heels of the agenda so that we would have an opportunity confer at noon and pick a time for Walter to appear, assuming the Bureau of Pollution Control was still planning to oppose entry of an order granting the motion. I realize you might not have been aware that the meeting would be adjourned in the morning, but someone could certainly have attempted to reach Walter by telephone as soon as that fact became apparent. Failing to do so was in my opinion inconsistent with the good faith course of dealings which I thought had been established between us.

To avoid any possible misunderstanding, this will confirm in writing what you were told during our conference call - that Cedar is unwilling to supplement the administrative record in this case in any form or fashion. Inasmuch as you advised that the Bureau now concedes that RCRA regulation of the pond is not required as a result of past dinoseb production at the plant (which was the only issue presented at the hearing), I cannot understand why the Bureau would want the Commission to continue

Mr. Sam Mabry  
November 20, 1986  
Page Two

to defer a ruling on the motion. We have said repeatedly, (and as I thought the Commission had already ruled) that if RCRA regulation of the pond should be asserted in the future on some basis other than that asserted in the hearing of September 16, 1986, a new proceeding would have to be initiated, giving Cedar an opportunity for a response to the new allegations and opportunity for hearing. Naturally, we hope such a hearing will not be necessary, but in the meantime, we believe that deferring a ruling on the present motion serves no purpose. If I have missed something, I wish you would enlighten me.

With regard to your continuing investigation into the regulatory status of the subject surface impoundment at the Vicksburg Plant, I would appreciate it if you would forward to me a copy of the analytical results of the sediment samples which the Bureau took in October. Your description of the results in our conversation on Tuesday sounded encouraging. I am particular pleased to know that, even utilizing the new methods of analysis proposed by EPA for determining the EP toxicity characteristic, toxaphene concentrations do not appear to be of regulatory significance.

Finally, this letter will supplement Cedar's November 10, 1986 response to questions 11-13 in your the questionnaire that you submitted on October 22, 1986, relative to past toxaphene production at the plant. I recently received and enclose herewith the document entitled Wastewater Treatment Technology Documentation For Toxaphene Manufacture, dated February 6, 1976, referred to in Footnote 4 to EPA's Listing Background Document for toxaphene production. The following information in the enclosed document should be useful to you in connection with the questions that have been raised:

Hercules' production and waste handling processes at its Brunswick Plant are discussed at pages 7-24. Note that the schematic shown on page 11 of the document is the same as the one that Cedar believed to describe the Hercules' process, and is not the schematic that was included in the background document. This schematic clearly shows that in addition to spills and leaks from production and scrubber water from the HCl recovery process, Hercules also pumped plant process waste water to its settling ponds.

Mr. Sam Mabry  
November 20, 1986  
Page Three

Appendix A in the report (which apparently was not received in time to be incorporated in the report itself) provides additional information regarding toxaphene waste treatment at Hercules' Brunswick Plant. The schematic at page A-3 graphically demonstrates the fact that toxaphene contaminated waste water was generated by Hercules' process in contradistinction to the process utilized at the Vicksburg Plant.

The Vicksburg process is described at pages 38-44. The document states that the only liquid waste produced in the toxaphene process at the Vicksburg Plant was neutralized HCl waste at about 10 gpm, which waste contained no detectible toxaphene. You may have already noted that the Footnote at page 6 of the Background Document makes it clear that the classification (K041) had nothing to do with any such wastes generated at the Vicksburg Plant. The fact is, there were no such wastes generated.

I also received from EPA this week, and enclose herewith, a copy of the subject Listing Background Document with proprietary business information supposedly submitted by Vicksburg Chemical Company inserted at pages 2, 3, 5 and 6. The principal thing that I wanted EPA to provide was a copy of the document referred to in Footnote 3 of the Background Document, in the form it was received, but this document was not supplied.

I would like to point out to you that the various concentrations attributed to "bleed streams" at page 5 of the Background Document, including toxaphene at 33 ppb, are not based on the information supposedly supplied by Vicksburg, referred to at Footnote 3. Instead, support for the concentrations listed is shown to be a telephone conversation to Georgia Department of Natural Resources, (Footnote 5), which pretty clearly would have had to do with the Hercules Plant in Brunswick, Georgia - not the Vicksburg Plant). You should also note that HCl scrubber water generated at Tenneco's Plant, discharged pursuant to its NPDES Permit, with other plant discharges, when analyzed monthly over a one year period showed no toxaphene content at an average detection limit of 6 ppb (See pp. 29-30 of the enclosed Wastewater Treatment Technology Document).

We believe the observations and data reflected in the enclosed Wastewater Treatment document support Vertac's conten-

Mr. Sam Mabry  
November 20, 1986  
Page Four

tion that HCL scrubber water generated in connection with toxaphene production at the Vicksburg Plant in fact contained no detectible toxaphene concentrations. I have also spoken with R. A. Guidi, the engineer who for many years was responsible for operations at the Vicksburg Plant, and it is his opinion that from a chemical engineering standpoint, the scrubber water generated by the Vicksburg process would not have been expected to contain any toxaphene even at the low part per billion range. We submit, therefore, that it would be totally illogical to suppose that the relatively small quantities of HCL scrubber water generated at the Vicksburg Plant subsequent to November, 1980 should be classified as untreated toxaphene waste water (K098) under RCRA.

The personnel at the Plant worked hard to respond to your questionnaire in a timely fashion so that the Bureau of Pollution Control could reach a final determination on these matters prior to the Commission meeting yesterday. With this additional information, I certainly hope that both MDNR and EPA will finally be able to conclude that regulation of the surface impoundment is not mandated by RCRA.

If you or other members of your staff have additional questions, please have your counsel (or John Harper, if he is serving in that capacity) contact me, or in my absence, Bill Smith, with the Brunini firm.

Sincerely yours,

Allen T. Malone

ATM:jw  
Enclosures

cc: Mr. John Harper  
Mr. William L. Smith  
Mr. John C. Bumpers  
Mr. Niven D. Morgan, Jr.  
Mr. Fred Ahlers  
Mr. John Hill

DIVISION OF SOLID WASTE

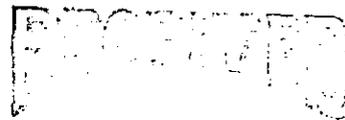
REVIEWED BY AT

DATE 11-25-86

COMMENTS toxaphene document  
maintained in separate  
file

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348



NOV 19 1986

November 10, 1986

DEPT. OF ENVIRONMENTAL QUALITY  
BUREAU OF POLLUTION CONTROL

Mr. Sam Mabry  
Director, Division  
of Hazardous Waste  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

CONFIDENTIAL

Re: Vicksburg Plant/Regulatory Status of  
Surface Impoundment

Dear Mr. Mabry:

This letter is in response to the questions which you submitted to me by letter of October 22, 1986. This confirms that much of the information supplied below is confidential or in the nature of trade secrets. Accordingly, your office should take all necessary steps to protect the information from being disclosed to third parties or otherwise published without the express written consent of Cedar Chemical Corporation.

Question 1: Provide a list of all products and identifiable intermediates produced by the Vicksburg facility (both north and south plants) since November 19, 1980. Include with this list the time period(s) in which each product was produced and the quantities produced.

Answer: Inorganic Products:

a. Potassium Nitrate Facility - From November, 1980 through September, 1986, three products have been produced in this Facility: Potassium Nitrate ( $\text{KNO}_3$ ) - 513,918 tons; Chlorine ( $\text{Cl}_2$ ) - 189,149 tons; and Nitrogen Tetroxide ( $\text{N}_2\text{O}_4$ ) - 3,940 tons.

b. Nitric Acid Facility - From November, 1980 through September, 1986, this Facility produced 376,291 tons of Nitric Acid ( $\text{HNO}_3$ ), substantially all of which has been utilized as an intermediate in the production of the products identified herein in the Potassium Nitrate and Dinitrobutylphenol Facilities.

Mr. Sam Mabry  
November 10, 1986  
Page Two

In April, 1986, Nitric Acid production started up in a new Nitric Acid Facility which replaced the old Nitric Acid Facility.

Organic Products:

c. Toxaphene Facility - From November, 1980 through October, 1982, 7,479 tons of toxaphene and 10,744 tons of a by-product, Muriatic Acid (HCl) were produced.

d. Dinitrobutylphenol (DNBP) Facility - From November, 1980 through September, 1986, 17,723 tons of DNBP and 17,675 tons of an intermediate, sulfonated ortho secondary butyl phenol (OSBP) were produced.

e. Monosodium methanearsonate (MSMA) Facility - from January, 1983 to July, 1984, in a newly constructed facility on the Plant site, 399 tons of MSMA and 455 tons of an intermediate, disodium methanearsonate (DSMA) were produced.

Custom Manufactured Products for Third Parties:

f. Diethylhexylphosphoric Acid (DEHPA) - 732 tons of DEHPA and 776 tons of an intermediate, Diethylhexylphosphochloridate were produced between August and October, 1984 and May and June, 1985.

g. 1 Hydroxy-ethylidene - 1,1-diphosphonic acid (UNIHIB) - 19 tons of UNIHIB and 25 tons of a co-product, Acetic Acid produced in September, 1985

Question 2: Identify all waste streams associated with the above-mentioned products. Detail the constituents in each waste stream, the route and ultimate fate of each waste stream, the time of existence of each waste stream, and the quantities involved in each waste stream. This should include all leaks, spills and regular process waste streams.

Answer: With respect to the waste streams associated with the production of Potassium Nitrate and its co-products, Chlorine and Nitrogen Tetroxide; Nitric Acid; Toxaphene and Dinitrobutylphenol, please refer to Vertac Chemical Corporation's

Mr. Sam Mabry  
November 10, 1986  
Page Three

NPDES Permit Applications dated June 26, 1981 and January 3, 1986 (Attachments A and B). In addition to the DNBW wash water discharged pursuant to the NPDES Permit, additional quantities of such wash water were shipped off-site for deep well disposal. Reference is also made to testimony and exhibits presented in support of Cedar Chemical Corporation's Motion to Dismiss Complaint heard by the Commission on September 16, 1986.

With respect to the other products identified in response to Question 1, the following additional information is supplied:

MSMA - 2,720 tons of salt cake generated, containerized and disposed of in RCRA permitted facilities off-site. The facility was operated on a no-discharge basis.

DEHPA - 344 tons of ethylhexyl chloride (EHC) and 4,183 tons of wastewater and 18 tons of off-quality product, either DEHPA or intermediate, were containerized and transported to RCRA permitted facilities off-site. The DEHPA operation was on a no-discharge basis.

UNIHIB - HCl scrubber water (H<sub>2</sub>O, NaCl, NaOH, and Sodium Acetate) discharged in accordance with NPDES Permit. The approval letter from Matthew Chun, Industrial Waste Water Control Section, MDNR Bureau of Pollution Control, dated November 8, 1985 is enclosed herewith as Attachment C.

Question 3: Designate which of the above waste streams VCC considers to be hazardous waste, and provide determination date and reports required by 40 CFR 262.11.

Answer: Cedar Chemical Corporation or its predecessors have handled the following waste streams as "hazardous waste" under RCRA, in each case causing said waste to be transported to a RCRA permitted storage or treatment facility off the plant site:

(1) Toxaphene and DNBW drums, trash and refuge contaminated with toxaphene and DNBW; (2) MSMA salt cake; (3) DEHPA waste streams identified above; and (4) un-neutralized DNBW washwater. In some cases, products which

Mr. Sam Mabry  
November 10, 1986  
Page Four

may not be classified as hazardous under RCRA were transported as such to insure safe handling. Copies of annual and biennial hazardous waste manifest reports required under RCRA previously submitted by Cedar Chemical Corporation's predecessors are attached hereto as Attachments D - G. Records of individual manifests are voluminous, and are available for inspection at the Vicksburg Plant.

Question 4: Provide any and all piping and flow diagrams (in addition to those submitted to the Bureau of Pollution Control on September 16, 1986), concerning the handling of waste streams since November 19, 1980. Indicate any changes made to the piping or flow patterns of waste streams since November, 1980. This should include all pertinent piping (above and below ground), open areas, ditches and/or lagoons at both the north and south facilities.

Answer: The Company has provided the Bureau of Pollution Control with all such diagrams which exist with respect to the South Plant. Additional diagrams with respect to the North Plant are enclosed herewith. (Attachment H)

Question 5: Provide a descriptive listing of all hazardous waste either received by VCC or shipped off-site. Indicate quantities and types manifested and all data and reports generated to determine the nature of the waste as required by 40 CFR 262.11.

Answer: The Plant has not received incoming shipments of hazardous waste. See Response to Question 3 for outgoing shipments.

Question 6: Provide a copy of any spill reports made under the NPDES program or the CERCLA program.

Answer: The only such report which Cedar Chemical Corporation is aware of is that filed in connection with a breach of the surface impoundment dike which occurred in February, 1983, a copy of which report is attached hereto. (Attachment I)

Question 7: Has Vicksburg Chemical produced chlordane, methyl parathion or disulfoton since November 1980?

Mr. Sam Mabry  
November 10, 1986  
Page Five

Answer: No.

Question 8: If so, has any of the waste water from the production of the above products been placed in the surface impoundments?

Answer: Not applicable.

Question 9: If the process waste water was not placed into the impoundment, how was it handled?

Answer: Not applicable.

Question 10: If the process wastewater was placed into the impoundment, was the wastewater treated prior to its entering the impoundment?

Answer: Not applicable.

Question 11. EPA's background document for the listing of untreated toxaphene wastewater (K098) and sludges from toxaphene wastewater treatment (K041) specifies, "wastewater is generated from the toxaphene production processes (leaks, spills, and washdowns), as well as from the scrubbing of vent gases in the HCL absorption and recovery step." Cedar Chemical should provide a detailed schematic of its toxaphene production process at the Vicksburg plant, describing how wastewater such as that described above was handled. If the Vicksburg plant did not generate such a wastewater, an explanation of how such wastewater generation was avoided should be provided. (A copy of the background document is enclosed.)

Answer: A schematic of the toxaphene production process utilized by Cedar Chemical Corporation's predecessors, Vicksburg Chemical Company and Vertac Chemical Corporation, is attached. (Attachment J) As previously pointed out, no toxaphene contaminated process wastewater or sludges of the type contemplated by EPA's Background Document were generated at the Vicksburg Plant.

Cedar believes that the sludge from toxaphene wastewater treatment referred to in the Background Document and classified as K041 under RCRA resulted from the filtration of toxaphene solution through diatomaceous earth in accordance with the pro-

Mr. Sam Mabry  
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Page Six

cess utilized by Hercules, Inc. at its Brunswick, Georgia Plant, producing, according to the Background Document, approximately 7 tons per day of sludge containing approximately 1% toxaphene by weight. (See Schematic attached as Exhibit K) No such sludge was produced in the process utilized at the Vicksburg Plant, nor did the Vicksburg toxaphene process involve the discharge of any untreated process wastewater, as that term was intended in connection with the KO98 RCRA classification. In fact the only "waste streams" associated with toxaphene production at the Vicksburg Plant would have consisted of any de minimis losses occasioned by minor leaks and spills, and scrubber water generated from operation of the Plant's air emission control procedures in connection with its HCL recovery system (muriatic acid or HCL being a by-product of the toxaphene production process). The scrubber water consisted of a weak aqueous solution containing sodium chloride and sodium hydroxide.

It is believed that the Vicksburg Plant was able to avoid the generation of process wastewater (KO98) and sludge (K041) of the type generated by Hercules, Inc. at its Brunswick, Georgia Plant by utilizing high purity camphene, which it purchased as a raw material (toxaphene being produced by the chlorination of camphene). Hercules produced its own camphene from pine stumps, which, it is believed, produced a relatively low purity product requiring substantial filtration which the Vicksburg Plant process did not require.

Question 12: In an August 16, 1984, letter to the Mississippi Bureau of Pollution Control (MBPC), states, "In reviewing our past toxaphene discharge data I find that Vertac's last permit excursion occurred on February 16, 1982 (11.5 ppb)." Cedar Chemical should provide an explanation of the source of this toxaphene in the wastewater. (A copy of the letter is enclosed.)

Answer: Two possible explanations - (1) inaccurate analysis (toxaphene easily confused with other compounds at low ppb levels) and (2) possible heavy storm water runoff episode transporting surface soils adjacent to the facility, portions of which could have been contaminated with trace amounts of toxaphene as a result of previous de minimis losses, as has been shown in the case of dinoseb. It should be noted that the 11.5 ppb "excursion" referred to translates to less than one ounce of

Mr. Sam Mabry  
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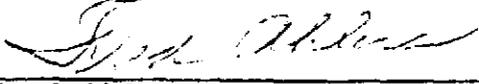
toxaphene based on an average daily flow of 500,000 gallons per day under the NPDES Permit.

Question 13: On February 17, 1983, the MBPC sampled both the sludge from the east side of the impoundment and the stream bank on the east side of the impoundment where the impoundment dike had failed. Analysis of these samples indicated the sediments contained 280 ppm and 360 ppm of toxaphene respectively. Cedar Chemical should provide an explanation of the source of the toxaphene found in impoundment sediment samples. (Copies of the analytical results are enclosed).

Answer: See response to Question 12. In addition, in view of the molasses-like consistency of toxaphene and its tendency to bind together and to adhere to soils or sediments, it would not be surprising if some contamination may have been dislodged in the heavy storm water incident which occurred in February, 1983, particularly in view of the long history of toxaphene production in facilities adjacent to the surface impoundment (since early 1970's). It should also be pointed out that the soil sample measuring 280 ppm was subjected to further analysis using the EP toxicity method, which demonstrated less than 20 ppb toxaphene, a level far below the regulatory level established under RCRA. It should also be pointed out that the Company caused the 18 samples obtained from the pond in September, 1986 to be analyzed for toxaphene contamination and none was detected within the lab's limit of detection of .1 ppm. The analytical results referred to above have been supplied to the Department by our counsel.

Sincerely yours,

CEDAR CHEMICAL CORPORATION

By:   
Fred Ahlers, Plant Manager

FA:jw  
Enclosures  
cc: Colonel Charles Blalock  
Mr. William L. Smith  
Mr. Allen T. Malone

DIVISION OF SOLID WASTE

REVIEWED BY 

DATE 11-14-86

COMMENTS Attachments

maintained in separate file

ATTACHMENTS TO LETTER TO SAM MABRY, DIRECTOR  
HAZARDOUS WASTE DIVISION, MDNR BUREAU OF POLLUTION CONTROL

November 10, 1986

Response No. 2:

A - Vertac Chemical Corporation NPDES Permit Application dated June 26, 1981.

B - Vertac Chemical Corporation NPDES Permit Application dated January 3, 1986.

C - Letter from MDNR Bureau of Pollution Control dated November 8, 1985.

Response No. 3:

D - MDNR Generator Annual Hazardous Waste Report - 1981.

E - MDNR Generator Annual Hazardous Waste Report - 1982.

F-1-MDNR Facility Annual Hazardous Waste Report - 1983.

F-2-MDNR Generator Annual Hazardous Waste Report - 1983.

G - EPA Facility Biennial Hazardous Waste Report - 1984 - 1985.

Response No. 4:

H - Piping Diagrams - North Plant.

Response No. 6:

I - Letter from R. F. Maraman, Chief Chemist, Vicksburg Facility to MDNR Bureau of Pollution Control dated February 18, 1983.

Response No. 11:

J - Schematic of Vicksburg's Toxaphene Production Process.

K - Schematic of what is believed to have been Hercules' Toxaphene Production Process.

copy 4

LISTING BACKGROUND DOCUMENT  
TOXAPHENE PRODUCTION \*

CONFIDENTIAL  
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OUTSIDE  
AGENCY

- Wastewater Treatment Sludge from the Production of Toxaphene (T)
- Untreated Process Wastewater from the Production of Toxaphene (T)

I. Summary of Basis for Listing

The production of toxaphene, a chlorinated hydrocarbon pesticide, results in the generation of process wastewater containing heavily diluted concentrations of toxaphene, and wastewater treatment sludges that contain approximately one percent of toxaphene by weight.

The Administrator has determined that process wastewater and wastewater treatment sludge from toxaphene production may pose a substantial present or potential hazard to human health or the environment when improperly transported, treated, stored, disposed of or otherwise managed, and therefore should be subject to appropriate management requirements under Subtitle C of RCRA. This conclusion is based on the following considerations:

- 1) Toxaphene is present in each of these waste streams; in the case of the wastewater treatment sludge, if it is found in very high concentrations. Toxaphene has been reported to cause cancer in laboratory animals and is extremely toxic. Toxaphene has also been recognized by the Agency as exhibiting substantial evidence of being carcinogenic. It is also a potent teratogen and has been shown to be mutagenic.
- 2) Approximately 7 tons of wastewater treatment sludge containing about 140 lbs. of toxaphene are generated per production day. About 19,000 tons of sludge are already disposed of in a landfill in Georgia. (5)

This document contains sensitive information only.

U.S. GOVERNMENT PRINTING OFFICE: 1980

- 3) Disposal or treatment of these wastes in improperly designed or operated landfills or unlined lagoons could result in substantial hazard if toxaphene migrates via groundwater or surface water exposure pathways.
- 4) Toxaphene is highly persistent in the environment and bioaccumulates greatly in environmental receptors.

## II. Sources of the Waste and Typical Disposal Practices

### A. Profile of the Industry

Toxaphene is produced in this country by two manufacturers: Hercules, Inc. at its Brunswick, Georgia plant, and Vertac Chemical Company at its Vicksburg, Mississippi plant. (1) Data collected by EPA/ Effluent Guidelines Division indicate that in 1977,

1,600 metric tons (3.5 million pounds) of toxaphene were produced at the Vicksburg plant\*. (2,3)

Toxaphene is a complex mixture of polychlorinated camphenes containing 67 to 69 percent chlorine and has the approximate composition of  $C_{10}H_{10}Cl_8$ . It has been used exclusively as a non-systemic and persistent contact and ingestion insecticide. Toxaphene is marketed as a 90 percent toxaphene-10 percent solvent solution using mixed or modified xylene as the solvent. This solution is then formulated by various companies into emulsifiable concentrates, either alone or with other insecticides. Little or no toxaphene is currently being used in dust, wettable powder, or granule formulations.

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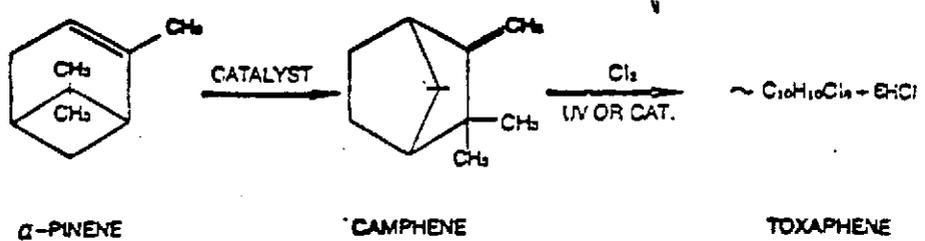
\*All underlined data are obtained from proprietary reports and data.

**Does Not Contain National  
Security Information (E.O. 12065)**

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 A WARRANTY OF MERCHANTABILITY  
 (E.O. 12065)

B. Manufacturing Process

Toxaphene is produced in essentially the same manner by both domestic manufacturers. The reaction chemistry is as follows: (19)



C. Waste Generation and Management\*

At the Hercules plant, wastewater is generated from the toxaphene production process (leaks, spills and washdowns), as well as from the scrubbing of vent gases in the HCl absorption and recovery step (see Figure 1).

(2) The volume of wastewater treated averages 4.4-4.6 liters/sec<sup>(3)</sup> (0.10-0.15 MGD).

(2) The treated wastewater is directly discharged to a navigable waterway.

In Hercules' toxaphene wastewater treatment system, an average of 7 tons/day of wastewater treatment sludge (settled solids) is generated.<sup>(4,5)\*</sup> The sludge results from the addition of diatomaceous earths

\*Variations in wastewater treatment systems or in wastewater sources at the two plants may result in different concentrations of toxaphene in the wastewater treatment sludges.

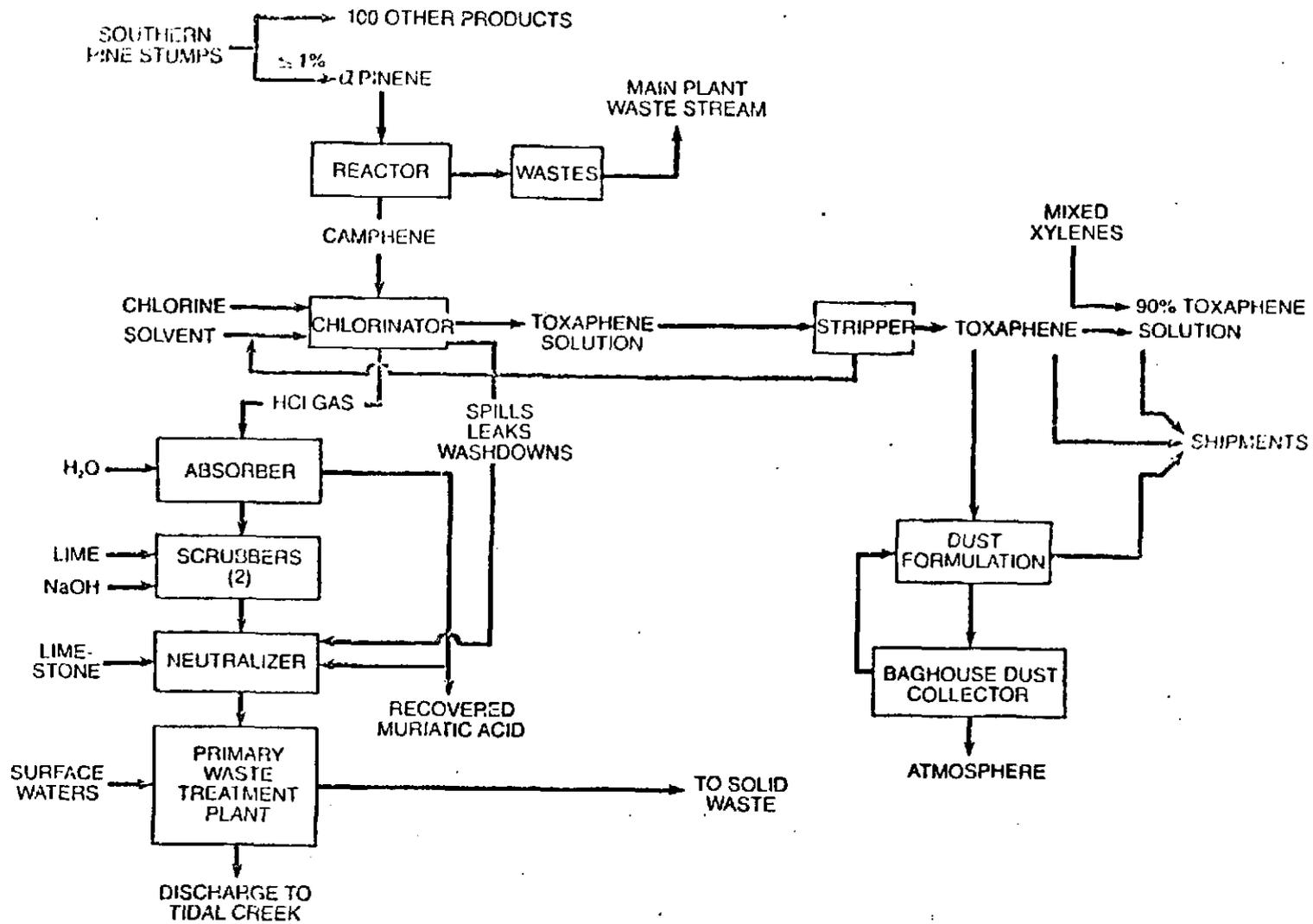


Figure 1. HERCULES' PRODUCTION AND WASTE SCHEMATIC FOR TOXAPHENE (4)

and lime to the wastewater as sorption agents for the removal of toxaphene from the wastewater. (5) The solids are allowed to settle in holding ponds and may remain there for months at a time. (13) After the basin is filled with solids it is taken off line and the sludge is allowed to dry to approximately 50% solids. (5) Analyses of the sludge performed by Hercules indicate that the sludge contains approximately one percent toxaphene by weight, or 10,000 mg toxaphene/kg of sludge. (5) Some 140 lb/day of toxaphene are generated and will be contained in this waste stream. (4,5)

The ultimate destination of the toxaphene wastewater treatment sludge generated at the Hercules plant is a state-approved landfill. (6) The landfill is known as the "009" landfill and is a privately owned site operating under Georgia permit. It is used exclusively for the disposal of the toxaphene wastewater treatment sludge generated at the Hercules Plant. (6) The "009" landfill used for disposal of the Hercules toxaphene wastewater treatment sludge has a bentonite clay liner, and has 6 monitoring wells which are monitored 4 times per year. To date, no toxaphene has been detected in the wells. (6)

At Vertac's Vicksburg plant, the toxaphene-containing process wastewater stream seems to be the bleed stream from the caustic soda scrubber for off-gas cleanup in the HCl absorption and recovery step (3). Analysis of the bleed streams indicated the presence of chloroform at 8 ng/l, carbon tetrachloride at 625 ng/l, chlorobenzene at 146 ng/l, and toxaphene at 33 ng/l (5). These effluent streams, discharged at a flow rate of about 0.63 liters/sec (10 gpm), along with residual toxaphene from

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past spills, are piped to an equalization pond, and then treated in activated carbon adsorption units<sup>(3,5)</sup>. Wastewater streams from two other pesticide production facilities on site, the dinoseb and atrazine manufacturing plants, are also sent to the same equalization pond and activated carbon units for treatment<sup>(3)</sup>. The activated carbon is sent off-site (to Calgon Corp.) for regeneration. There are no indications that any solids accumulated in the equalization pond have been removed to date.\* This pond, or lagoon, is unlined.<sup>(14)</sup> The treated wastewater is discharged to the Mississippi River.

### III. Discussion of Basis for Listing

#### A. Hazards Posed by the Waste

As noted above, in the Hercules toxaphene wastewater treatment system, an average of 7 tons/day of waste sludge are generated.<sup>(4,5)</sup> The toxaphene content in the waste sludge is approximately at one percent by weight or 10,000 mg/Kg sludge. High concentrations of toxaphene are undoubtedly present in process wastewater to account for such high concentrations in the sludge.

Toxaphene is an exceptionally dangerous waste constituent. It is extremely toxic, highly bioaccumulative, and has been reported to cause cancer in laboratory animals. It is also a potent teratogen and has been shown to be mutagenic. Toxaphene is regulated as a toxic pollutant under §307(a) of the Clean Water Act. After an adjudicative

\*No data is currently available on the amount of wastewater treatment sludges (settled solids) generated at the Vertac plant. Nor is any data available on the concentrations of toxaphene in these sludges.

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proceeding, a discharge concentration limitation of 1.5 ppb has been established for toxaphene discharges into navigable waters, and this discharge limitation was judicially upheld in Hercules, Inc. v. EPA, 598 F. 2d 91 (D.C. Cir 1978). (The administrative and judicial records are incorporated by reference into this listing background document.) The Agency has also established a national interim primary drinking water standard of .005 mg/l for toxaphene. (That administrative record is likewise incorporated by reference.)

The wastes are listed as toxic based on the potential for waste mismanagement and resulting environmental harm. Toxaphene is both mobile and persistent, having frequently been found in clarified and treated municipal drinking water.(18) Existing waste management methods could lead to release of waste toxaphene. Wastewaters are presently treated in holding ponds. Waste treatment sludge, if generated, is now disposed in landfills and unlined lagoons. Disposal in landfills represents a potential hazard if the landfill is improperly designed or operated. This can result in leaching of hazardous compounds and subsequent contamination of ground water. Disposal in unlined lagoons also represents a potential hazard since the wastes may leach directly into the ground, resulting in possible groundwater contamination. Care must be taken to ensure that the lagoons and landfills used for storage or disposal of the toxaphene product wastes are properly designed and operated (e.g., lined with an appropriate thickness of impervious materials or provided with leachate collection/ treatment systems) to prevent contamination of groundwater or surface water.

Prior to disposal in the "009" landfill, the Hercules plant treats these wastes in holding ponds which, if not properly designed and operated, may result in groundwater or surface water contamination. The high water table and the sandy composition of the soil at the location of the Hercules plant in Brunswick, Ga., make careful management of these wastes particularly important. (13)\*

Wastewater treatment sludge could also create a hazard if improperly managed. Although the sludges appear to be managed properly at the present time (suggesting that industry regards these wastes as hazardous), proper management of an otherwise hazardous waste does not make the waste non-hazardous.

One final reason for regulatory concern is noteworthy. Since toxaphene bioaccumulates in environmental receptors by factors of as much as 300,000<sup>(7)</sup>, if only a small amount leaches into the environment, a serious health hazard would be created. In the soil, toxaphene may persist from several months to more than 10 years (soil half-life is 11 years, Appendix B). It has also been shown to persist for up to 9 years in lakes and ponds.<sup>(7)</sup> Thus, the potential for human exposure is considerable. The potential for substantial hazard is, therefore, very high.

The need for the most careful management of toxaphene-containing substances is thus well-established. In light of the documented health and environmental hazards associated with toxaphene, and the fact that substantial hazard is caused by ingestion of extremely small (ppb) toxaphene concentrations, the Agency believes it is justified in listing this waste.

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\*It should be noted that Hercules' past effluent management practices have not always been adequate, as Hercules has conceded that its past effluent discharge "'had an adverse effect upon the ecology' of local waters." (18)

B. Health and Ecological Effects

1. Toxaphene

Health Effects - Toxaphene is extremely toxic [oral rat LD<sub>50</sub> = 40 mg/kg]. (8) Death in humans from ingestion of this dosage has also been reported. (9) Toxaphene is also lethal to animals by inhalation and skin absorption at dosages of 1 g/kg or less. (10)

This chemical is teratogenic in mice when administered orally at a relatively small dose (350 mg/kg). (11) Toxaphene is carcinogenic in rats and mice, causing a significant increase in the incidence of thyroid and liver cancers when administered in the diet. (12) A significant increase in liver cancer has been reported in mice at dietary levels of 50 ppm. (15)

Toxaphene and its subfractions have been found mutagenic in the standard bacterial assay (S. typhimurium, strain TA100). (16)

Ecological Effects - Toxaphene is extremely toxic to fish, and toxic to lower aquatic organisms, birds, and wild animals. The LD<sub>50</sub> (96-hour) of toxaphene in static bioassays is 3.5, 5.1 and 14 ng/l for bluegills, fathead minnows, and goldfish, respectively. (7) Toxaphene is also capable of producing deleterious effects in fish at levels as low as 0.39 ng/l, and bioaccumulates by factors of as much as 300,000. (7)

Regulations - Toxaphene has an OSHA standard for air, TWA = 500 mg/m<sup>3</sup> (Skin, SCP-F). Toxaphene is listed as a priority pollutant in accordance with §307(a) of the Clean Water Act of 1977. A 0.005 mg/l EPA National Interim Primary Drinking Water Standard has been established for toxaphene.

Industrial Recognition of Hazard - Toxaphene has been rated by Sax, Dangerous Properties of Industrial Materials<sup>(15)</sup> to be highly toxic through ingestion, inhalation, and skin absorption.

Additional information and specific references on adverse effects of toxaphene can be found in Appendix A.

IV. References

1. 1977 Directory of Chemical Producers. Stanford Research Institute. Menlo Park, California.
2. Proprietary information submitted by Hercules, Inc. to the U.S. Environmental Protection Agency in 1978 response to "308" letter.
3. Proprietary information submitted by Vicksburg Chemical Company to the U.S. Environmental Protection Agency in 1978 response to "308" letter.
4. Meiners, A. F., C.E. Mumma, T. L. Ferguson, and G. L. Kelso. Westwater Treatment Technology Documentation for Toxaphene Manufacture. Report prepared by the Midwest Research Institute for the U.S. Environmental Protection Agency. EPA-400/9-76-013. February 1976.
5. Telephone communication to: Ms. Jennifer Kaduck, State of Georgia, Land Protection Division, Department of Natural Resources, Atlanta, Georgia (404-656-2833), February 28, 1980 (Edward Monnig, TRW).
6. Telephone communication to: Ms. Jennifer Kaduck, State of Georgia, Land Protection Branch, Environmental Protection Division, Department of Natural Resources, Atlanta, Georgia, 12 February 1980. (S. Quinlivan, TRW).
7. Criteria Document for Toxaphene. U.S. Environmental Protection Agency. EPS-440/9-76-0k14. June 1976.
8. Special Publication of Entomological Society of America. College Park, MD, Vol. 74:1 (1974).
9. Clinical Memorandum on Economic Poisons. U.S. Dept. HEW, PHS. COC, Atlanta, GA. p.1, 1956.
10. Council on Pharmacy and Chemistry. Pharmacologic Properties of Toxaphene, a chlorinated Hydrocarbon insecticide. JAMA 149:1135-1137, July 19, 1952.
11. Chernaff, N. and Carber, B.D. Fetal toxicity of toxaphene in rats and mice. Bull. Environ. Contam. Toxicol. 15:660-664, June, 1976.
12. National Cancer Institute. (1977) Guidelines for Carcinogenesis Bioassays in Small Rodents. Tec. Rep. No. 1 Publ. No. 017-042-00118-8. U.S. Govn. Print. Office, Washington, D.C.

IV. References (Continued)

13. Telephone Communications to: Ms. Jennifer Kadinck, et al., State of Georgia, Land Protection Division, Department of Natural Resources, Atlanta, Georgia, 8 April 1980. (Robert Karmen, EPA)
14. Telephone Communication: John King (EPA) to Edward Monmig (TRW), 8 April 1980.
15. Litton Bionetics, Inc. Carcinogenic evaluation in mice. Toxaphene Final Report. LBI Project No. 20602. Kensington, MD. Submitted to Hercules, Inc., Wilmington, Del., Nov. 1978.
16. Hill, R.N. (1977) Mutagenicity Testing of Toxaphene Memo dated Dec. 15, 1977, to Fred Hageman. Off. Spec. Pestic. Rev. U.S. Environmental Protection Agency, Washington, D.C.
17. Sax, N. Irving, 1975. Dangerous Properties of Industrial Materials. Fourth Edition, Van Nostrand Reinhold, New York.
18. Hercules, Inc. v. EPA, 598 F. 2d 91, 99 (D.C. Cir. 1978).
19. Lawless, E.W. Pesticide Study Series -5- "The Pollution Potential in Pesticide Manufacturing," Technical Studies Report; TS-00-72-04. Washington, U.S. GPO, 1972.

## MISSISSIPPI STATE UNIVERSITY


**MISSISSIPPI  
STATE CHEMICAL LABORATORY**


BOX CR - MISSISSIPPI STATE, MISSISSIPPI 39762

November 18, 1986

DR. JAMES P. MINYARD JR.  
State Chemist

Analysis No. 726,113-131

Analysis of Sediments

Marked:

Received on 10-31-86

from

MS Bureau of Pollution Control  
ATTN: Chuck Estes

Address P.O. Box 10385 Jackson, MS 39209

**RESULTS:**

Attached sheets present the results from our analysis of nineteen (19) sediment samples collected at Vicksburg Chemical Company. Samples were analyzed for acid and base/neutral priority pollutants, arsenic, toxaphene and dinoseb. Minimum quantifiable levels for the GC/MS analyses are shown on each priority pollutant data sheet and are expressed in micrograms per kilogram (or liter) as applicable.

Note that results for DNBP, Atrazine, Bladex, Methyl Parathion and various phenolic compounds are reported in the table on page 2 in Parts per Million. These results are expressed in Parts per Billion (micrograms per kilogram or liter) on the priority pollutant data sheets.

Copies of computer generated GC/MS data are enclosed.

**RECEIVED**

NOV 19 1986

DEPT. OF ENVIRONMENTAL SCIENCE  
BUREAU OF POLLUTION CONTROL

*James P. Minyard Jr.*  
State Chemist

PLEASE GIVE NUMBER WHEN REFERRING TO THIS ANALYSIS

Laboratory Number	Sample Marked	Arsenic	Toxaphene	Aroclor 1254	DNBP	Atrazine	Bladex*	Others
<b>**PARTS PER MILLION (mg per Kg)</b>								
726,113	A	43.8	536	***ND@10	64	21,000	1,700	1,2-Dichlorobenzene 20 Methyl Parathion 400
726,114	B	7.1	223	58.4	40	3,000	---	---
	EP EXT	0.07	ND@0.004	ND@0.004	3.7	37	5	---
726,115	C	14.5	680	ND@10	770	9,000	3,000	---
726,116	D	9.0	322	37.1	170	8,000	900	---
726,117	E	143	2,320	ND@10	5,910	3,900	8,000	Methyl Parathion 400
726,118	F	66.9	541	ND@10	330	78,000	---	---
	EP EXT	0.86	ND@0.1	ND@0.004	3.8	51	3	2,4-Dinitrophenol Trace
	F TCLP	1.4	ND@0.04	ND@0.004	6.3	45	0.9	4-Nitrophenol Trace
726,119	G	40.1	381	ND@10	1,100	30,000	---	4-Nitrophenol 50
726,120	H	7.9	6.3	ND@10	25	15,000	---	2,4-Dinitrophenol Trace 4-Nitrophenol Trace
726,121	I	114	17.5	ND@10	1,600	8,000	---	4-Nitrophenol 70
726,122	J	216	18.1	ND@10	160	2,000	---	---
	EP EXT	1.6	ND@0.04	ND@0.004	3.7	49	---	---
726,123	K	108	1.8	ND@10	620	360	---	4-Nitrophenol 30
726,124	L	93.5	1.2	ND@10	15	220	---	4-Nitrophenol Trace
726,125	M	29.2	ND@1	ND@10	11	13	---	---
726,126	N	41	ND@1	ND@10	10	230	---	---
726,127	O	57.8	ND@1	ND@10	4	1,500	142	---
726,128	P	16.9	22	51.9	6	1,000	---	4-Nitrophenol Trace Pentachlorophenol 1.2
726,129	Q	46.2	29	4.7	92	300	20	---
726,130	R	50.3	4.6	9.2	60	5	---	---
726,131	S	96.5	42.9	33.8	---	---	---	---

\*Bladex identified by computer spectral match; no standard shot to confirm retention time. Bladex concentration estimated relative to internal standard.

\*\*Please note that all results are reported in Parts per Million (milligrams per kilogram or milligrams per liter). Our GC/MS results are normally reported in Parts per Billion (micrograms per kilogram or micrograms per liter).

\*\*\*ND = None Detected @ stated Lower Level of Detection.

*James P. Maynard, Jr.*  
 State Chemist

Sampling Plan  
Vicksburg Chemical Impoundment  
MSD990714081  
Vicksburg, Mississippi

Parameter: Toxaphene  
Arsenic  
Dinoseb  
Acid Extractables  
Base Neutral Compounds

Total Extractions will be run for all parameters. If any samples contain over 0.5 mg/l of toxaphene, then both the Extraction Procedures Toxicity and the Toxicity Characteristic Leaching Procedure will be run on the sample with the highest level of toxaphene.

Safety: Due to the nature of the material in the impoundment and the probability that the sampling will require the use of a boat, a separate site safety plan will be prepared by the contractor.

Equipment: Samples may be collected from a boat using shelby tubes, split spoons, push tubes, or equivalent methods.

Coring equipment used to collect samples should be such that disturbance of the soil column is minimized.

Sample containers and ice chests will be provided by the MBPC.

Sample Types: Grab sediment samples.

Split Samples: Splits of all samples will be offered to Vicksburg Chemical Company.

Sampling Points: A series of 26 discrete sample point locations have been selected on a 50 ft. grid for the impoundment with the exception of sample points 1 and 1A which will be taken near the mouth of the inlet pipe [see illustration #1].

Sample Compositing: The samples from the 26 discrete sampling points will be composited per the following scheme:

\*6 ft. - 4 ft. core depth

	<u>Sample Number</u>
Composite discrettes 1 & 1A	VC-A
Composite discrettes 2 & 5	VC-B
Composite discrettes 3 & 4	VC-C
Composite discrettes 6, 7, & 8	VC-D

\*4 ft. - 2 ft. core depth

Composite discrettes 1 & 1A	VC-E
Composite discrettes 2 & 5	VC-F
Composite discrettes 3 & 4	VC-G
Composite discrettes 6, 7, & 8	VC-H

\*2 ft. - 0 ft. core depth

	<u>Sample Number</u>
Composite discrettes 1 & 1A	VC-I
Composite discrettes 2 & 5	VC-J
Composite discrettes 3 & 4	VC-K
Composite discrettes 6, 7, & 8	VC-L
Composite discrettes 9, 10, 11 & 12	VC-M
Composite discrettes 13 & 14	VC-N
Composite discrettes 15 & 16	VC-O
Composite discrettes 17 & 18	VC-P
Composite discrettes 19 & 20	VC-Q
Composite discrettes 21, 22, & 24	VC-R
Composite discrettes 23 & 25	VC-S

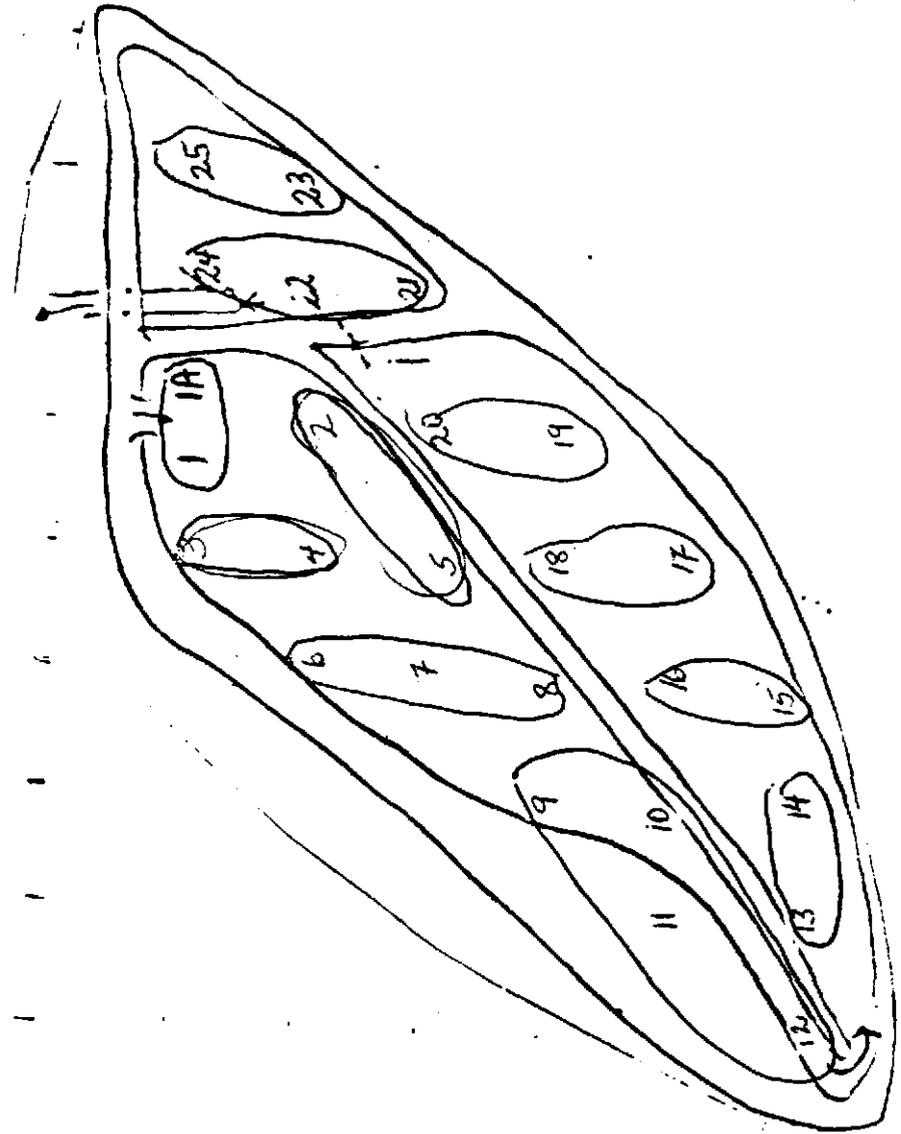
Sample Collection: Samples 1, 1A, and 2 through 8 shall be collected in 2 ft. portions to a total depth of 6 ft. Sample points 9-25 should be collected to a maximum depth of 2 ft. Illustration #2 provides information as to the expected sediment depths. All samples will be collected according to EPA QA/QC standards. Samples shall be composited in glass or stainless steel bowls that have been cleaned with acetone and hexane and covered with aluminum foil prior to use. The samples will be thoroughly mixed using stainless steel spoons prior to placing in the sample container.

All sampling activities will be conducted under the supervision of a representative of MBPC.

JM:els

Illustration #1

N →



75ft 0 75ft  
|-----|  
approximate scale

50 ft grid

Surface Impoundment - Victoria, 01

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26TH FLOOR

100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103

901/525-1711

EAST OFFICE

SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

CHARLES W. METCALF, 1840-1924  
WILLIAM P. METCALF, 1872-1940  
JOHN W. APPERSON, 1898-1986

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
TONI CAMPBELL PARKER  
J. KEITH MCCORMIC  
MELODY W. OLIVER

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

November 20, 1986

**RECEIVED**

NOV 24 1986

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Sam Mabry  
Director, Division  
of Hazardous Waste  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

Re: In the Matter of: Mississippi Commission on  
Natural Resources v. Cedar Chemical Corporation  
Order No. 1046-86

Dear Sam:

I was shocked and disappointed to learn yesterday that the Commission deferred until the December meeting a ruling on Cedar's Motion to Dismiss the Complaint in the referenced matter, and adjourned without giving Walter Weems an opportunity to appear and state our position. In our conference call Tuesday, you agreed to put the matter at the heels of the agenda so that we would have an opportunity confer at noon and pick a time for Walter to appear, assuming the Bureau of Pollution Control was still planning to oppose entry of an order granting the motion. I realize you might not have been aware that the meeting would be adjourned in the morning, but someone could certainly have attempted to reach Walter by telephone as soon as that fact became apparent. Failing to do so was in my opinion inconsistent with the good faith course of dealings which I thought had been established between us.

To avoid any possible misunderstanding, this will confirm in writing what you were told during our conference call - that Cedar is unwilling to supplement the administrative record in this case in any form or fashion. Inasmuch as you advised that the Bureau now concedes that RCRA regulation of the pond is not required as a result of past dinoseb production at the plant (which was the only issue presented at the hearing), I cannot understand why the Bureau would want the Commission to continue

Mr. Sam Mabry  
November 20, 1986  
Page Two

to defer a ruling on the motion. We have said repeatedly, (and as I thought the Commission had already ruled) that if RCRA regulation of the pond should be asserted in the future on some basis other than that asserted in the hearing of September 16, 1986, a new proceeding would have to be initiated, giving Cedar an opportunity for a response to the new allegations and opportunity for hearing. Naturally, we hope such a hearing will not be necessary, but in the meantime, we believe that deferring a ruling on the present motion serves no purpose. If I have missed something, I wish you would enlighten me.

With regard to your continuing investigation into the regulatory status of the subject surface impoundment at the Vicksburg Plant, I would appreciate it if you would forward to me a copy of the analytical results of the sediment samples which the Bureau took in October. Your description of the results in our conversation on Tuesday sounded encouraging. I am particular pleased to know that, even utilizing the new methods of analysis proposed by EPA for determining the EP toxicity characteristic, toxaphene concentrations do not appear to be of regulatory significance.

Finally, this letter will supplement Cedar's November 10, 1986 response to questions 11-13 in your the questionnaire that you submitted on October 22, 1986, relative to past toxaphene production at the plant. I recently received and enclose herewith the document entitled Wastewater Treatment Technology Documentation For Toxaphene Manufacture, dated February 6, 1976, referred to in Footnote 4 to EPA's Listing Background Document for toxaphene production. The following information in the enclosed document should be useful to you in connection with the questions that have been raised:

Hercules' production and waste handling processes at its Brunswick Plant are discussed at pages 7-24. Note that the schematic shown on page 11 of the document is the same as the one that Cedar believed to describe the Hercules' process, and is not the schematic that was included in the background document. This schematic clearly shows that in addition to spills and leaks from production and scrubber water from the HCl recovery process, Hercules also pumped plant process waste water to its settling ponds.

Mr. Sam Mabry  
November 20, 1986  
Page Three

Appendix A in the report (which apparently was not received in time to be incorporated in the report itself) provides additional information regarding toxaphene waste treatment at Hercules' Brunswick Plant. The schematic at page A-3 graphically demonstrates the fact that toxaphene contaminated waste water was generated by Hercules' process in contradistinction to the process utilized at the Vicksburg Plant.

The Vicksburg process is described at pages 38-44. The document states that the only liquid waste produced in the toxaphene process at the Vicksburg Plant was neutralized HCl waste at about 10 gpm, which waste contained no detectible toxaphene. You may have already noted that the Footnote at page 6 of the Background Document makes it clear that the classification (K041) had nothing to do with any such wastes generated at the Vicksburg Plant. The fact is, there were no such wastes generated.

I also received from EPA this week, and enclose herewith, a copy of the subject Listing Background Document with proprietary business information supposedly submitted by Vicksburg Chemical Company inserted at pages 2, 3, 5 and 6. The principal thing that I wanted EPA to provide was a copy of the document referred to in Footnote 3 of the Background Document, in the form it was received, but this document was not supplied.

I would like to point out to you that the various concentrations attributed to "bleed streams" at page 5 of the Background Document, including toxaphene at 33 ppb, are not based on the information supposedly supplied by Vicksburg, referred to at Footnote 3. Instead, support for the concentrations listed is shown to be a telephone conversation to Georgia Department of Natural Resources, (Footnote 5), which pretty clearly would have had to do with the Hercules Plant in Brunswick, Georgia - not the Vicksburg Plant). You should also note that HCl scrubber water generated at Tenneco's Plant, discharged pursuant to its NPDES Permit, with other plant discharges, when analyzed monthly over a one year period showed no toxaphene content at an average detection limit of 6 ppb (See pp. 29-30 of the enclosed Wastewater Treatment Technology Document).

We believe the observations and data reflected in the enclosed Wastewater Treatment document support Vertac's conten-

Mr. Sam Mabry  
November 20, 1986  
Page Four

tion that HCL scrubber water generated in connection with toxaphene production at the Vicksburg Plant in fact contained no detectible toxaphene concentrations. I have also spoken with R. A. Guidi, the engineer who for many years was responsible for operations at the Vicksburg Plant, and it is his opinion that from a chemical engineering standpoint, the scrubber water generated by the Vicksburg process would not have been expected to contain any toxaphene even at the low part per billion range. We submit, therefore, that it would be totally illogical to suppose that the relatively small quantities of HCL scrubber water generated at the Vicksburg Plant subsequent to November, 1980 should be classified as untreated toxaphene waste water (K098) under RCRA.

The personnel at the Plant worked hard to respond to your questionnaire in a timely fashion so that the Bureau of Pollution Control could reach a final determination on these matters prior to the Commission meeting yesterday. With this additional information, I certainly hope that both MDNR and EPA will finally be able to conclude that regulation of the surface impoundment is not mandated by RCRA.

If you or other members of your staff have additional questions, please have your counsel (or John Harper, if he is serving in that capacity) contact me, or in my absence, Bill Smith, with the Brunini firm.

Sincerely yours,

Allen T. Malone

ATM:jw  
Enclosures

cc: Mr. John Harper  
Mr. William L. Smith  
Mr. John C. Bumpers  
Mr. Niven D. Morgan, Jr.  
Mr. Fred Ahlers  
Mr. John Hill

DIVISION OF SOLID WASTE

REVIEWED BY AM

DATE 11-25-86

COMMENTS toxaphene document  
maintained in separate  
file

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

RECEIVED

NOV 12 1986

November 10, 1986

DEPT. OF ENVIRONMENTAL QUALITY  
BUREAU OF POLLUTION CONTROL

Mr. Sam Mabry  
Director, Division  
of Hazardous Waste  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

CONFIDENTIAL

Re: Vicksburg Plant/Regulatory Status of  
Surface Impoundment

Dear Mr. Mabry:

This letter is in response to the questions which you submitted to me by letter of October 22, 1986. This confirms that much of the information supplied below is confidential or in the nature of trade secrets. Accordingly, your office should take all necessary steps to protect the information from being disclosed to third parties or otherwise published without the express written consent of Cedar Chemical Corporation.

Question 1: Provide a list of all products and identifiable intermediates produced by the Vicksburg facility (both north and south plants) since November 19, 1980. Include with this list the time period(s) in which each product was produced and the quantities produced.

Answer: Inorganic Products:

a. Potassium Nitrate Facility - From November, 1980 through September, 1986, three products have been produced in this Facility: Potassium Nitrate ( $\text{KNO}_3$ ) - 513,918 tons; Chlorine ( $\text{Cl}_2$ ) - 189,149 tons; and Nitrogen Tetroxide ( $\text{N}_2\text{O}_4$ ) - 3,940 tons.

b. Nitric Acid Facility - From November, 1980 through September, 1986, this Facility produced 376,291 tons of Nitric Acid ( $\text{HNO}_3$ ), substantially all of which has been utilized as an intermediate in the production of the products identified herein in the Potassium Nitrate and Dinitrobutylphenol Facilities.

Mr. Sam Mabry  
November 10, 1986  
Page Two

In April, 1986, Nitric Acid production started up in a new Nitric Acid Facility which replaced the old Nitric Acid Facility.

Organic Products:

c. Toxaphene Facility - From November, 1980 through October, 1982, 7,479 tons of toxaphene and 10,744 tons of a by-product, Muriatic Acid (HCl) were produced.

d. Dinitrobutylphenol (DNBP) Facility - From November, 1980 through September, 1986, 17,723 tons of DNBP and 17,675 tons of an intermediate, sulfonated ortho secondary butyl phenol (OSBP) were produced.

e. Monosodium methanearsonate (MSMA) Facility - from January, 1983 to July, 1984, in a newly constructed facility on the Plant site, 399 tons of MSMA and 455 tons of an intermediate, disodium methanearsonate (DSMA) were produced.

Custom Manufactured Products for Third Parties:

f. Diethylhexylphosphoric Acid (DEHPA) - 732 tons of DEHPA and 776 tons of an intermediate, Diethylhexylphosphochloridate were produced between August and October, 1984 and May and June, 1985.

g. 1 Hydroxy-ethylidene - 1,1-diphosphonic acid (UNIHIB) - 19 tons of UNIHIB and 25 tons of a co-product, Acetic Acid produced in September, 1985

Question 2: Identify all waste streams associated with the above-mentioned products. Detail the constituents in each waste stream, the route and ultimate fate of each waste stream, the time of existence of each waste stream, and the quantities involved in each waste stream. This should include all leaks, spills and regular process waste streams.

Answer: With respect to the waste streams associated with the production of Potassium Nitrate and its co-products, Chlorine and Nitrogen Tetroxide; Nitric Acid; Toxaphene and Dinitrobutylphenol, please refer to Vertac Chemical Corporation's

Mr. Sam Mabry  
November 10, 1986  
Page Three

NPDES Permit Applications dated June 26, 1981 and January 3, 1986 (Attachments A and B). In addition to the DNBW wash water discharged pursuant to the NPDES Permit, additional quantities of such wash water were shipped off-site for deep well disposal. Reference is also made to testimony and exhibits presented in support of Cedar Chemical Corporation's Motion to Dismiss Complaint heard by the Commission on September 16, 1986.

With respect to the other products identified in response to Question 1, the following additional information is supplied:

MSMA - 2,720 tons of salt cake generated, containerized and disposed of in RCRA permitted facilities off-site. The facility was operated on a no-discharge basis.

DEHPA - 344 tons of ethylhexyl chloride (EHC) and 4,183 tons of wastewater and 18 tons of off-quality product, either DEHPA or intermediate, were containerized and transported to RCRA permitted facilities off-site. The DEHPA operation was on a no-discharge basis.

UNIHIB - HCl scrubber water ( $H_2O$ , NaCl, NaOH, and Sodium Acetate) discharged in accordance with NPDES Permit. The approval letter from Matthew Chun, Industrial Waste Water Control Section, MDNR Bureau of Pollution Control, dated November 8, 1985 is enclosed herewith as Attachment C.

Question 3: Designate which of the above waste streams VCC considers to be hazardous waste, and provide determination date and reports required by 40 CFR 262.11.

Answer: Cedar Chemical Corporation or its predecessors have handled the following waste streams as "hazardous waste" under RCRA, in each case causing said waste to be transported to a RCRA permitted storage or treatment facility off the plant site:

(1) Toxaphene and DNBW drums, trash and refuge contaminated with toxaphene and DNBW; (2) MSMA salt cake; (3) DEHPA waste streams identified above; and (4) un-neutralized DNBW washwater. In some cases, products which

Mr. Sam Mabry  
November 10, 1986  
Page Four

may not be classified as hazardous under RCRA were transported as such to insure safe handling. Copies of annual and biennial hazardous waste manifest reports required under RCRA previously submitted by Cedar Chemical Corporation's predecessors are attached hereto as Attachments D - G. Records of individual manifests are voluminous, and are available for inspection at the Vicksburg Plant.

Question 4: Provide any and all piping and flow diagrams (in addition to those submitted to the Bureau of Pollution Control on September 16, 1986), concerning the handling of waste streams since November 19, 1980. Indicate any changes made to the piping or flow patterns of waste streams since November, 1980. This should include all pertinent piping (above and below ground), open areas, ditches and/or lagoons at both the north and south facilities.

Answer: The Company has provided the Bureau of Pollution Control with all such diagrams which exist with respect to the South Plant. Additional diagrams with respect to the North Plant are enclosed herewith. (Attachment H)

Question 5: Provide a descriptive listing of all hazardous waste either received by VCC or shipped off-site. Indicate quantities and types manifested and all data and reports generated to determine the nature of the waste as required by 40 CFR 262.11.

Answer: The Plant has not received incoming shipments of hazardous waste. See Response to Question 3 for outgoing shipments.

Question 6: Provide a copy of any spill reports made under the NPDES program or the CERCLA program.

Answer: The only such report which Cedar Chemical Corporation is aware of is that filed in connection with a breach of the surface impoundment dike which occurred in February, 1983, a copy of which report is attached hereto. (Attachment I)

Question 7: Has Vicksburg Chemical produced chlordane, methyl parathion or disulfoton since November 1980?

Mr. Sam Mabry  
November 10, 1986  
Page Five

Answer: No.

Question 8: If so, has any of the waste water from the production of the above products been placed in the surface impoundments?

Answer: Not applicable.

Question 9: If the process waste water was not placed into the impoundment, how was it handled?

Answer: Not applicable.

Question 10: If the process wastewater was placed into the impoundment, was the wastewater treated prior to its entering the impoundment?

Answer: Not applicable.

Question 11. EPA's background document for the listing of untreated toxaphene wastewater (K098) and sludges from toxaphene wastewater treatment (K041) specifies, "wastewater is generated from the toxaphene production processes (leaks, spills, and washdowns), as well as from the scrubbing of vent gases in the HCL absorption and recovery step." Cedar Chemical should provide a detailed schematic of its toxaphene production process at the Vicksburg plant, describing how wastewater such as that described above was handled. If the Vicksburg plant did not generate such a wastewater, an explanation of how such wastewater generation was avoided should be provided. (A copy of the background document is enclosed.)

Answer: A schematic of the toxaphene production process utilized by Cedar Chemical Corporation's predecessors, Vicksburg Chemical Company and Vertac Chemical Corporation, is attached. (Attachment J) As previously pointed out, no toxaphene contaminated process wastewater or sludges of the type contemplated by EPA's Background Document were generated at the Vicksburg Plant.

Cedar believes that the sludge from toxaphene wastewater treatment referred to in the Background Document and classified as K041 under RCRA resulted from the filtration of toxaphene solution through diatomaceous earth in accordance with the pro-

Mr. Sam Mabry  
November 10, 1986  
Page Six

cess utilized by Hercules, Inc. at its Brunswick, Georgia Plant, producing, according to the Background Document, approximately 7 tons per day of sludge containing approximately 1% toxaphene by weight. (See Schematic attached as Exhibit K) No such sludge was produced in the process utilized at the Vicksburg Plant, nor did the Vicksburg toxaphene process involve the discharge of any untreated process wastewater, as that term was intended in connection with the KO98 RCRA classification. In fact the only "waste streams" associated with toxaphene production at the Vicksburg Plant would have consisted of any de minimis losses occasioned by minor leaks and spills, and scrubber water generated from operation of the Plant's air emission control procedures in connection with its HCL recovery system (muriatic acid or HCL being a by-product of the toxaphene production process). The scrubber water consisted of a weak aqueous solution containing sodium chloride and sodium hydroxide.

It is believed that the Vicksburg Plant was able to avoid the generation of process wastewater (KO98) and sludge (KO41) of the type generated by Hercules, Inc. at its Brunswick, Georgia Plant by utilizing high purity camphene, which it purchased as a raw material (toxaphene being produced by the chlorination of camphene). Hercules produced its own camphene from pine stumps, which, it is believed, produced a relatively low purity product requiring substantial filtration which the Vicksburg Plant process did not require.

Question 12: In an August 16, 1984, letter to the Mississippi Bureau of Pollution Control (MBPC), states, "In reviewing our past toxaphene discharge data I find that Vertac's last permit excursion occurred on February 16, 1982 (11.5 ppb)." Cedar Chemical should provide an explanation of the source of this toxaphene in the wastewater. (A copy of the letter is enclosed.)

Answer: Two possible explanations - (1) inaccurate analysis (toxaphene easily confused with other compounds at low ppb levels) and (2) possible heavy storm water runoff episode transporting surface soils adjacent to the facility, portions of which could have been contaminated with trace amounts of toxaphene as a result of previous de minimis losses, as has been shown in the case of dinoseb. It should be noted that the 11.5 ppb "excursion" referred to translates to less than one ounce of

Mr. Sam Mabry  
November 10, 1986  
Page Seven

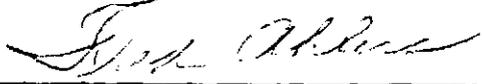
toxaphene based on an average daily flow of 500,000 gallons per day under the NPDES Permit.

Question 13: On February 17, 1983, the MBPC sampled both the sludge from the east side of the impoundment and the stream bank on the east side of the impoundment where the impoundment dike had failed. Analysis of these samples indicated the sediments contained 280 ppm and 360 ppm of toxaphene respectively. Cedar Chemical should provide an explanation of the source of the toxaphene found in impoundment sediment samples. (Copies of the analytical results are enclosed).

Answer: See response to Question 12. In addition, in view of the molasses-like consistency of toxaphene and its tendency to bind together and to adhere to soils or sediments, it would not be surprising if some contamination may have been dislodged in the heavy storm water incident which occurred in February, 1983, particularly in view of the long history of toxaphene production in facilities adjacent to the surface impoundment (since early 1970's). It should also be pointed out that the soil sample measuring 280 ppm was subjected to further analysis using the EP toxicity method, which demonstrated less than 20 ppb toxaphene, a level far below the regulatory level established under RCRA. It should also be pointed out that the Company caused the 18 samples obtained from the pond in September, 1986 to be analyzed for toxaphene contamination and none was detected within the lab's limit of detection of .1 ppm. The analytical results referred to above have been supplied to the Department by our counsel.

Sincerely yours,

CEDAR CHEMICAL CORPORATION

By:   
Fred Ahlers, Plant Manager

FA:jw  
Enclosures  
cc: Colonel Charles Blalock  
Mr. William L. Smith  
Mr. Allen T. Malone

DIVISION OF SOLID WASTE

REVIEWED BY 

DATE 11-14-86

COMMENTS Attachments

Maintained in separate file

ATTACHMENTS TO LETTER TO SAM MABRY, DIRECTOR  
HAZARDOUS WASTE DIVISION, MDNR BUREAU OF POLLUTION CONTROL

November 10, 1986

Response No. 2:

A - Vertac Chemical Corporation NPDES Permit Application dated June 26, 1981.

B - Vertac Chemical Corporation NPDES Permit Application dated January 3, 1986.

C - Letter from MDNR Bureau of Pollution Control dated November 8, 1985.

Response No. 3:

D - MDNR Generator Annual Hazardous Waste Report - 1981.

E - MDNR Generator Annual Hazardous Waste Report - 1982.

F-1-MDNR Facility Annual Hazardous Waste Report - 1983.

F-2-MDNR Generator Annual Hazardous Waste Report - 1983.

G - EPA Facility Biennial Hazardous Waste Report - 1984 - 1985.

Response No. 4:

H - Piping Diagrams - North Plant.

Response No. 6:

I - Letter from R. F. Maraman, Chief Chemist, Vicksburg Facility to MDNR Bureau of Pollution Control dated February 18, 1983.

Response No. 11:

J - Schematic of Vicksburg's Toxaphene Production Process.

K - Schematic of what is believed to have been Hercules' Toxaphene Production Process.

BEFORE THE MISSISSIPPI COMMISSION ON NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

---

IN THE MATTER OF:

MISSISSIPPI COMMISSION  
ON NATURAL RESOURCES,

vs.

ORDER NO. 1046-86

CEDAR CHEMICAL CORPORATION  
(Successor to Vertac Chemical  
Corporation)

---

STIPULATION

---

Based on the testimony and evidence presented by the parties at a hearing held before the Commission on September 16, 1986, on the Respondent's Motion to Dismiss the Complaint hereto fore entered in this cause, and based on subsequent communications between and among representatives of the Respondent, the Mississippi Department of Natural Resources, and EPA Region IV, the parties hereto stipulate as follows:

1. Insofar as dinoseb contamination of soils and sediments at the Respondent's Plant in Vicksburg, Mississippi is concerned, RCRA Regulations are not applicable to the surface impoundment which was the subject of the hearing in this cause, by virtue of the de minimis exception to the so-called "mixture rule" (MHWMR 261.3(a)(2)(iv)).



2. The Parties agree that the record in this cause shall be supplemented for the purpose of facilitating inquiry into whether activities related to toxaphene production at Respondent's Plant by former owners and operators of the Plant were such as to subject the surface impoundment at the Plant to RCRA Regulation, as follows:

(a) Results of EP toxicity analysis for toxaphene and other compounds carried out with respect to the Department's two pond samples which it obtained in August, 1986 and split with Respondent are hereby attached as Exhibit A;

(b) EP toxicity analytical results obtained by the State of a pond sediment sample obtained in 1983 are hereby attached as Exhibit B;

(c) Results of toxaphene analysis, by weight, of 18 retained pond sediment samples gathered by the Respondent in September, 1986, (which were heretofore submitted for analysis of dinoseb, by weight, the results of which were presented at the hearing in this cause) are hereby attached as Exhibit C.

(d) Respondent shall submit to the Commission not later than November 14, 1986 a full and complete response to the questionnaire attached hereto as Exhibit D;

~~(e) Respondent shall obtain additional pond sediment samples under the direct supervision of the Department, and in accordance with reasonable protocols established by the~~

Additional pond sediment samples  
taken by its contractors on  
October 30, 1986,

(e) ~~the Department, which samples~~ The Department shall cause to be analyzed and the results submitted to the Commission, as soon as practicable following the date hereof, but such analysis to be in accordance with the same methods of analysis and extraction clean-up methods heretofore utilized with respect to the analytical results described in Exhibits A, B, and C.

3. The Department agrees that if the analytical results of the samples taken pursuant to Paragraph 2(e) hereina-  
bove should fail to demonstrate toxaphene in the extract from the sediment at levels at or above .5 parts per million, using the EP toxicity method, ~~and if the levels of toxaphene in the sediment, by weight, are not inconsistent with past de minimis losses of product, as that term is used in MHWMR 261.3(a)(2)(iv)(D), and if~~ based on the Respondent's submittal pursuant to Paragraph 2(d) hereinabove there is no evidence that Respondent at any time since November 19, 1980 discharged to or stored in the surface impoundment any untreated, toxaphene-contaminated process wastewater or any sludge from the treatment of such wastewater in connection with toxaphene manufacturing operations at the Respondent's Plant, then Respondent's Motion to Dismiss filed herein should be granted.

4. The Commission's ruling on the Respondent's Motion to Dismiss shall be deferred until the Commission's ~~November,~~ December, 1986 meeting.

STIPULATED by the parties as of this \_\_\_\_\_ day of  
October, 1986.

MISSISSIPPI DEPARTMENT OF NATURAL  
RESOURCES

BY: \_\_\_\_\_

CEDAR CHEMICAL CORPORATION

BY: \_\_\_\_\_

SO ORDERED:

MISSISSIPPI COMMISSION ON NATURAL  
RESOURCES

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

BEFORE THE MISSISSIPPI COMMISSION ON NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

IN THE MATTER OF:

DIVISION OF SOLID WASTE

MISSISSIPPI COMMISSION  
ON NATURAL RESOURCES,

REVIEWED BY \_\_\_\_\_

vs.

DATE PREPARED \_\_\_\_\_

ORDER NO. 1046-86

CEDAR CHEMICAL CORPORATION  
(Successor to Vertac Chemical  
Corporation)

*prepared*

STIPULATION

Based on the testimony and evidence presented by the parties at a hearing held before the Commission on September 16, 1986, on the Respondent's Motion to Dismiss the Complaint heretofore entered in this cause, and based on subsequent communications between and among representatives of the Respondent, the Mississippi Department of Natural Resources, and EPA Region IV, the parties hereto stipulate as follows:

1. Insofar as dinoseb contamination of soils and sediments at the Respondent's Plant in Vicksburg, Mississippi is concerned, RCRA Regulations are not applicable to the surface impoundment which was the subject of the hearing in this cause, by virtue of the de minimis exception to the so-called "mixture rule" (MHWMR 261.3(a)(2)(iv)).

2. The Parties agree that the record in this cause shall be supplemented for the purpose of facilitating inquiry into whether activities related to toxaphene production at Respondent's Plant by former owners and operators of the Plant were such as to subject the surface impoundment at the Plant to RCRA Regulation, as follows:

(a) Results of EP toxicity analysis for toxaphene and other compounds carried out with respect to the Department's two pond samples which it obtained in August, 1986 and split with Respondent are hereby attached as Exhibit A;

(b) EP toxicity analytical results obtained by the State of a pond sediment sample obtained in 1983 are hereby attached as Exhibit B;

(c) Results of toxaphene analysis, by weight, of 18 retained pond sediment samples gathered by the Respondent in September, 1986, (which were heretofore submitted for analysis of dinoseb, by weight, the results of which were presented at the hearing in this cause) are hereby attached as Exhibit C.

(d) Respondent shall submit to the Commission not later than November 7, 1986 a full and complete response to the questionnaire attached hereto as Exhibit D;

(e) Respondent shall obtain additional pond sediment samples under the direct supervision of the Department, and in accordance with reasonable protocols established by the

the Department, which samples the Department shall cause to be analyzed and the results submitted to the Commission, as soon as practicable following the date hereof, but such analysis to be in accordance with the same methods of analysis and extraction clean-up methods heretofore utilized with respect to the analytical results described in Exhibits A, B, and C.

3. The Department agrees that if the analytical results of the samples taken pursuant to Paragraph 2(e) hereina-  
bove should fail to demonstrate toxaphene in the extract from the sediment at levels at or above .5 parts per million, using the EP toxicity method, and if the levels of toxaphene in the sediment, by weight, are not inconsistent with past de minimis losses of product, as that term is used in MHWMR 261.3(a)(2)(iv)(D), and if there is no evidence that Respondent at any time since November 19, 1980 discharged to or stored in the surface impoundment any untreated, toxaphene-contaminated process wastewater or any sludge from the treatment of such wastewater in connection with toxaphene manufacturing operations at the Respondent's Plant, then Respondent's Motion to Dismiss filed herein should be granted.

4. The Commission's ruling on the Respondent's Motion to Dismiss shall be deferred until the Commission's November, 1986 meeting.

STIPULATED by the parties as of this \_\_\_\_\_ day of  
October, 1986.

MISSISSIPPI DEPARTMENT OF NATURAL  
RESOURCES

BY: \_\_\_\_\_

CEDAR CHEMICAL CORPORATION

BY: \_\_\_\_\_

SO ORDERED:

MISSISSIPPI COMMISSION ON NATURAL  
RESOURCES

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

CORP 12/81

Corporation

Questions to Be Answered by Vicksburg Chemical

~~Sam Murray~~

The consensus here was to broaden the nature of the questions in order to delineate all of Vicksburg Chem Co's waste streams. Here are some of the questions and information the EPA would like to see:

General Questions

1. Provide a list of all products and identifiable intermediates produced by the Vicksburg facility (both north and south plants) since November 19, 1980. Include with this list the time period(s) in which each product was produced and the quantities produced.
2. Identify all waste streams associated with the above-mentioned products. Detail the constituents in each waste stream, the route and ultimate fate of each waste stream, the time of existence of each waste stream, and the quantities involved in each waste stream. This should include all leaks, spills and regular process waste streams.
3. Designate which of the above waste streams VCC considers to be hazardous waste, and provide determination date and reports required by 40 CFR 262.11.
4. Provide any and all piping and flow diagrams concerning the handling of waste streams since November 19, 1980. Indicate any changes made to the piping or flow patterns of waste streams since November 19, 1980. This should include all pertinent piping (above and below ground), open areas, ditches and/or lagoons at both the north and south facilities. *(in addition to those submitted to the Bureau of Pollution Control)*
5. Provide a descriptive listing of all hazardous waste either received by VCC or shipped off-site. Indicate quantities and types manifested and all data and reports generated as to determine the nature of the waste as required by 40 CFR 262.11.
6. Provide a copy of any spill reports made under the NPDES program or the CERCLA program.

~~If you have any questions call me~~

~~Paul Perreault~~  
WCS - USEPA

~~Questions to be Answered by Vicksburg Chemical~~

Questions Relating to Specific Wastewater Discharges

7. Has Vicksburg Chemical produced chlordane, methyl parathion or disulfoton, since November 1980?
8. If so, has any of the wastewater from the production of the above products been placed in the surface impoundments?
9. If the process wastewater was not placed into the impoundment, how was it handled?
10. If the process wastewater was placed into the impoundment, was the wastewater treated prior to its entering the impoundment?
11. EPA's background document for the listing of untreated toxaphene wastewater (K098) and sludges from toxaphene wastewater treatment (K041) specifies, "wastewater is generated from the toxaphene production processes (leaks, spills, and washdowns), as well as from the scrubbing of vent gasses in the HCL absorption and recovery step." Cedar Chemical should provide a detailed schematic of its toxaphene production process at the Vicksburg plant, describing how wastewater such as that described above was handled. If the Vicksburg plant did not generate such a wastewater, an explanation of how such wastewater generation was avoided should be provided.
12. In an August 16, 1984, letter to the Mississippi Bureau of Pollution Control (MBPC), Vertac states, "In reviewing our past toxaphene discharge data I find that Vertac's last permit excursions occurred on February 16, 1982 (11.5 ppb)." Cedar Chemical should provide an explanation of the source of this toxaphene in the wastewater.
13. On February 17, 1983, the MBPC sampled both the sludge from the east side of the impoundment and the stream bank on the east side of the impoundment where the impoundment dike had failed. Analysis of these samples indicated the sediments contained 280 ppm and 360 ppm of toxaphene respectively. Cedar Chemical should provide an explanation of the source of the toxaphene found in impoundment sediment samples.



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Upton Drive • Jackson, MS 39209  
Telephone: (601) 922-8242  
(800) 523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: (904) 944-0311  
(800) 674-0272

*To: Allen Malone*  
*10-3-86*

## LABORATORY REPORT

86.1.2929

1/2

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 09/29/86  
INVOICE NO.: 010870/ncr

COLLECTED BY: Client (7954)  
DATE COLLECTED: 09/03/86  
DATE RECEIVED: 09/08/86  
DATE ANALYZED: 09/24/86

## LABORATORY SAMPLE IDENTIFICATION

86094958 - Pond Inlet Sludge  
86094959 - Pond Cross-Over Sludge

ANALYSES	IDENTIFICATION NO.			QUALITY CONTROL		
	4958	4959	LIMIT	STANDARD OR SPE VALUE	RECOVERY	RELATIVE DEVIATION
Arsenic, EP Leachable, mg/l EPA No. D004	0.48	0.075	5.0	1.00	96	0
Barium, EP Leachable, mg/l EPA No. D005	<0.2	<0.2	100.0	1.00	99	0
Cadmium, EP Leachable, mg/l EPA No. D006	0.02	0.01	1.0	0.20	100	0
Chromium, EP Leachable, mg/l EPA No. D007	0.02	0.48	5.0	0.50	94	0
Chromium, Hexavalent, EP Leachable, mg/l, EPA No. D007	0.01	0.44	5.0	0.50	86	0
Lead, EP Leachable, mg/l EPA No. D008	0.28	0.23	5.0	1.00	109	0
Mercury, EP Leachable, mg/l EPA No. D009	<0.001	<0.001	0.2	0.004	80	2.3
Selenium, EP Leachable, mg/l EPA No. D010	<0.003	<0.003	1.0	0.010	90	0
Silver, EP Leachable, mg/l EPA No. D011	0.01	0.01	5.0	0.20	110	0
Endrin, EP Leachable, mg/l	<0.01	<0.01		0.6	73	0
Lindane, EP Leachable, mg/l	<0.01	<0.01		0.6	73	0

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, July, 1982, Test Methods for Evaluating Solid Waste (SW-846).

## CERTIFICATION

*Donales Dinamore-King*  
MANAGER, QUALITY ASSURANCE



*Arthur Canfield*  
MANAGER, ANALYTICAL CHEMISTRY



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

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7215 Pine Forest Road • Pensacola, FL 32506  
Telephone (904) 944-0301  
(800) 674-0272

## LABORATORY REPORT

86.1.2929

2/2

CLIENT: Vicksburg Chemical  
LOCATION: Vicksburg, Mississippi  
DATE: 09/26/86  
INVOICE NO.: 010870/ncr

COLLECTED BY: Client (7954)  
DATE COLLECTED: 09/03/86  
DATE RECEIVED: 09/08/86  
DATE ANALYZED: 09/24/86

## LABORATORY SAMPLE IDENTIFICATION

86094958 - Pond Inlet Sludge  
86094959 - Pond Cross-Over Sludge

ANALYSES	IDENTIFICATION NO.			QUALITY CONTROL	
	4958	4959		STANDARD OR SPRINK VALUE	RECOVERY RELATIVE DEVIATION
Methoxychlor, EP Leachable, mg/l	<0.01	<0.01			
Toxaphene, EP Leachable, mg/l	<0.01	<0.01			
2,4 - D, EP Leachable, mg/l	<0.01	<0.01			
2,4,5 - TP Silvex, EP Leachable, mg/l	<0.01	<0.01			
"EP TOXICITY" Extraction	Yes	Yes			

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, July, 1982, Test Methods for Evaluating Solid Waste (SW-846).

## CERTIFICATION

*Donalea Dismore King*  
MANAGER, QUALITY ASSURANCE



*Arthur Carmel*  
MANAGER, ANALYTICAL DEPARTMENT

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Bench No. 142

I. GENERAL INFORMATION: Facility Name Vertac Chemical Co.  
 County Code Warren NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested \_\_\_\_\_  
 Sample Point Identification impoundment  
 Requested By Chuck Estes Data To Chuck Estes  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition sunny and cool Collected By Chuck Estes  
 Where Taken east side of impoundment near breach area  

Type	Parameters	Preservative	Date	Time
1. <u>Sludge</u>	<u>Toxaphene, Atrazine, Cyanazine</u>	<u>cool</u>	<u>2/7/83</u>	<u>3:00</u>
2. <u>Sludge</u>	<u>DNBP</u>	<u>5ml H2SO4</u>	<u>"</u>	<u>3:15</u>
3. _____	<u>(Run totals and Ep</u>	_____	_____	_____
4. _____	<u>extract for these</u>	_____	_____	_____
5. _____	<u>parameters]</u>	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other () field truck  
 V. LABORATORY: Received By DeJonnette King Date 2/8/83 Time 0815  
 Recorded By Dorothy Lewis Date Sent to State Office 4-14-83

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	mg/l	_____	_____
TOC	(000680)	( )	mg/l	_____	_____
Suspended Solids	(099000)	( )	mg/l	_____	_____
TKN	(000625)	( )	mg/l	_____	_____
Ammonia-N	(000610)	( )	mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	mg/l	_____	_____
Chlorides	(099016)	( )	mg/l	_____	_____
Phenol	(032730)	( )	mg/l	_____	_____
Total Chromium	(001034)	( )	mg/l	_____	_____
Hex. Chromium	(001032)	( )	mg/l	_____	_____
Zinc	(001092)	( )	mg/l	_____	_____
Copper	(001042)	( )	mg/l	_____	_____
Lead	(017501)	( )	mg/l	_____	_____
Cyanide	(000722)	( )	mg/l	_____	_____
Atrazine (EPT)	_____	(X)	12550 ug/l	MB	3-15-83
Cyanozine(EPT)	_____	(X)	650 ug/l	MB	3-15-83
Toxaphene(EPT)	_____	(X)	< 20 ug/l	MB	3-15-83
DNBP (EPT)	_____	(X)	_____	_____	_____
Atrazine (Total)	_____	(X)	7.030 mg/kg	MB	4-11-83
Cyanozine (Total)	_____	(X)	< 112 mg/kg	MB	4-11-83
Toxaphene (Total)	_____	(X)	280 mg/kg	MB	4-11-83
DNBP (Total)	_____	(X)	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks DNBP results will follow

\*Date of Test Initiation

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Bench No. 141

I. GENERAL INFORMATION: Facility Name Vertac Chemical Co.  
 County Code warren NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested \_\_\_\_\_  
 Sample Point Identification stream bank  
 Requested By Chuck Estes Data To Chuck Estes  
 Type of Sample: Grab  Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition sunny and cool Collected By Chuck Estes  
 Where Taken on the east side of the impoundment levee at the breach area near the stream

Type	Parameters	Preservative	Date	Time
1. <u>Sludge</u>	<u>Toxaphene, Atrazine, Cyanazine</u>	<u>Cool</u>	<u>2/7/83</u>	<u>3:10</u>
2. <u>Sludge</u>	<u>DNBP</u>	<u>5ml H2SO4</u>	<u>2/7/83</u>	<u>4:00</u>
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other  Field truck

V. LABORATORY: Received By DeJonnette King Date 2/8/83 Time 0815  
 Recorded By Dorothy Lewis Date Sent to State Office 4-14-83

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
Toxaphene	_____	(X)	<u>360</u> mg/kg	<u>MB</u>	<u>4-12-83</u>
Atrazine	_____	(X)	<u>645</u> mg/kg	<u>MB</u>	<u>4-12-83</u>
Cyanazine	_____	(X)	<u>&lt;12</u> mg/kg	<u>MB</u>	<u>4-12-83</u>
DNBP	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks DNBP results will follow when completed

\*Date of Test Initiation

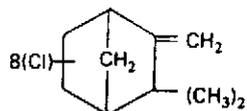
(3) Tisdale, W. H. and Williams, I., U.S. Patent 1,972,961, September 11, 1934, assigned to DuPont.

## TOXAPHENE (CAMPHECHLOR IN U.K.)

**Function:** Insecticide (1)(2)(3)(4)

**Chemical Name:** Toxaphene

**Formula:**

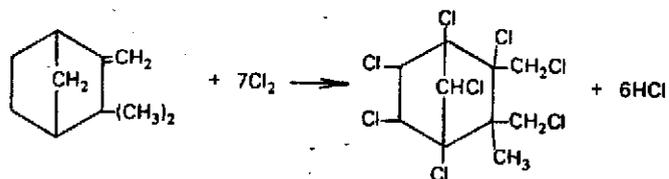


**Trade Names:** Hercules 3956 (Hercules, Inc.)

Alltox<sup>®</sup>  
Estonox<sup>®</sup>  
Chem-Phene<sup>®</sup>  
Geniphene<sup>®</sup>  
Gy-phene<sup>®</sup>  
Phenacide<sup>®</sup>  
Phenatox<sup>®</sup>  
Toxadust<sup>®</sup>  
Toxaspra<sup>®</sup>

### Manufacture

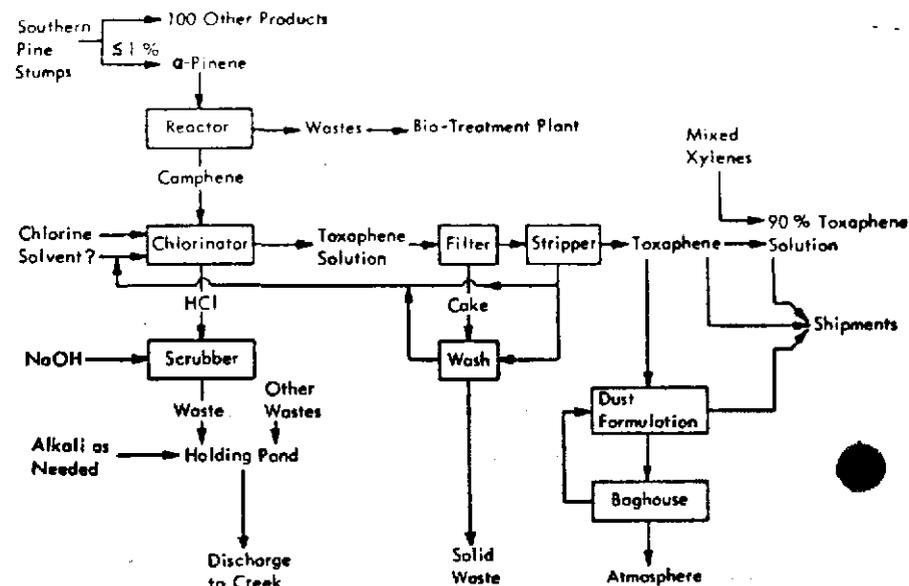
The raw materials for toxaphene manufacture are camphene and chlorine and the reaction is approximately as follows:



The initial reaction involving addition to the double bond is rapid while the second involving substitution proceeds with more difficulty, as pointed out by M.A. Phillips (5). The reaction temperature initially rises, due to the heat of reaction, to 85° to 90°C, and some cooling may be required. It then drops and may be 50° to 75°C at the end of the reaction. This chlorination reaction is carried out at atmospheric pressure. This reaction takes from 15 to 30 hours to reach completion. This reaction is carried out in the liquid phase using about 5 parts of carbon tetrachloride solvent per part of camphene feed, as described by G.A. Buntin (3)(4). Ultraviolet light is the catalyst for this reaction.

Lead-lined, glass-lined or nickel-clad vessels may be used for this reaction. The vessel should be equipped with a heat-exchange jacket, a reflux condenser and a well for the ultraviolet lamp. The carbon tetrachloride solvent is removed from the reaction product by distillation under reduced pressure after HCl and excess chlorine have been blown out. The residue from the distillation is allowed to solidify. A production and waste schematic for toxaphene manufacture is shown in Figure 54 (6).

Figure 54: Production and Waste Schematic for Toxaphene



Source: Reference (6)

### Process Wastes and Their Control

**Air:** Air emissions from toxaphene production have been reported (B-15) to consist of the following:

Component	Kilograms per Metric Ton Pesticide Produced
HCl	2.65
Cl <sub>2</sub>	0.25
Toluene	1.0
Toxaphene	5 × 10 <sup>-4</sup>

Air pollution control in toxaphene manufacture involves the following (B-15):

Control Device	Emissions Controlled	Reported Efficiency
Alkali and water scrubber	Solvent vapor, hydrogen chloride, chlorine	—
Stripping	Solvent vapor, hydrogen chloride, chlorine	—
Limestone adsorption	Solvent vapor, hydrogen chloride, chlorine	100
Baghouse	Toxaphene	—

The chlorinator waste HCl gas passes through a water absorber and the resulting muriatic acid is recovered or neutralized and sent to wastewater treatment. The toxaphene product then goes either to a solution or to a dust formulation step. Emissions from the dust formulation are vented to a baghouse, with the captured dust then recycled to the formulation step (B-10).

**Product Wastes:** Toxaphene is said to dehydrochlorinate in the presence of alkali, upon

prolonged exposure to sunlight, and at temperatures of about 155°C. Reduction with sodium in isopropyl alcohol is the analytical method for total chloride (B-3).

### Toxicity

The acute oral LD<sub>50</sub> value for rats is 80 to 90 mg/kg which is moderately toxic.

Toxaphene is a widely used organochlorine insecticide that apparently has not caused a great deal of environmental harm, although it has been used in agriculture for many years. Because it is a complex mixture of uncharacterized camphene derivatives, very little is known about its metabolism in plants or other higher organisms. Considerable information is available, however, on its toxicity in laboratory animals and various aquatic organisms. An ADI of 0.00125 mg/kg/day was calculated on the basis of the chronic toxicity data (B-22).

A summary of the results of examination of over 100,000 samples of raw agricultural commodities by the FDA between 1963 and 1969 shows that toxaphene residues are seldom present. Thus, the possibility that large quantities of toxaphene residues could be found in drinking water is not great.

Toxaphene has demonstrated carcinogenic effects in laboratory animals. In addition, toxaphene is highly toxic to many aquatic invertebrate and vertebrate species and has been shown to cause the "broken back syndrome" in fish fry. These observations, together with reported bioconcentration factors as high as 91,000 indicate that toxaphene poses a threat to living organisms, particularly in the aquatic environment (B-26).

### Allowable Limits on Exposure and Use

**Air:** The threshold limit value for chlorinated camphenes in air has been set at 0.5 mg/m<sup>3</sup> as of 1979. The tentative short term exposure limit is 1.0 mg/m<sup>3</sup> (B-23).

**Water:** In water, EPA set criteria (B-12) for toxaphene of 5 µg/l for domestic water supply and 0.005 µg/l for the protection of freshwater and marine aquatic life.

Subsequently, EPA has suggested (B-26) limits to protect freshwater aquatic life of 0.007 µg/l as a 24-hour average and the concentration should not exceed 0.47 µg/l at any time.

For toxaphene the criterion to protect saltwater aquatic life is 0.019 µg/l as a 24-hour average and the concentration should not exceed 0.12 µg/l at any time.

For the maximum protection of human health from the potential carcinogenic effects of exposure to toxaphene through ingestion of water and contaminated aquatic organisms, the ambient water concentration is zero. Concentrations of toxaphene estimated to result in additional lifetime cancer risks ranging from no additional risk to an additional risk of 1 in 100,000 have been determined by the EPA. The agency is considering setting criteria at an interim target risk level in the range of 10<sup>-7</sup>, 10<sup>-6</sup>, or 10<sup>-5</sup> with corresponding criteria of 4.7 × 10<sup>-4</sup> µg/l, 4.7 × 10<sup>-3</sup> µg/l, and 4.7 × 10<sup>-2</sup> µg/l, respectively (B-26).

**Product Use:** A rebuttable presumption against registration was issued on May 25, 1977 by EPA on the basis of oncogenicity and reductions in nontarget species.

In a notice dated February 14, 1969, the EPA (B-17) cancelled all uses of toxaphene products bearing directions for use on lettuce and cabbage except the following:

- (1) Cabbage at application rates of 4.0 pounds actual/acre must have the warning statement "Do not apply after heads start to form."
- (2) Lettuce at application rates of 5.0 pounds actual/acre must have the warning statement "Do not apply after seedling stage on leaf lettuce. Do not apply after heads begin to form on head of lettuce."

The tolerances set by the EPA for toxaphene in or on raw agricultural commodities are as follows:

	40 CFR Reference	Parts per Million
Apples	180.138	7.0
Apricots	180.138	7.0
Bananas	180.138	3.0
Bananas, pulp	180.138	0.3
Barley	180.138	5.0
Beans	180.138	7.0
Blackberries	180.138	7.0
Boysenberries	180.138	7.0
Broccoli	180.138	7.0
Brussels sprouts	180.138	7.0
Cabbage	180.138	7.0
Carrots	180.138	7.0
Cattle, fat of meat	180.138	7.0
Cauliflower	180.138	7.0
Celery	180.138	7.0
Citrus fruits	180.138	7.0
Collards	180.138	7.0
Corn	180.138	7.0
Cotton, seed	180.138	5.0
Cranberries	180.138	7.0
Cucumbers	180.138	7.0
Dewberries	180.138	7.0
Eggplant	180.138	7.0
Goats, fat of meat	180.138	7.0
Hazelnuts	180.138	7.0
Hickory nuts	180.138	7.0
Hogs, fat of meat	180.138	7.0
Horseradish	180.138	7.0
Horses, fat of meat	180.138	7.0
Kale	180.138	7.0
Kohlrabi	180.138	7.0
Lettuce	180.138	7.0
Loganberries	180.138	7.0
Nectarines	180.138	7.0
Oats	180.138	5.0
Okra	180.138	7.0
Onions	180.138	7.0
Parsnips	180.138	7.0
Peaches	180.138	7.0
Peanuts	180.138	7.0
Pears	180.138	7.0
Peas	180.138	7.0
Pecans	180.138	7.0
Peppers	180.138	7.0
Pimientos	180.138	7.0
Pineapples	180.138	7.0
Quince	180.138	7.0
Radishes, tops	180.138	7.0
Radishes, with tops	180.138	7.0
Radishes, without tops	180.138	7.0
Raspberries	180.138	7.0
Rice	180.138	5.0
Rutabagas	180.138	7.0
Rye	180.138	5.0
Sheep, fat of meat	180.138	7.0
Sorghum, grain	180.138	5.0
Soybeans, dry form	180.138	2.0
Spinach	180.138	7.0

(continued)

	40 CFR Reference	Parts per Million
Strawberries	180.138	7.0
Sunflower seeds	180.138	0.1
Tomatoes	180.138	7.0
Walnuts	180.138	7.0
Wheat	180.138	5.0
Youngberries	180.138	7.0

The tolerances set by the EPA for toxaphene in food are as follows (the CFR Reference is to Title 21):

	CFR Reference	Parts per Million
Soybean, oil, crude	193.450	12.0

#### References

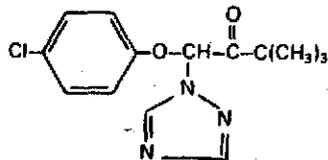
- (1) Worthing, C.R., *Pesticide Manual*, 6th ed., p. 76, British Crop Protection Council (1979).
- (2) Spencer, E.Y., *Guide to the Chemicals Used in Crop Protection*, 6th ed., p. 506, London, Ontario, Agriculture Canada (January 1973).
- (3) Buntin, G.A., U.S. Patent 2,565,471, August 28, 1951, assigned to Hercules Powder Co.
- (4) Buntin, G.A., U.S. Patent 2,657,164, October 27, 1953, assigned to Hercules Powder Co.
- (5) Phillips, M.A., *Brit. Chem. Eng.*, 10, No. 8, 550-51 (August 1965).
- (6) Midwest Research Institute, *The Pollution Potential in Pesticide Manufacturing*, Washington, DC, Environmental Protection Agency (June 1972).

### TRIADIMEFON

**Function:** Fungicide (1)(2)

**Chemical Name:** 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone

**Formula:**



**Trade Names:** Bay Meb 6447 (Bayer AG)  
Bayleton<sup>®</sup> (Bayer AG)

#### Manufacture (2)

35.8 grams (0.2 mol) of  $\alpha$ -bromo-pinacolone in 50 ml of ethyl acetate were added dropwise to sodium 4-chlorophenolate which was prepared from 0.2 mol of 4-chlorophenol and 4.6 grams (0.2 mol) of sodium in 130 ml of absolute alcohol, and the mixture was heated to the boil overnight. Thereafter the sodium bromide produced was filtered off hot, the filtrate was distilled in vacuo and the solid residue was recrystallized from a little ligroin.

1-(4'-chlorophenoxy)-3,3-dimethyl-butan-2-one (73% of theory) was obtained.

6 ml (0.11 mol) of bromine were added to 0.1 mol of 1-(4'-chlorophenoxy)-3,3-dimethyl-butan-2-one and the mixture was heated under reflux to 140°C for 1 hour. The resulting oily resi-

due was taken up with petroleum ether, whereupon it crystallized; the solid residue was filtered off and well rinsed.

1-bromo-1-(4'-chlorophenoxy)-3,3-dimethyl-butan-2-one (89% of theory) was obtained.

0.033 mol of 1-bromo-1-(4'-chlorophenoxy)-3,3-dimethyl-butan-2-one and 9.9 grams (0.15 mol) of 1,2,4-triazole were dissolved in 80 ml of acetonitrile and heated under reflux for 48 hours. Thereafter the solvent was distilled off in vacuo, the residue was taken up with 150 ml of water and the aqueous solution was extracted by shaking three times with 40 ml of methylene chloride at a time. The organic phase was thereafter twice washed with 150 ml of water at a time, dried over sodium sulfate and distilled.

The oil obtained as residue was fractionally recrystallized from a little ether, whereby triadimefon, melting at about 82°C was obtained.

#### Toxicity

The acute oral LD<sub>50</sub> value for rats is 560 to 570 mg/kg which is moderately toxic.

#### References

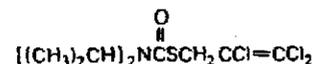
- (1) Worthing, C.R., *Pesticide Manual*, 6th ed., p. 523, British Crop Protection Council (1979).
- (2) Meiser, W., Buchel, K.H. and Kramer, W., U.S. Patent 3,912,752, October 14, 1975, assigned to Bayer AG.

### TRIALATE

**Function:** Herbicide (1)(2)(3)(4)

**Chemical Name:** S-(2,3,3-trichloro-2-propeny)bis(1-methylethyl)carbamothioate

**Formula:**



**Trade Names:** CP 23426 (Monsanto)  
Avadex BW<sup>®</sup> (Monsanto)  
Fargo<sup>®</sup> (Monsanto)

#### Manufacture (3)(4)

To a stirred solution of 202.4 grams (2.0 mols) of diisopropylamine in 1,000 ml of dry ethyl ether at -10° to 0°C there was bubbled in carbon oxysulfide until the gain in weight was 120 grams. This addition required 30 minutes and the mixture was then stirred at -10° to 0°C for an additional 90 minutes. Thereupon 145.4 grams (1.0 mol) of 1,1,2,3-tetrachloropropene was added in one portion and the reaction mixture stirred at 25° to 30°C for 24 hours. The by-product salt was removed by filtration and the excess ether removed in vacuo. The residue was distilled in vacuo and the fraction boiling at 148° to 149°C at 9 mm collected.

#### Toxicity

The acute oral LD<sub>50</sub> value for rats is 1,471 mg/kg (B-5) which is slightly toxic.

#### Allowable Limits on Exposure and Use

**Product Use:** Issuance of a rebuttable presumption against registration for triallate was being considered by EPA as of September 1979 on the basis of possible mutagenicity.



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Upton Drive • Jackson, MS 39209  
Telephone: 601/322-8242  
800/523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904/944-0301  
800/874-0272

## LABORATORY REPORT

86.1.3024

5/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105564 - Soil Sample Q  
86105565 - Soil Sample R

ANALYSES	IDENTIFICATION NO.		QUALITY CONTROL		
	5564	5565	STANDARD Spike Value	RECOVERY	PRECISION
Toxaphene, mg/kg	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnson*  
MANAGER, QUALITY ASSURANCE



*Curtis Samuel*  
MANAGER, ANALYTICAL DEPARTMENT





# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 John Drive • Jackson, MS 39209  
Telephone: 601-937-8242  
800-533-1659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-344-0301  
800-874-0272

## LABORATORY REPORT

86.1.3024

3/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105556 - Soil Sample I  
86105557 - Soil Sample J  
86105558 - Soil Sample K  
86105559 - Soil Sample L

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5556	5557	5558	5559	STANDARD DP SPHFLA		
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER QUALITY ASSURANCE



*Arthur Canine*  
MANAGER ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Latch Drive • Jackson, MS 39209  
Telephone: 601-322-8242  
300-523-2669

1215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-944-0301  
800-574-0272

## LABORATORY REPORT

86-1.3024

2/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO: 011001/lm

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105552 - Soil Sample E  
86105553 - Soil Sample F  
86105554 - Soil Sample G  
86105555 - Soil Sample H

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5552	5553	5554	5555	STANDARD OR SPIKE VALUE		
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnson*  
MANAGER, QUALITY ASSURANCE



*Arthur Smith*  
MANAGER, ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Upton Drive • Jackson, MS 39209  
Telephone: (601) 922-8242  
(800) 523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: (904) 944-0301  
(304) 874-0272

## LABORATORY REPORT

86-1-3024

1/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105548 - Soil Sample A  
86105549 - Soil Sample B  
86105550 - Soil Sample C  
86105551 - Soil Sample D

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5548	5549	5550	5551	STANDARD OR SPIKE VALUE	RECOVERY	PRECISION
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER, QUALITY ASSURANCE



*Arthur Carver*  
MANAGER, ANALYTICAL DEPARTMENT

5022

DATE  
9

CHARLES W. METCALF, 1840-1924  
WILLIAM P. METCALF, 1872-1940  
JOHN W. APPERSON, 1896-1985

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
COLBY S. MORGAN, JR.  
TONI C. PARKER

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26TH FLOOR  
100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103  
901/525-1711

RECEIVED  
NOV 3 1986  
KIRBY CENTER  
1755 KIRBY PARK  
MEMPHIS, TENNESSEE 38119  
901/756-6300

Department of Natural Resources

October 31, 1986

Mr. Sam Mabry  
Director, Division of Solid  
Hazardous Waste Management  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

Re: Cedar Chemical Corporation/Vicksburg Plant

Dear Mr. Mabry:

Thank you for furnishing me with a copy of your  
October 22, 1986 letter to Fred Ahlers, Plant Manager of the  
referenced Plant.

Responding to the expanded list of questions will take  
considerable effort on the part of Company personnel. Management  
has directed that top priority be given to this project, but I am  
not optimistic that we can provide a full and complete response,  
as well as the documentation requested, by November 6, 1986. I  
am reasonably confident, however, that we can provide you with  
this information at least one week prior to the Commission's next  
meeting, which I understand is scheduled November 19, 1986.

If it would help, I can tell you at this point that  
chlordane, methyl parathion and disulfoton were not produced at the  
Vicksburg Plant since November, 1980 and therefore Questions num-  
bered 8, 9 and 10 are not applicable. In addition, at least to  
some extent, my letter to you of October 7, 1986 is responsive to  
the final three questions.

As you know, we were willing to attempt to work out a  
mutually acceptable method of supplementing the Administrative  
Record in order to accommodate EPA's apparent desire to broaden  
the scope of the Commission's hearing last September. In light  
of the broad scope of the sampling plan, which I understand was  
carried out this week by the Department's contractor, and the  
enlarged scope of the questions which you submitted to Mr.

Mr. Sam Mabry  
October 31, 1986  
Page Two

Ahlers, we do not believe that responses to the questions or results of the sampling should have any bearing on the issue that was put to the Commission in September. Accordingly, in order to avoid any misunderstanding, this will confirm that Cedar's willingness to cooperate with you in your investigative efforts should not be viewed as a consent to supplement the record in any respect. Nevertheless, we would hope that the responses to the questionnaire as well as analytical results of the latest round of sampling will make your Department as well as EPA Region IV more comfortable with the Company's continued maintenance of the surface impoundment in accordance with existing uses.

Please contact me promptly upon your receipt of the analytical results of the recent sampling efforts.

Sincerely yours,

Allen T. Malone

ATM:jw

cc: Col. Charles L. Blalock

**FILE COPY**

October 29, 1986

Mr. Fred Ahlers  
Plant Manager  
Vicksburg Chemical Company  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

Re: Sampling  
Vicksburg Chemical Company Impoundment  
MSD990714081

This letter serves to formally notify you that the Mississippi Bureau of Pollution Control (MBPC) has contracted with Bonner Analytical Testing Company in Hattiesburg, Mississippi for the collection of sediment/sludge samples from the above referenced impoundment. Members of the sampling team will include Mike Bonner and Tom Wilson.

The purpose of the sampling is to better determine the regulatory status of the impoundment. Sampling will be conducted in general accordance with the attached sampling plan, with the understanding that the actual distance between the sampling points may be adjusted in the field at the discretion of Mike Bonner, depending on the size of the impoundment, depth of the sediment, location of physical structures on or around the impoundment, etc.

A MBPC representative will be present during the sampling activities. Splits of all samples will be offered to your designated representative.

If you have any questions concerning this matter, please contact me.

Sincerely,

Sam Mabry, Director  
Division of Solid Waste Management

SM:els

cc: Mr. Bill Smith

# CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-767-6851

October 24, 1986

Mr. Jack McCord  
Mississippi Department of Natural Resources  
Bureau of Pollution Control  
Industrial Wastewater Control Section  
2380 Highway 80 West  
Jackson, MS 39204

Ref. # Box 3  
Vicksburg, MS 39180  
(601) 636-1291  
**RECEIVED**

OCT 29 1986

DEPT. OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

Re: Biological Treatment of Dinoseb Wastewater

Dear Mr. McCord:

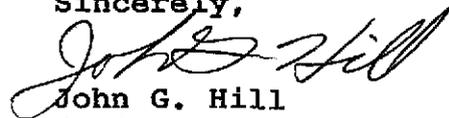
Vicksburg Chemical has tested and is considering installation of a biological treatment system for wastewater from the Dinoseb process. The basic treatment process, as currently envisioned, is shown in Figure 1.

Unneutralized Dinoseb washwater ( $\text{pH} < 1$ ) and any other Dinoseb contaminated water will be stored in a tank for equalization prior to treatment. The wastewater will then be fed continuously through carbon adsorbers to remove Dinoseb, neutralized with caustic, and water added to control dissolved solids prior to an advanced fixed-film aerated biological treatment system. Using the fixed-film system reduces tremendously the amount of biological solids formed, but some solids are expected and a clarifier or other solids separation device is anticipated. All of the system will be above ground. The liquid effluent will be discharged under our NPDES Permit. Mr. Mahaffy has been contacted concerning permitting needs and the impact of this proposal on our NPDES Permit.

What are the Solid Waste (RCRA or other) permitting requirements for this system? In what parts of design/construction/startup does your department participate? Both the storage tank and DNBP removal systems operate at very low pH. What specific construction requirements and permits will apply to these areas? The stabilized biological solids produced should be acceptable to the municipal landfill. Are there any requirements in this area?

I appreciate your consideration of this matter and look forward to discussing this project further. If you have any questions, please feel free to give me a call.

Sincerely,



John G. Hill  
Environmental Engineer

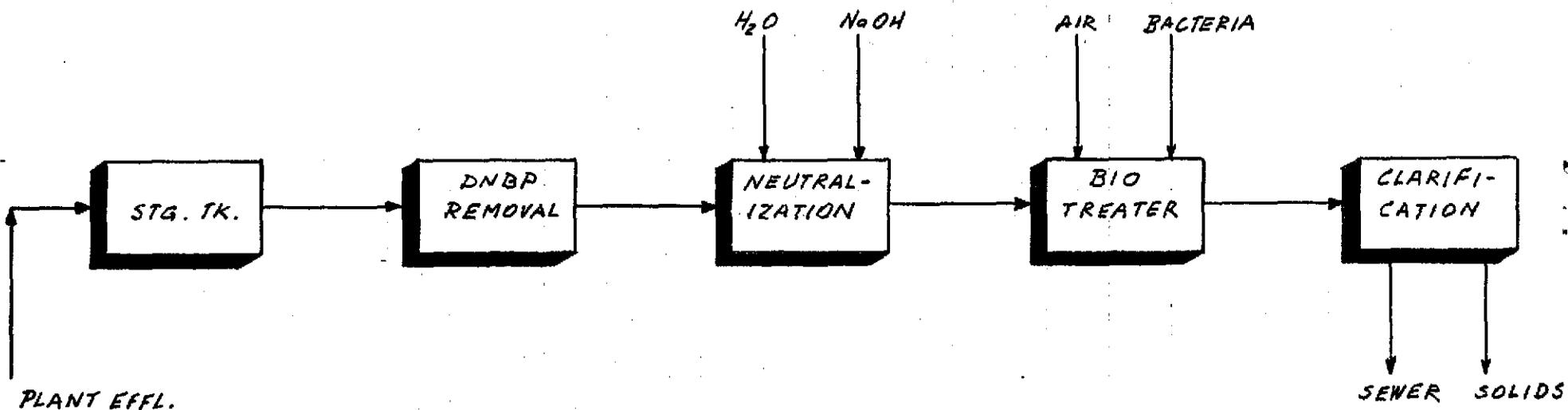
JGH/ld  
Enc.

cc - F. Ahlers

BLOCK DIAGRAM

9-25-86  
S.T.L.

THE DEVELOPED BIOTREATING SYSTEM OF VICKSBURG CHEMICAL CO.'S  
DINITROBUTYL PHENOL PLANT EFFLUENT.



# FILE COPY

October 22, 1986

Mr. Fred Ahlers  
Plant Manager  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

Re: Questions Relating to the Hazardous  
Waste Regulatory Status of  
Vicksburg Chemical Corporation

Enclosed is a list of questions related to operations at the Vicksburg Chemical Corporation since November 19, 1980. Answers should help the Bureau of Pollution Control determine whether there is a basis under the Mississippi Hazardous Waste Management Regulations (MHWMR) for regulation of your Company's surface impoundment.

The Company's written response to the questions with any associated documentation should be provided to the Bureau by November 6, 1986.

Please call me at 961-5171 if you have any questions.

Sincerely,

Sam Mabry, Director  
Hazardous Waste Division

SM:sae

Enclosures

cc: Mr. Bill Smith  
Mr. Allen Malone  
Mr. James H. Scarbrough

Questions to be Answered by Vicksburg Chemical Corporation

General Questions

1. Provide a list of all products and identifiable intermediates produced by the Vicksburg facility (both north and south plants) since November 19, 1980. Include with this list the time period(s) in which each product was produced and the quantities produced.
2. Identify all waste streams associated with the above-mentioned products. Detail the constituents in each waste stream, the route and ultimate fate of each waste stream, the time of existence of each waste stream, and the quantities involved in each waste stream. This should include all leaks, spills and regular process waste streams.
3. Designate which of the above waste streams VCC considers to be hazardous waste, and provide determination date and reports required by 40 CFR 262.11.
4. Provide any and all piping and flow diagrams (in addition to those submitted to the Bureau of Pollution Control on September 16, 1986), concerning the handling of waste streams since November 19, 1980. Indicate any changes made to the piping or flow patterns of waste streams since November 19, 1980. This should include all pertinent piping (above and below ground), open areas, ditches and/or lagoons at both the north and south facilities.
5. Provide a descriptive listing of all hazardous waste either received by VCC or shipped off-site. Indicate quantities and types manifested and all data and reports generated to determine the nature of the waste as required by 40 CFR 262.11.
6. Provide a copy of any spill reports made under the NPDES program or the CERCLA program.

Questions Relating to Specific Waste Streams

7. Has Vicksburg Chemical produced chlordane, methyl parathion or disulfoton, since November 1980?
8. If so, has any of the wastewater from the production of the above products been placed in the surface impoundments?
9. If the process wastewater was not placed into the impoundment, how was it handled?
10. If the process wastewater was placed into the impoundment, was the wastewater treated prior to its entering the impoundment?
11. EPA's background document for the listing of untreated toxaphene wastewater (K098) and sludges from toxaphene wastewater treatment (K041) specifies, "wastewater is generated from the toxaphene production processes (leaks, spills, and washdowns), as well as from the scrubbing of vent gasses in the HCL absorption and recovery step." Cedar Chemical should provide a detailed schematic of its toxaphene production process at the Vicksburg plant, describing how wastewater such as that described above was handled. If the Vicksburg plant did not generate such a wastewater, an explanation of how such wastewater generation was avoided should be provided. (A copy of the background document is enclosed.)
12. In an August 16, 1984, letter to the Mississippi Bureau of Pollution Control (MBPC), Vertac states, "In reviewing our past toxaphene discharge data I find that Vertac's last permit excursions occurred on February 16, 1982 (11.5 ppb)." Cedar Chemical should provide an explanation of the source of this toxaphene in the wastewater. (A copy of the letter is enclosed.)
13. On February 17, 1983, the MBPC sampled both the sludge from the east side of the impoundment and the stream bank on the east side of the impoundment where the impoundment dike had failed. Analysis of these samples indicated the sediments contained 280 ppm and 360 ppm of toxaphene respectively. Cedar Chemical should provide an explanation of the source of the toxaphene found in impoundment sediment samples. (Copies of the analytical results are enclosed.)



**VERTAC CHEMICAL CORPORATION**

24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

August 16, 1984

RECEIVED  
REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

Mr. William Stephen Spengler, P.E.  
Bureau of Pollution Control  
Industrial Waste Water Section  
P.O. Box 10385  
Jackson, MS 39209

Dear Steve:

In reviewing our past toxaphene discharge data I find that Vertac's last permit excursions occurred on February 16, 1982 (11.5 ppb). Since that time production has ceased and there have been no significant toxaphene concentrations reported. Would it be possible for us to continue our monitoring but on a less frequent basis than specified in our permit?

Sincerely,

*Lynn Gunnison*  
Lynn Gunnison

IG/lđ

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No. 142

I. GENERAL INFORMATION: Facility Name Vertac Chemical Co.  
 County Code Warren NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested \_\_\_\_\_  
 Sample Point Identification impoundment  
 Requested By Chuck Estes Data To Chuck Estes  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition sunny and cool Collected By Chuck Estes  
 Where Taken east side of impoundment near breach area

Type	Parameters	Preservative	Date	Time
1. <u>Sludge</u>	<u>Toxaphene, Atrazine, Cyanazine</u>	<u>cool</u>	<u>2/7/83</u>	<u>3:00</u>
2. <u>Sludge</u>	<u>DNBP</u>	<u>5ml H2SO4</u>	<u>"</u>	<u>3:15</u>
3. _____	<u>(Run totals and Ep</u>	_____	_____	_____
4. _____	<u>extract for these</u>	_____	_____	_____
5. _____	<u>parameters)</u>	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other () field truck  
 V. LABORATORY: Received By DeJonnette King Date 2/8/83 Time 0815  
 Recorded By Dorothy Lewis Date Sent to State Office 4-14-83

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	_____ *
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	_____ *
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	_____ *
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
Atrazine (EPT)	_____	(X)	<u>12550</u> ug/l	<u>MB</u>	<u>3-15-83</u>
Cyanozine(EPT)	_____	(X)	<u>650</u> ug/l	<u>MB</u>	<u>3-15-83</u>
Toxaphene(EPT)	_____	(X)	<u>&lt; 20</u> ug/l	<u>MB</u>	<u>3-15-83</u>
DNBP (EPT)	_____	(X)	_____	_____	_____
Atrazine (Total)	_____	(X)	<u>7,030</u> mg/kg	<u>MB</u>	<u>4-11-83</u>
Cyanozine (Total)	_____	(X)	<u>&lt; 112</u> mg/kg	<u>MB</u>	<u>4-11-83</u>
Toxaphene (Total)	_____	(X)	<u>280</u> mg/kg	<u>MB</u>	<u>4-11-83</u>
DNBP (Total)	_____	(X)	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks DNBP results will follow

\*Date of Test Initiation

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No. 140

I. GENERAL INFORMATION: Facility Name Vortac Chemical Co.  
 County Code Warren NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested \_\_\_\_\_  
 Sample Point Identification impoundment  
 Requested By Chuck Estes Data To Chuck Estes  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition sunny and cool Collected By Chuck Estes  
 Where Taken east side of impoundment near breach area  

Type	Parameters	Preservative	Date	Time
1. <u>Sludge</u>	<u>Toxaphene, Atrazine, Cyanazine</u>	<u>cool</u>	<u>2/7/83</u>	<u>3:00</u>
2. <u>Sludge</u>	<u>DNEP</u>	<u>5ml H2SO4</u>	<u>"</u>	<u>3:15</u>
3. _____	<u>(Run totals and Es</u>	_____	_____	_____
4. _____	<u>extract for these</u>	_____	_____	_____
5. _____	<u>parameters)</u>	_____	_____	_____

III. FIELD:  

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other () field truck  
 V. LABORATORY: Received By DeJannette King Date 2/8/83 Time 0815  
 Recorded By Dorothy Lewis Date Sent to State Office 4-14-83

Analysis	Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
Atrazine (EPT)	_____	( <input checked="" type="checkbox"/> )	<u>12550</u> ug/l	<u>MB</u>	<u>3-15-83</u>
Cyanazine (EPT)	_____	( <input checked="" type="checkbox"/> )	<u>650</u> ug/l	<u>MB</u>	<u>3-15-83</u>
Toxaphene (EPT)	_____	( <input checked="" type="checkbox"/> )	<u>&lt; 20</u> ug/l	<u>MB</u>	<u>3-15-83</u>
DNEP (EPT)	_____	( <input checked="" type="checkbox"/> )	_____	_____	_____
Atrazine (Total)	_____	( <input checked="" type="checkbox"/> )	<u>7,030</u> mg/kg	<u>MB</u>	<u>4-11-83</u>
Cyanazine (Total)	_____	( <input checked="" type="checkbox"/> )	<u>&lt; 112</u> mg/kg	<u>MB</u>	<u>4-11-83</u>
Toxaphene (Total)	_____	( <input checked="" type="checkbox"/> )	<u>280</u> mg/kg	<u>MB</u>	<u>4-11-83</u>
DNEP (Total)	_____	( <input checked="" type="checkbox"/> )	_____	_____	_____

Remarks DNEP results will follow

\*Date of Test Initiation \_\_\_\_\_

BUREAU OF POLLUTION CONTROL  
 SAMPLE REQUEST FORM

Lab Bench No. 141

I. GENERAL INFORMATION: Facility Name Vertac Chemical Co.  
 County Code Warren NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested \_\_\_\_\_  
 Sample Point Identification stream bank  
 Requested By Chuck Estes Data To Chuck Estes  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition sunny and cool Collected By Chuck Estes  
 Where Taken on the east side of the impoundment levee at the breach area near the stream  

Type	Parameters	Preservative	Date	Time
1. Sludge	Toxaphene, Atrazine, Cyanazine	Cool	2/7/83	3:10
2. Sludge	DNBP	5ml H2SO4	2/7/83	4:00
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

III. FIELD:  

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other () Field truck  
 V. LABORATORY: Received By DeJonnette King Date 2/8/83 Time 0815  
 Recorded By Dorothy Lewis Date Sent to State Office 4-14-83

Analysis	Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
Toxaphene	_____	(X)	360 mg/kg	MB	4-12-83
Atrazine	_____	(X)	645 mg/kg	MB	4-12-83
Cyanazine	_____	(X)	<112 mg/kg	MB	4-12-83
DNBP	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks DNBP results will follow when completed

\*Date of Test Initiation



LISTING BACKGROUND DOCUMENT

TOXAPHENE PRODUCTION

Wastewater Treatment Sludge from the Production of Toxaphene (T)

Untreated Process Wastewater from the Production of Toxaphene (T)

I. Summary of Basis for Listing

The production of toxaphene, a chlorinated hydrocarbon pesticide, results in the generation of process wastewater containing heavily diluted concentrations of toxaphene, and wastewater treatment sludges that contain approximately one percent of toxaphene by weight.

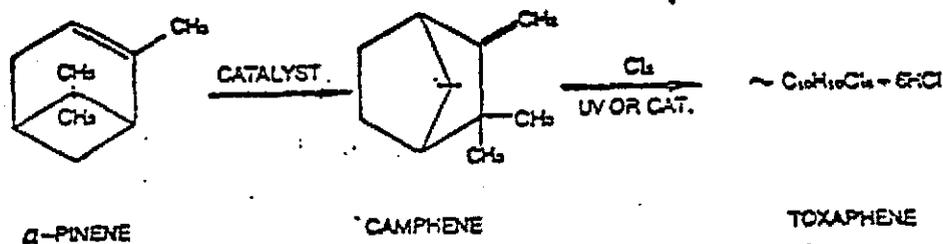
The Administrator has determined that process wastewater and wastewater treatment sludge from toxaphene production may pose a substantial present or potential hazard to human health or the environment when improperly transported, treated, stored, disposed of or otherwise managed, and therefore should be subject to appropriate management requirements under Subtitle C of RCRA. This conclusion is based on the following considerations:

- 1) Toxaphene is present in each of these waste streams; in the case of the wastewater treatment sludge, if it is found in very high concentrations. Toxaphene has been reported to cause cancer in laboratory animals and is extremely toxic. Toxaphene has also been recognized by the Agency as exhibiting substantial evidence of being carcinogenic. It is also a potent teratogen and has been shown to be mutagenic.
- 2) Approximately 7 tons of wastewater treatment sludge containing about 140 lbs. of toxaphene are generated per production day. About 19,000 tons of sludge are already disposed of in a landfill in Georgia. (5)



B. Manufacturing Process

Toxaphene is produced in essentially the same manner by both domestic manufacturers. The reaction chemistry is as follows:(19)



C. Waste Generation and Management\*

At the Hercules plant, wastewater is generated from the toxaphene production process (leaks, spills and washdowns), as well as from the scrubbing of vent gases in the HCl absorption and recovery step (see Figure 1).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(2)

\_\_\_\_\_

(3)

\_\_\_\_\_

\_\_\_\_\_ (2) The treated wastewater is directly discharged to a navigable waterway.

In Hercules' toxaphene wastewater treatment system, an average of 7 tons/day of wastewater treatment sludge (settled solids) is generated.(4,5)\* The sludge results from the addition of diatomaceous earths

\*Variations in wastewater treatment systems or in wastewater sources at the two plants may result in different concentrations of toxaphene in the wastewater treatment sludges.

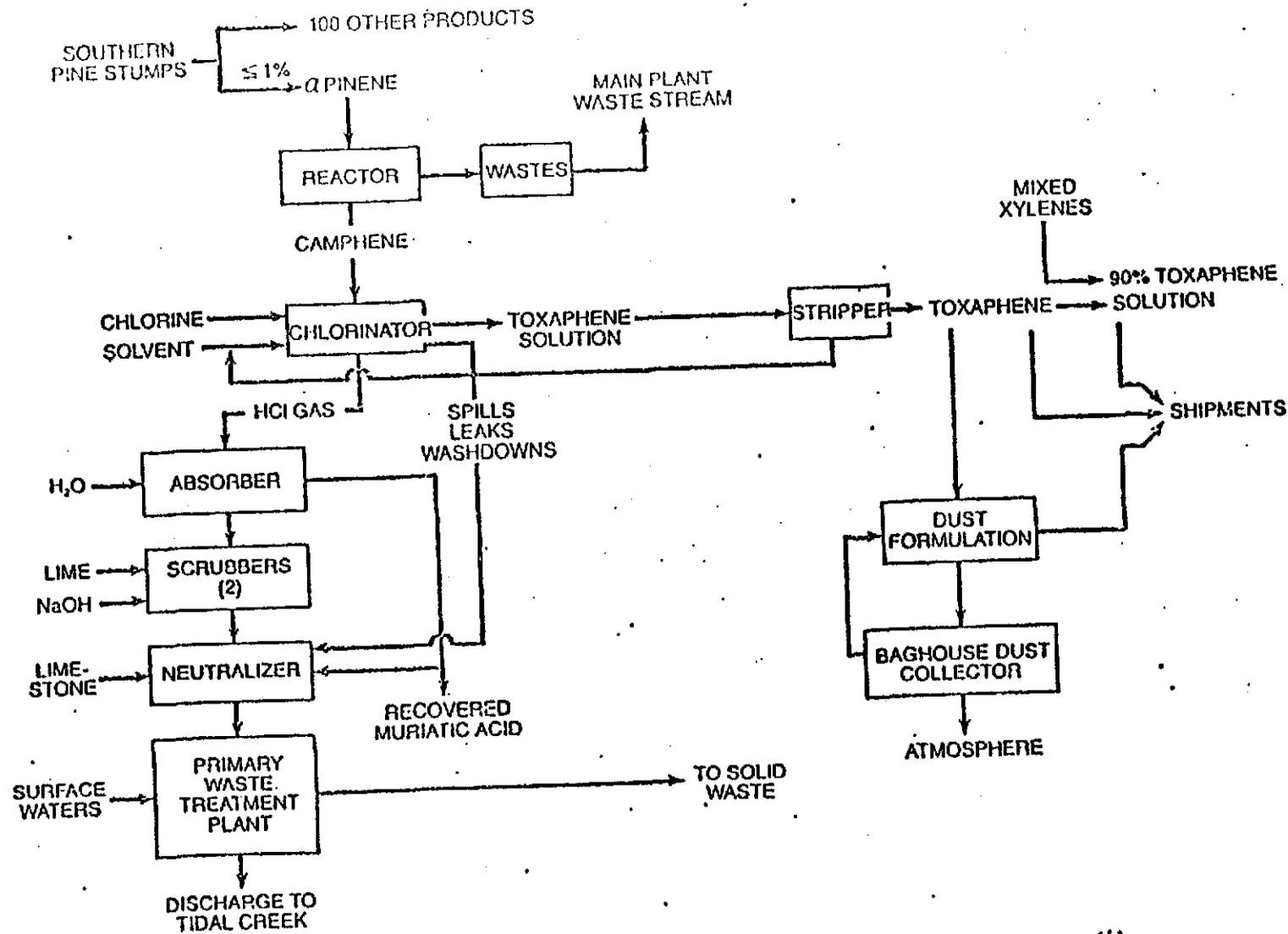


Figure 1. HERCULES' PRODUCTION AND WASTE SCHEMATIC FOR TOXAPHENE (4)

and lime to the wastewater as sorption agents for the removal of toxaphene from the wastewater.(5) The solids are allowed to settle in holding ponds and may remain there for months at a time.(13) After the basin is filled with solids it is taken off line and the sludge is allowed to dry to approximately 50% solids.(5) Analyses of the sludge performed by Hercules indicate that the sludge contains approximately one percent toxaphene by weight, or 10,000 mg toxaphene/kg of sludge.(5) Some 140 lb/day of toxaphene are generated and will be contained in this waste stream.(4,5)

The ultimate destination of the toxaphene wastewater treatment sludge generated at the Hercules plant is a state-approved landfill.(6) The landfill is known as the "009" landfill and is a privately owned site operating under Georgia permit. It is used exclusively for the disposal of the toxaphene wastewater treatment sludge generated at the Hercules Plant.(6) The "009" landfill used for disposal of the Hercules toxaphene wastewater treatment sludge has a bentonite clay liner, and has 6 monitoring wells which are monitored 4 times per year. To date, no toxaphene has been detected in the wells.(6)

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(3).

(5)

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(3,5)

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(3)

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\_\_\_\_\_\* This pond, or lagoon, is unlined.<sup>(14)</sup> The treated wastewater is discharged to the Mississippi River.

III. Discussion of Basis for Listing

A. Hazards Posed by the Waste

As noted above, in the Hercules toxaphene wastewater treatment system, an average of 7 tons/day of waste sludge are generated.<sup>(4,5)</sup> The toxaphene content in the waste sludge is approximately at one percent by weight or 10,000 mg/Kg sludge. High concentrations of toxaphene are undoubtedly present in process wastewater to account for such high concentrations in the sludge.

Toxaphene is an exceptionally dangerous waste constituent. It is extremely toxic, highly bioaccumulative, and has been reported to cause cancer in laboratory animals. It is also a potent teratogen and has been shown to be mutagenic. Toxaphene is regulated as a toxic pollutant under §307(a) of the Clean Water Act. After an adjudicative

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\*No data is currently available on the amount of wastewater treatment sludges (settled solids) generated at the Vertac plant. Nor is any data available on the concentrations of toxaphene in these sludges.

proceeding, a discharge concentration limitation of 1.5 ppb has been established for toxaphene discharges into navigable waters, and this discharge limitation was judicially upheld in Hercules, Inc. v. EPA, 598 F. 2d 91 (D.C. Cir 1978). (The administrative and judicial records are incorporated by reference into this listing background document.) The Agency has also established a national interim primary drinking water standard of .005 mg/l for toxaphene. (That administrative record is likewise incorporated by reference.)

The wastes are listed as toxic based on the potential for waste mismanagement and resulting environmental harm. Toxaphene is both mobile and persistent, having frequently been found in clarified and treated municipal drinking water.(18) Existing waste management methods could lead to release of waste toxaphene. Wastewaters are presently treated in holding ponds. Waste treatment sludge, if generated, is now disposed in landfills and unlined lagoons. Disposal in landfills represents a potential hazard if the landfill is improperly designed or operated. This can result in leaching of hazardous compounds and subsequent contamination of ground water. Disposal in unlined lagoons also represents a potential hazard since the wastes may leach directly into the ground, resulting in possible groundwater contamination. Care must be taken to ensure that the lagoons and landfills used for storage or disposal of the toxaphene product wastes are properly designed and operated (e.g., lined with an appropriate thickness of impervious materials or provided with leachate collection/ treatment systems) to prevent contamination of groundwater or surface water.

Prior to disposal in the "009" landfill, the Hercules plant treats these wastes in holding ponds which, if not properly designed and operated, may result in groundwater or surface water contamination. The high water table and the sandy composition of the soil at the location of the Hercules plant in Brunswick, Ga., make careful management of these wastes particularly important. (13)\*

Wastewater treatment sludge could also create a hazard if improperly managed. Although the sludges appear to be managed properly at the present time (suggesting that industry regards these wastes as hazardous), proper management of an otherwise hazardous waste does not make the waste non-hazardous.

One final reason for regulatory concern is noteworthy. Since toxaphene bioaccumulates in environmental receptors by factors of as much as 300,000<sup>(7)</sup>, if only a small amount leaches into the environment, a serious health hazard would be created. In the soil, toxaphene may persist from several months to more than 10 years (soil half-life is 11 years, Appendix B). It has also been shown to persist for up to 9 years in lakes and ponds.<sup>(7)</sup> Thus, the potential for human exposure is considerable. The potential for substantial hazard is, therefore, very high.

The need for the most careful management of toxaphene-containing substances is thus well-established. In light of the documented health and environmental hazards associated with toxaphene, and the fact that substantial hazard is caused by ingestion of extremely small (ppb) toxaphene concentrations, the Agency believes it is justified in listing this waste.

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\*It should be noted that Hercules' past effluent management practices have not always been adequate, as Hercules has conceded that its past effluent discharge "'had an adverse effect upon the ecology' of local waters." (18)

B. Health and Ecological Effects

1. Toxaphene

Health Effects - Toxaphene is extremely toxic [oral rat LD<sub>50</sub> = 40 mg/kg].<sup>(8)</sup> Death in humans from ingestion of this dosage has also been reported.<sup>(9)</sup> Toxaphene is also lethal to animals by inhalation and skin absorption at dosages of 1 g/kg or less.<sup>(10)</sup>

This chemical is teratogenic in mice when administered orally at a relatively small dose (350 mg/kg).<sup>(11)</sup> Toxaphene is carcinogenic in rats and mice, causing a significant increase in the incidence of thyroid and liver cancers when administered in the diet.<sup>(12)</sup> A significant increase in liver cancer has been reported in mice at dietary levels of 50 ppm.<sup>(15)</sup>

Toxaphene and its subfractions have been found mutagenic in the standard bacterial assay (S. typhimurium, strain TA100).<sup>(16)</sup>

Ecological Effects - Toxaphene is extremely toxic to fish, and toxic to lower aquatic organisms, birds, and wild animals. The LD<sub>50</sub> (96-hour) of toxaphene in static bioassays is 3.5, 5.1 and 14 ng/l for bluegills, fathead minnows, and goldfish, respectively.<sup>(7)</sup> Toxaphene is also capable of producing deleterious effects in fish at levels as low as 0.39 ng/l, and bioaccumulates by factors of as much as 300,000.<sup>(7)</sup>

Regulations - Toxaphene has an OSHA standard for air, TWA = 500 mg/m<sup>3</sup> (Skin, SCP-F). Toxaphene is listed as a priority pollutant in accordance with §307(a) of the Clean Water Act of 1977. A 0.005 mg/l EPA National Interim Primary Drinking Water Standard has been established for toxaphene.

Industrial Recognition of Hazard - Toxaphene has been rated by Sax, Dangerous Properties of Industrial Materials<sup>(15)</sup> to be highly toxic through ingestion, inhalation, and skin absorption.

Additional information and specific references on adverse effects of toxaphene can be found in Appendix A.

#### IV. References

1. 1977 Directory of Chemical Producers. Stanford Research Institute. Menlo Park, California.
2. Proprietary information submitted by Hercules, Inc. to the U.S. Environmental Protection Agency in 1978 response to "308" letter.
3. Proprietary information submitted by Vicksburg Chemical Company to the U.S. Environmental Protection Agency in 1978 response to "308" letter.
4. Meiners, A. F., C.E. Mamma, T. L. Ferguson, and G. L. Kelso. Westwater Treatment Technology Documentation for Toxaphene Manufacture. Report prepared by the Midwest Research Institute for the U.S. Environmental Protection Agency. EPA-400/9-76-013. February 1976.
5. Telephone communication to: Ms. Jennifer Kaduck, State of Georgia, Land Protection Division, Department of Natural Resources, Atlanta, Georgia (404-656-2833), February 28, 1980 (Edward Monnig, TRW).
6. Telephone communication to: Ms. Jennifer Kaduck, State of Georgia, Land Protection Branch, Environmental Protection Division, Department of Natural Resources, Atlanta, Georgia, 12 February 1980. (S. Quinlivan, TRW).
7. Criteria Document for Toxaphene. U.S. Environmental Protection Agency. EPS-440/9-76-0k14. June 1976.
8. Special Publication of Entomological Society of America. College Park, MD, Vol. 74:1 (1974).
9. Clinical Memorandum on Economic Poisons. U.S. Dept. HEW, PHS. COC, Atlanta, GA. p.1, 1956.
10. Council on Pharmacy and Chemistry. Pharmacologic Properties of Toxaphene, a chlorinated Hydrocarbon insecticide. JAMA 149:1135-1137, July 19, 1952.
11. Chernaff, N. and Carber, B.D. Fetal toxicity of toxaphene in rats and mice. Bull. Environ. Contam. Toxicol. 15:660-664, June, 1976.
12. National Cancer Institute. (1977) Guidelines for Carcinogenesis Bioassays in Small Rodents. Tec. Rep. No. 1 Publ. No. 017-042-00118-8. U.S. Govn. Print. Office, Washington, D.C.

IV. References (Continued)

13. Telephone Communications to: Ms. Jennifer Kadinck, et al., State of Georgia, Land Protection Division, Department of Natural Resources, Atlanta, Georgia, 8 April 1980. (Robert Karmen, EPA)
14. Telephone Communication: John King (EPA) to Edward Monmig (TRW), 8 April 1980.
15. Litton Bionetics, Inc. Carcinogenic evaluation in mice. Toxaphene Final Report. LBI Project No. 20602. Kensington, MD. Submitted to Hercules, Inc., Wilmington, Del., Nov. 1978.
16. Hill, R.N. (1977) Mutagenicity Testing of Toxaphene Memo dated Dec. 15, 1977, to Fred Hageman. Off. Spec. Pestic. Rev. U.S. Environmental Protection Agency, Washington, D.C.
17. Sax, N. Irving, 1975. Dangerous Properties of Industrial Materials. Fourth Edition, Van Nostrand Reinhold, New York.
18. Hercules, Inc. v. EPA, 598 F. 2d 91, 99 (D.C. Cir. 1978).
19. Lawless, E.W. Pesticide Study Series -5- "The Pollution Potential in Pesticide Manufacturing," Technical Studies Report; TS-00-72-04. Washington, U.S. GPO, 1972.

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26<sup>TH</sup> FLOOR

100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103

901/525 1711

EAST OFFICE

SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756 6300

CHARLES A. METCALF 1847-1924  
WILLIAM F. METCALF 1872-1947  
JOHN W. APPERSON 1896-1946

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
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ROBERT L. DINKELSPIEL  
MICHAEL E. HENGOLEY  
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JOHN L. RYDER  
COLBY S. MORGAN JR.  
TONI CAMPBELL PARKER  
J. KEITH MCCORMIC

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

October 7, 1986

HAND-DELIVERED

Mr. Sam Mambry  
Director, Division of Solid  
Hazardous Waste Management  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

Re: Cedar Chemical Corporation  
Commission Order No. 1046-86

Dear Mr. Mambry:

It is my understanding from recent conversations with you and Cedar's local counsel, Bill Smith, that both your agency as well as EPA Region IV are now in agreement that, insofar as dinoseb contamination of soils and sediments at the Plant is concerned, RCRA Regulations are not applicable to the surface impoundment at Cedar's Vicksburg Plant, by virtue of the de minimis exception to the so-called "mixture rule" (MHWMR 261.3(a)(2)(iv)).

I also understand that your agency and the EPA would now like to expand the scope of the hearing to determine if there is some other basis for asserting RCRA jurisdiction - specifically, to determine if the "mixture rule" would be applicable by virtue of production of some product at the Plant other than dinoseb, which may have generated a hazardous waste. As you know, it was stipulated at the hearing that the "mixture rule" was deemed applicable solely as a result of the presence of dinoseb in soils and pond sediment at the Plant. Since this was the issue that we asked our consultants and witnesses at the hearing to address, my client is naturally concerned about agreeing to expand the scope of the hearing after it has been concluded by supplementing the record with responses to questionnaires and additional test data. This letter, however, is intended to afford a basis on which the record might be expanded to cover the additional issues that are now being raised in a manner that my client can accept.

Mr. Sam Mambry  
October 7, 1986  
Page Two

First, to be sure that there is no misunderstanding about the expanded scope of the hearing which you are proposing, it is my understanding that the new inquiry is focusing on past production of toxaphene at the Plant inasmuch as untreated process wastewater from toxaphene production, as well as wastewater treatment sludge resulting therefrom, have been classified as hazardous wastes under RCRA (K098 and K041 respectively) (It can easily be documented that the other three products which have been mentioned as candidates for review - chlordane, disulfaton and phorate - have never been produced at the Plant.)

I trust we can agree, based on EPA's Listing Background Document for toxaphene production, that K098 and K041 are listed as hazardous waste due to toxaphene concentrations of approximately 1% by weight in the wastewater treatment sludge at Hercules' Brunswick, Georgia Plant, and what EPA assumed to be even higher concentrations of toxaphene in the untreated processed wastewater which resulted in the sludges.

I am satisfied from discussions with Plant personnel that no such wastes were ever generated at the Vicksburg Plant. A review of the background document and other literature will demonstrate that Hercules' production method involved the filtering of toxaphene solution from the chlorinator, which system produced the seven tons of sludge which were generated daily by Hercules, according to the background document. No such procedure was used in connection with the Vicksburg process, and no such contaminated process wastewater streams or sludges were generated.

While the Vicksburg Plant did generate relatively small quantities of scrubber water from its air emission scrubber in connection with the HCl recovery system, this particular waste stream would not have contained any detectable toxaphene contamination. I trust we can agree that such a waste stream, by itself, would not be within the K098 classification contemplated by RCRA Regulations. I am certain that we can demonstrate to your satisfaction that no other wastewater was generated, either directly or indirectly, as a result of toxaphene production at the Vicksburg Plant.

The only remaining possible inquiry, it seems to me, would be whether any trace levels of toxaphene in the Pond sediment at the Plant which might have derived from past de minimis

Mr. Sam Mambry  
October 7, 1986  
Page Three

losses would exceed .5 ppm using the EP toxicity method, thereby causing the pond sediment to be classified as D015 waste under 40 CFR 261.24. This question, however, has already been answered by past test data - both that of the State and of Cedar. In 1983, the State analyzed two grab samples of sediment from the east side of the impoundment. One indicated 360 ppm toxaphene and the other indicated 280 ppm. The sample that showed 280 ppm, when subjected to the EP toxicity method, showed less than 20 parts per billion toxaphene. More recently, our client took the two Pond sediment samples which the State split with the Company in connection with the August, 1986 sampling and submitted them to the Environmental Protection Systems Laboratory in Jackson, Mississippi for EP toxicity analysis. Despite the fact that these samples might be expected to contain high levels of toxaphene relative to other portions of the Pond, in both cases no toxaphene was detected at the Lab's limit of detection of less than ten parts per billion. Copies of the analytical results referred to are enclosed herewith.

Based on the foregoing, we would propose that Cedar respond to a questionnaire relative to past production of toxaphene and other products at the Plant in order to document that no K098 or K041 wastes were ever generated at the Plant, and that the other products whose wastewaters have been classified as hazardous under RCRA were never produced at the Plant. We would further agree that the administrative record could be supplemented by inserting these responses and further, that the record could include the analytical data on toxaphene described above. We cannot see any need for further supplements to the record and would propose that, with these supplements, the Commission should have no difficulty in ruling on Cedar's Motion to Dismiss.

As soon as you have had an opportunity to review this letter, I would like to discuss it with you and Bill Smith by conference call so we can get this matter concluded without further delay.

Sincerely yours,

Allen T. Malone

ATM:jw  
cc: Mr. William L. Smith



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Upton Drive • Jackson, MS 39209  
Telephone (601) 927-8247  
(800) 523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone (904) 944-0301  
(800) 874-0272

## LABORATORY REPORT

86.1.2929

2/2

CLIENT: Vicksburg Chemical  
LOCATION: Vicksburg, Mississippi  
DATE: 09/26/86  
INVOICE NO.: 010870/ncr

COLLECTED BY: Client (7954)  
DATE COLLECTED: 09/03/86  
DATE RECEIVED: 09/08/86  
DATE ANALYZED: 09/24/86

## LABORATORY SAMPLE IDENTIFICATION

86094958 - Pond Inlet Sludge  
86094959 - Pond Cross-Over Sludge

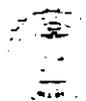
ANALYSES	IDENTIFICATION NO.			QUALITY CONTROL	
	4958	4959		STANDARD OF SPRAT VALUE	RECOVERY DEVIATION
Methoxychlor, EP Leachable, mg/l	<0.01	<0.01			
Toxaphene, EP Leachable, mg/l	<0.01	<0.01			
2,4 - D, EP Leachable, mg/l	<0.01	<0.01			
2,4,5 - TP Silvex, EP Leachable, mg/l	<0.01	<0.01			
"EP TOXICITY" Extraction	Yes	Yes			

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, July, 1982, Test Methods for Evaluating Solid Waste (SW-846).

## CERTIFICATION

*Donalea Dismore King*  
MANAGER ANALYTICAL SERVICES



*Arthur Carmichael*  
MANAGER ANALYTICAL SERVICES



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Lorton Drive • Jackson, MS 39209  
Telephone: 601-922-8242  
800-323-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-944-0301  
800-874-0272

## LABORATORY REPORT

86.1.3024

1/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105548 - Soil Sample A  
86105549 - Soil Sample B  
86105550 - Soil Sample C  
86105551 - Soil Sample D

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5548	5549	5550	5551	STANDARD OR SPIKE	RECOVERY	PRECISION
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnson*  
MANAGER QUALITY ASSURANCE



*Arthur Canine*  
MANAGER ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 30382 • 160 Lorton Drive • Jackson, MS 39209  
Telephone: 601-933-8242  
800-633-0659

7215 Pine Forest Road • Pensacola, FL 32516  
Telephone: 904-944-0301  
800-874-0272

## LABORATORY REPORT

86.1.3024

2/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105552 - Soil Sample E  
86105553 - Soil Sample F  
86105554 - Soil Sample G  
86105555 - Soil Sample H

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5552	5553	5554	5555	STANDARD OR SPIN VALUE		
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER QUALITY ASSURANCE



*Arthur Canine*  
MANAGER ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 John Drive • Jackson, MS 39209  
Telephone: 601-920-8042  
800-371-0688

1215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-344-0301  
800-374-0272

## LABORATORY REPORT

86.1.3024

3/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105556 - Soil Sample I  
86105557 - Soil Sample J  
86105558 - Soil Sample K  
86105559 - Soil Sample L

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5556	5557	5558	5559	STANDARD OR SPEC. VALUE		
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER, QUALITY ASSURANCE



*Arthur Carmichael*  
MANAGER, ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Union Drive • Jackson, MS 39209  
Telephone: 601-323-8242  
800-523-2659

7213 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-344-3301  
800-874-0272

## LABORATORY REPORT

86.1.3024

4/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105560 - Soil Sample M  
86105561 - Soil Sample N  
86105562 - Soil Sample O  
86105563 - Soil Sample P

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5560	5561	5562	5563	STANDARD OR SPINE VALUE		
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER QUALITY ASSURANCE



*Arthur Carmel*  
MANAGER ANALYTICAL DEPARTMENT



LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26TH FLOOR

100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103

901/525-1711

EAST OFFICE

SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

CHARLES W. METCALF 1840-1924  
WILLIAM P. METCALF 1872-1940  
JOHN W. APPERSON, 1896-1985

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
COLBY S. MORGAN, JR.  
TONI C. PARKER

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

October 20, 1986

Colonel Charles L. Blalock  
Executive Director  
Mississippi Department of Natural Resources  
P. O. Box 20305  
Jackson, Mississippi 39209

Re: Mississippi Commission on Natural Resources  
Order No. 1046-86

Dear Colonel Blalock:

This letter is submitted on behalf of Cedar Chemical Corporation, Respondent in the referenced Order, in support of its motion to dismiss the complaint referred to in the Order, which was heard at the last Commission Meeting on September 16, 1986. I would be obliged if you would enclose copies of this letter to be delivered to the Commission members and make available the documents enclosed herewith, namely:

Item 1. Post-Hearing Memorandum on behalf of Cedar Chemical Corporation;

Item 2. Copy of my letter dated October 7, 1986 to Sam Mambry, Director of Division of Solid Hazardous Waste Management, Mississippi Department of Natural Resources.

Item 3. Copy of the test results referred to in the third page of my letter to Mr. Mambry, relative to concentrations of toxaphene in the sediment of the surface impoundment, which was the subject of the hearing last month.

Item 4. Additional results of toxaphene analysis, by weight, of the 18 retained pond sediment samples gathered by the respondent in September, 1986 (which were heretofore submitted for analysis of dinoseb, by weight, the results of which were presented at the hearing last month).

Colonel Charles L. Blalock  
October 20, 1986  
Page Two

As the Commission will recall, it was stipulated by the Department at our hearing last month that the sole basis for regulation of the subject surface impoundment under RCRA related to dinoseb manufacturing operations at Cedar's Vicksburg Facility, including trace levels of dinoseb contamination in soils and sediments at the Plant. Our preparation for the hearing, as well as our preparation of the enclosed Post-Hearing Brief (Item 1) were based on that position.

We have now been advised that the Department does not contest our client's position with respect to dinoseb, but we further understand that the Environmental Protection Agency has urged the Department to expand the scope of the hearing to determine if RCRA Regulation of the surface impoundment can be justified by the presence of some other contaminant or some other previous manufacturing activity at the Plant - specifically, activities related to toxaphene manufacture which ceased in March, 1982. My letter to Mr. Mambry of October 7, 1986, addressed these new issues (See Items 2 and 3 enclosed). Immediately thereafter Cedar commissioned analysis of additional samples (See Item 4), which indicated no toxaphene contamination at the limit of detection reported by the laboratory of .1 parts per million.

It was hoped, that the procedure suggested in my letter to Mr. Mambry, together with the subsequent test results (Item 4), which were delivered to him would afford a basis for concluding these matters by agreement prior to the next Commission meeting. It now appears, however, that the scope of the inquiry is broadening to include matters that we do not view to be relevant to the issue which was put before the Commission last month - namely, whether the surface impoundment should be subjected to regulation (and immediate closure) under RCRA Regulations.

We have attempted to cooperate with the Department in supplying information it has requested, and Cedar will continue to do so in the future. Nevertheless, we submit that Cedar is entitled to a decision on its motion based on the testimony and evidence presented at the hearing on September 16, 1986. We therefore respectfully request that the Commission act on Cedar's Motion to Dismiss, and find, as we believe it must, that the sub-

APPERSON, CRUMP, DUZANE & MAXWELL

Colonel Charles L. Blalock  
October 20, 1986  
Page Three

ject surface impoundment is not subject to RCRA Regulation for the reasons outlined in the Post-Hearing Memorandum enclosed herewith.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Allen T. Malone", with a long horizontal flourish extending to the right.

Allen T. Malone

ATM:jw

Enclosures

cc: Mr. William L. Smith  
Mr. George Williamson  
Mr. Charles H. Chisohm

BEFORE THE MISSISSIPPI COMMISSION ON NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

---

IN THE MATTER OF:

MISSISSIPPI COMMISSION  
ON NATURAL RESOURCES,

vs.

ORDER NO. 1046-86

CEDAR CHEMICAL CORPORATION  
(Successor to Vertac Chemical  
Corporation)

---

POST-HEARING MEMORANDUM

---

This Memorandum is submitted on behalf of Cedar Chemical Corporation ("Cedar") at the Commission's request following a hearing held before the Commission on September 16, 1986 to consider Cedar's Motion to Dismiss referred to in Paragraph 7 of the Commission's Order No. 1046-86 entered August 26, 1986.

ISSUES: The ultimate issue raised in Cedar's Motion is whether the surface impoundment located at Cedar's "South Plant" in Vicksburg, Mississippi (the "Pond") is a facility used for the treatment, storage or disposal of "hazardous waste," as defined by the Mississippi Hazardous Waste Management Regulations ("RCRA Regulations"), and therefore a "regulated unit" subject to those RCRA Regulations affecting such facilities.

a. That liquid from the Pond is discharged pursuant to a Section 402 Clean Water Act Permit;

b. That the only hazardous waste going into the Pond is a chemical product listed in Section 261.33 (in this case, dinoseb);

c. That the dinoseb entering the Pond was produced in the course of manufacturing operations at the facility.

d. That the dinoseb entering the Pond derives only from losses of this product in the course of manufacturing operations at the facility;

e. That dinoseb losses at the facility are "de minimus" as that term is used in the applicable regulation; and

f. That no dinoseb entering the Pond derived from deliberate discarding or major leaks or spills of hazardous waste, including dinoseb. (See Cedar Exhibit 1)

Based on testimony of Mr. Dietrich, which was not contested by the MDNR, the above findings of fact would lead to a legal conclusion that the de minimus exception under RCRA is applicable, thereby exempting the Pond from RCRA Regulations affecting s hazardous waste facilities.

#### PROPOSED FINDINGS OF FACT

1. Is the liquid from the Pond discharged pursuant to a Section 402 Clean Water Act Permit?

The Mississippi Department of Natural Resources ("MDNR") contends that the Pond is properly designated a RCRA Facility by virtue of the so-called "mixture rule" at MHWMR 261.3(a)(2)(iv).

Cedar contends that the so-called "de minimis exception" to the mixture rule, codified at MHWMR 261.3(a)(2)(iv)(D), is applicable to the Pond, therefore taking the Pond out of what would otherwise be classified as a RCRA Facility, and permitting the Company to avoid what otherwise would be a mandatory closure of the Pond under RCRA.

The MDNR also suggested at the hearing that leaks of dinitrobutylphenol (dinoseb or DNBP) waste stored at the South Plant were not properly within the designation of manufacturing operations and could have entered the Pond, thereby making the Pond ineligible for the de minimis exception to the mixture rule.

Cedar contends that the only losses of dinoseb at the South Plant which could conceivably have been discharged to the Pond (either in the form of rainwater runoff or through the Plant's sewer system) have been losses which are squarely within the "de minimus exception" covered by MHWMR 261.3(a)(2)(iv)(D).

According to testimony of Gary N. Dietrich, who formerly served as Director of the Office of Solid Waste of the Environmental Protection Agency and who supervised the drafting of the RCRA "de minimus exception," a determination of whether the Pond is exempt from RCRA regulation under the de minimus exception requires the following findings:

Based on evidence presented at the hearing, which was undisputed by the MDNR, Cedar and its predecessors have operated the Pond as a point source for discharges pursuant to a Section 402 Clean Water Act Permit since prior to the effective date of RCRA.

2. Is the only hazardous waste entering the Pond a chemical product listed under MHWMR 261.33, and is this product in fact dinoseb?

Based on evidence presented at the hearing, which was undisputed by the MDNR, the commercial product, dinoseb, when discarded, is a hazardous waste listed under MHWMR 261.33, and is the only such hazardous waste shown to enter the Pond.

3. Is the dinoseb entering the Pond produced in the course of manufacturing operations at Cedar's facility?

It is undisputed that Cedar and its predecessors have been engaged in the manufacture of dinoseb at the South Plant at Cedar's Vicksburg facility since 1973, and the only dinoseb that could have conceivably entered the Pond since 1973 was dinoseb manufactured at the facility.

4. Does dinoseb which enters the Pond derive only from losses of dinoseb from manufacturing operations at the facility?

The MDNR suggested several possibilities that, in its view, could remove the Pond from the de minimis exception, each on the theory that some quantities of dinoseb introduced into the Pond may not have derived from "manufacturing operations" at the

South Plant. First, counsel for the MDNR implied that because dinoseb process wastewater once entered the Pond, MDNR may take the position that the Pond cannot be exempted from RCRA regulation under the de minimis exception. Second, the MDNR theorized that the contents of some drums stored in the returned product and hazardous waste storage areas may have contained spent carbon which could have leaked from the drums and found its way into the Pond. Finally, it was argued that carbon particles with dinoseb attached might constitute hazardous waste which could serve to take the Pond out of the exception when the particles are back-washed into the Pond in the carbon filter cleaning process. The regulations and evidence developed at the hearing do not support the MDNR's theories.

Mr. Estes of MDNR agreed with Mr. Dietrich that dinoseb process wastewater is not a listed hazardous waste. Therefore, the fact that some of the wastewater may have entered the Pond in the past is irrelevant to the issue presently before the Commission.

Likewise, the evidence at the hearing failed to demonstrate that the contents of the subject drums was hazardous waste. Moreover, even if the drums had contained spent carbon which had absorbed dinoseb, as MDNR surmised, Mr. Dietrich testified that such is not a listed hazardous waste. Further, there was no evidence whatsoever that any of the contents of the drums was ever introduced into the Pond. Indeed, Mr. Keen

testified that water run-off from the areas where the drums may have been stored cannot find its way into the Pond because sewer pipes in the returned product and hazardous waste storage areas are segregated from the main sewer system which empties into the Pond.

Similarly, Mr. Dietrich testified that discharge of backwash from filter-cleaning operations merely constitutes a recycling of wastes removed from the Pond in the first place, and that such backwash does not constitute hazardous waste under RCRA. It is also submitted that such discharges are consistent with the "normal materials handling operations" described in the de minimis exception (e.g., "discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers . . .") and thus by definition fall within the term "manufacturing operations."

In summary, apart from the debatable question whether the waste handling procedures described above are part of the Plant's "manufacturing operations," the record does not reflect that any "hazardous waste" could have been lost in the course of such procedures and entered the Pond.

5. Are prior and current losses of dinoseb from manufacturing operations de minimis?

The undisputed evidence adduced at the hearing clearly demonstrates that the dinoseb which has entered the Pond derived

only from de minimis losses of the product in the manufacturing operations at the facility.

MHWMR 261.3(a)(2)(iv)(D) provides examples of types of losses from manufacturing operations which are considered de minimis. They include:

those from normal material handling operations (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; . . . .

Mr. Keen, who has worked in various supervisory capacities at the facility since 1972 and has been Product Manager since 1982, testified concerning the losses which occur in the dinoseb manufacturing operations at the facility. The types of losses described by Mr. Keen are in most cases identical to the ones given as examples in the regulation and the others are closely analagous. Mr. Dietrich testified that, in his opinion, the types of losses which occur at the facility are exactly the type he and the EPA had in mind when the de minimis exception was promulgated in 1981.

Mr. Dietrich sponsored exhibits (Cedar Exhibit Nos. 5 and 6) and testimony which reflect his calculations of the

average daily losses of dinoseb from manufacturing operations at Cedar's South Plant. On Exhibit 6 he showed that dinoseb losses would go to three places: (1) Onto the surface of soils of the South Plant where it would accumulate over time; (2) to the Pond, as dissolved or suspended material in the drain and rainwater run-off from the South Plant and from the Pond to the carbon filter system where it would be removed prior to discharge of Pond water to the Mississippi River, and (3) to the Pond as settleable material in rainwater run-off from the South Plant, where it would be accumulated in the sediments of the Pond.

By extrapolating from the analyses of soil, water and sediment samples taken from these three areas to determine probable daily losses of dinoseb from manufacturing operations, and comparing those results to average daily production of dinoseb during the thirteen years of operation of the Plant, Mr. Dietrich concluded that, in his considered opinion, such losses, which he calculated to be far less than one-tenth of one percent, are clearly de minimis as contemplated by him and the EPA when the de minimis exception was promulgated.

The MDNR neither challenged Mr. Dietrich's calculations of daily losses of dinoseb, nor offered any of its own. Its evidence consisted solely of concentration readings from samples it took from two Pond water samples, two Pond sediment samples, one surface soil sample, and three sump water samples. These readings were consistent with the samples analyzed by the Company, according to Mr. Dietrich's testimony.

Finally, Mr. Keen testified that losses of dinoseb going into the Pond after November, 1985 will be even less than in the past. In November, 1985, Cedar completed modifications to its sewer system to prevent losses of dinoseb from manufacturing operations from flowing to the Pond. Losses are now vacuumed into tank trucks and are either recycled or disposed of off-site.

6. Does any dinoseb which is entering the Pond derive from deliberate discarding or major leaks or spills of this product?

The undisputed evidence is that dinoseb entering the Pond does not and never has derived from deliberate discarding or from any major leaks or spills.

Mr. Keen and Mr. Ahlers both testified that Cedar and its predecessors have never discarded any of the commercial products manufactured at the facility into the Pond. Additionally, neither was aware of any major leaks or spills of dinoseb, much less any which have gotten into the Pond. Indeed, Mr. Keen reviewed the supervisors' logs, hazardous waste inspection reports, and the excessive spill or emissions reports in which the occurrence of major leaks and spills would be recorded and found no notations of any having occurred since the effective date of RCRA, November 19, 1980.

7. Are there any other factors which would support a conclusion that the Pond should be regulated as a hazardous waste management facility under RCRA?

There is no evidence before the Commission that the Pond poses a substantial threat to human health or the environment. Mr. Dietrich testified exactly to the contrary. Moreover, as Mr. Dietrich, Mr. Ahlers and Mr. Keen all pointed out, the Pond serves a useful environmental purpose as a "safety net" in the event of a catastrophic event at the facility. The Industrial Waste Section of the Bureau of Pollution Control is also on record as late as post-August, 1983 as advocating that the Pond be left open to collect the large amount of rainwater run-off from the plant, and to serve as a spill containment area in the event of an unexpected catastrophic upset at the South Plant (see Cedar Exhibit No. \_\_\_\_).

If it were determined that the Pond is properly designated a hazardous waste management facility under RCRA, RCRA Regulations (and the recent Commission Order) would require that the Pond be closed. According to testimony of Mr. Keen and Mr. Ahlers, in order to close the Pond, Cedar would have to construct alternate facilities to receive the large volume of rainwater run-off from the facility, as well as the periodic discharge of non-hazardous waste from its North Plant, which the Pond currently receives. Depending on the time schedule involved and other factors, such construction could result in a temporary or even permanent plant closing with resulting reduction in work force. At

a minimum, the Pond closing and construction of alternate facilities could involve costs of up to \$6,000,000.

Mr. Estes of the MDNR expressed his opinion that the Pond is of "regulatory concern" due to DNBP in the sediment. Cedar would show that, in the event it is determined that the de minimis exception applies, the Pond will still be subject to regulation under the imminent hazardous provisions of §7008(h) of RCRA, not to mention other environmental statutes such as CERCLA. In addition, discharge from the Pond will continue to be regulated under §402 of the Clean Waste Act. Thus, Mr. Estes' regulatory concern clearly can be met without imposing RCRA Regulations mandating elimination of the Pond.

#### CONCLUSION

In light of the findings of fact which are inescapable from the evidence presented at the hearing, it must be concluded as a matter of law that the Pond is not subject to RCRA Regulations which regulate facilities used for treatment, storage or disposal of hazardous waste. Accordingly, Cedar submits that its Motion to Dismiss the Complaint referred to in the subject Order must be granted.

Dated: October 20<sup>th</sup>, 1986.

Respectfully submitted,

CEDAR CHEMICAL CORPORATION  
(Successor to Vertac Chemical  
Corporation)

By: William L. Smith  
William L. Smith  
R. David Kaufman

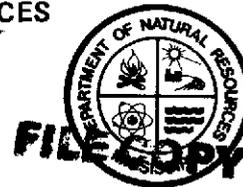
BRUNINI, GRANTHAM, GROWER & HEWES  
1400 Trustmark Building  
Post Office Drawer 119  
Jackson, Mississippi 39205  
Telephone: (601) 948-3101

Allen T. Malone by WLS  
Allen T. Malone

APPERSON, CRUMP, DUZANE & MAXWELL  
26th Floor, 100 North Main Building  
Memphis, Tennessee 38103  
Telephone: (901) 525-1711  
ATTORNEYS FOR CEDAR CHEMICAL  
CORPORATION



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



October 21, 1986

Bonner Analytical Testing Company  
P. O. Box 85  
Hattiesburg, Mississippi 39401

Dear Sirs:

Enclosed is a copy of a sampling plan to be conducted at Vicksburg Chemical during the week of October 27, 1986. The State of Mississippi is currently accepting bids for carrying out the enclosed plan. Written bids must be submitted to John Files, Administrative Coordinator, Mississippi Bureau of Pollution Control, 2380 Highway 80 West, Southport Center, P. O. Box 10385, Jackson, Mississippi, 39204, by 5:00 p.m., Thursday, October 23, 1986. The successful bidder will be notified by 5:00 p.m., Friday, October 24, 1986.

Should you have any questions, please contact our office.

Sincerely,

Sam Mabry, Director  
Hazardous Waste Division

SM:sae  
Enclosure

PS Form 3811, July 1963

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SE

Enviro-Labs, Inc.  
P. O. Box 1096  
Starkville, Mississippi 39759

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Signature - Agent

7. Date of Delivery

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BUREAU OF RECLAMATION  
P. O. BOX 1000  
JACKSON

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October 20, 1986

CERTIFIED MAIL NO. P 543 080 281

Enviro-Labs, Inc.  
P. O. Box 1096  
Starkville, Mississippi 39759

Dear Sirs:

Enclosed is a copy of a sampling plan to be conducted at Vicksburg Chemical during the week of October 27, 1986. The State of Mississippi is currently accepting bids for carrying out the enclosed plan. Written bids must be submitted to John Files, Administrative Coordinator, Mississippi Bureau of Pollution Control, 2380 Highway 80 West, Southport Center, P. O. Box 10385, Jackson, Mississippi, 39204, by 5:00 p.m., Thursday, October 23, 1986. The successful bidder will be notified by 5:00 p.m., Friday, October 24, 1986.

Should you have any questions, please contact our office.

Sincerely,

Sam Mabry, Director  
Division of Solid Waste Management

SM:els  
Enclosure

**FILE COPY**

October 20, 1986

CERTIFIED MAIL NO. P 669 640 581

Wells Laboratories  
Route 2, Box 714  
Wilmet Road  
Greenville, Mississippi 38701

Dear Sirs:

Enclosed is a copy of a sampling plan to be conducted at Vicksburg Chemical during the week of October 27, 1986. The State of Mississippi is currently accepting bids for carrying out the enclosed plan. Written bids must be submitted to John Files, Administrative Coordinator, Mississippi Bureau of Pollution Control, 2380 Highway 80 West, Southport Center, P. O. Box 10385, Jackson, Mississippi, 39204, by 5:00 p.m., Thursday, October 23, 1986. The successful bidder will be notified by 5:00 p.m., Friday, October 24, 1986.

Should you have any questions, please contact our office.

Sincerely,

Sam Mabry, Director  
Division of Solid Waste Management

SM:els  
Enclosure

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

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

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

DE

Wells Laboratories  
 Route 2, Box 714  
 Wilnot Road  
 Greenville, Mississippi 38701

## 4. Type of Service:

- Registered       Insured  
 Certified       COD  
 Express Mail

Article Number

B49339910

Always obtain signature of addressee or agent and DATE DELIVERED.

## 5. Signature - Addressee

X

Dorothy M. Wells

## 6. Signature - Agent

X

## 7. Date of Delivery

10/22/86

## 8. Addressee's Address (ONLY)



Requested and fee paid





# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382/160 Upton Dr./Jackson, Ms. 39209/601-922-8242/800-523-0659  
7215 Pine Forest Rd./Pensacola, Fl. 32506/904-944-0301/800-874-1111

**RECEIVED**

OCT 27 1986

October 23, 1986  
File No. 1.86.3.1082

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Sam Mabry, Director  
Division of Solid Waste Management  
Mississippi Department of Natural Resources  
Bureau of Pollution Control  
P.O. Box 10385  
Jackson, MS 39209

Dear Mr. Mabry:

Subject: Bids for Sampling Plan  
Vicksburg Chemical Impoundment  
Vicksburg, Mississippi

In response to your letter dated October 20, 1986, requesting written bids for the captioned project, Environmental Protection Systems, Inc. (EPS), appreciates this opportunity to provide professional services in accordance with the outlined scope of services. However, EPS will not be able to respond to this bid package because of the existing client relationship with Vicksburg Chemical Company. We request that EPS be considered in the future for other environmental field and analytical services needed and required by the Bureau of Pollution Control.

Thanking you for your interest in EPS, I am

Sincerely,

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

E. Corbin McGriff, Jr., Ph.D., P.E.  
President and Chief Executive Officer

ECM/ag6.49



PS Form 3811, July 1983

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

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

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- 2.  Restricted Delivery.

SE

Dr. Corbin McGriff, P. E.  
 Environmental Protection Systems  
 P. O. Box 20382  
 Jackson, Mississippi 39209

4. Type of Service:

- Registered
- Insured
- Certified
- COD
- Express Mail

Article Number  
D49339908

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X

6. Signature Agent

X Barbara Avey

7. Date of Delivery

10/2/88

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

106 UPTON DR.  
 JACKSON, MS. 39209

DOMESTIC RETURN RECEIPT

**UNITED STATES POSTAL SERVICE**  
**OFFICIAL BUSINESS**

**SENDER INSTRUCTIONS**

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- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

**RETURN  
TO**



DEPT. OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL  
P. O. BOX 10385  
JACKSON

MS  
39209



**PENALTY FOR PRIVATE  
USE \$300**

**FILE COPY**

October 20, 1986

CERTIFIED MAIL NO. P 543 080 279

Dr. Corbin McGriff, P. E.  
Environmental Protection Systems  
P. O. Box 20382  
Jackson, Mississippi 39209

Dear Dr. McGriff:

Enclosed is a copy of a sampling plan to be conducted at Vicksburg Chemical during the week of October 27, 1986. The State of Mississippi is currently accepting bids for carrying out the enclosed plan. Written bids must be submitted to John Files, Administrative Coordinator, Mississippi Bureau of Pollution Control, 2380 Highway 80 West, Southport Center, P. O. Box 10385, Jackson, Mississippi, 39204, by 5:00 p.m., Thursday, October 23, 1986. The successful bidder will be notified by 5:00 p.m., Friday, October 24, 1986.

Should you have any questions, please contact our office.

Sincerely,

Sam Mabry, Director  
Division of Solid Waste Management

SM:els  
Enclosure

**FILE COPY**

October 20, 1986

CERTIFIED MAIL NO. P 543 080 280

Micro-Methods, Inc.  
5106 Telephone Road  
Pascagoula, Mississippi 39567

Dear Sirs:

Enclosed is a copy of a sampling plan to be conducted at Vicksburg Chemical during the week of October 27, 1986. The State of Mississippi is currently accepting bids for carrying out the enclosed plan. Written bids must be submitted to John Files, Administrative Coordinator, Mississippi Bureau of Pollution Control, 2380 Highway 80 West, Southport Center, P. O. Box 10385, Jackson, Mississippi, 39204, by 5:00 p.m., Thursday, October 23, 1986. The successful bidder will be notified by 5:00 p.m., Friday, October 24, 1986.

Should you have any questions, please contact our office.

Sincerely,

Sam Mabry, Director  
Division of Solid Waste Management

SM:els  
Enclosure

**FILE COPY**

October 20, 1986

CERTIFIED MAIL NO. P 543 080 282

Environmental Laboratories, Inc.  
P. O. Drawer 2309  
Gulfport, Mississippi 39503

Dear Sirs:

Enclosed is a copy of a sampling plan to be conducted at Vicksburg Chemical during the week of October 27, 1986. The State of Mississippi is currently accepting bids for carrying out the enclosed plan. Written bids must be submitted to John Files, Administrative Coordinator, Mississippi Bureau of Pollution Control, 2380 Highway 80 West, Southport Center, P. O. Box 10385, Jackson, Mississippi, 39204, by 5:00 p.m., Thursday, October 23, 1986. The successful bidder will be notified by 5:00 p.m., Friday, October 24, 1986.

Should you have any questions, please contact our office.

Sincerely,

Sam Mabry, Director  
Division of Solid Waste Management

SM:els  
Enclosure

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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) service(s) requested.

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

AE

Environmental Laboratories, Inc.  
 P. O. Drawer 2309  
 Gulfport, Mississippi 39503

Type of Service:

- Registered       Insured  
 Certified       COD  
 Express Mail

Article Number

049339906

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

Signature - Addressee

\* Cathy Rawson

6. Signature - Agent

X

7. Date of Delivery

10-21-86

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

**UNITED STATES POSTAL SERVICE**

**OFFICIAL BUSINESS**



**PENALTY FOR PRIVATE  
USE, \$300**

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- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

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TO**



DEPT. OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL  
P. O. BOX 10385  
JACKSON

MS  
39209

P 543 080 283

Express Mail B49339980  
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL

(See Reverse)

4 150 P.O. 1983-403-517

Sent to

Street and /

P.O., State

Postage

700 100 11

Culpepper Testing Labs  
205 South Main Street  
Hattiesburg, Mississippi 39401

**FILE COPY**

October 20, 1986

CERTIFIED MAIL NO. P 543 080 283

Culpepper Testing Labs  
205 South Main Street  
Hattiesburg, Mississippi 39401

Dear Sirs:

Enclosed is a copy of a sampling plan to be conducted at Vicksburg Chemical during the week of October 27, 1986. The State of Mississippi is currently accepting bids for carrying out the enclosed plan. Written bids must be submitted to John Files, Administrative Coordinator, Mississippi Bureau of Pollution Control, 2380 Highway 80 West, Southport Center, P. O. Box 10385, Jackson, Mississippi, 39204, by 5:00 p.m., Thursday, October 23, 1986. The successful bidder will be notified by 5:00 p.m., Friday, October 24, 1986.

Should you have any questions, please contact our office.

Sincerely,

Sam Mabry, Director  
Division of Solid Waste Management

SM:els  
Enclosure

LAW OFFICES  
APPERSON, CRUMP, DUZANE & MAXWELL

26TH FLOOR

100 NORTH MAIN BUILDING  
MEMPHIS, TENNESSEE 38103

901/525-1711

EAST OFFICE

SUITE 100  
KIRBY CENTRE  
1755 KIRBY PARKWAY  
MEMPHIS, TENNESSEE 38119  
901/756-6300

CHARLES W. METCALF, 1940-1974  
WILLIAM P. METCALF, 1972-1940  
JOHN W. APPERSON, 1996-1986

CHARLES METCALF CRUMP  
JERRE G. DUZANE  
JOHN B. MAXWELL, JR.  
ALLEN T. MALONE  
PHILIP G. KAMINSKY  
ROBERT L. DINKELSPIEL  
MICHAEL E. HEWGLEY  
JAMES F. RUSSELL  
JOHN L. RYDER  
COLBY S. MORGAN, JR.  
TONI CAMPBELL PARKER  
J. KEITH MCCORMIC

SAMUEL RUBENSTEIN  
JOHN HART TODD  
OF COUNSEL

October 7, 1986

HAND-DELIVERED

Mr. Sam Mambry  
Director, Division of Solid  
Hazardous Waste Management  
Mississippi Department of  
Natural Resources  
P. O. Box 10385  
Jackson, Mississippi 39209

**RECEIVED**

OCT 10 1986

Re: Cedar Chemical Corporation  
Commission Order No. 1046-86

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Dear Mr. Mambry:

It is my understanding from recent conversations with you and Cedar's local counsel, Bill Smith, that both your agency as well as EPA Region IV are now in agreement that, insofar as dinoseb contamination of soils and sediments at the Plant is concerned, RCRA Regulations are not applicable to the surface impoundment at Cedar's Vicksburg Plant, by virtue of the de minimis exception to the so-called "mixture rule" (MHWMR 261.3(a)(2)(iv)).

I also understand that your agency and the EPA would now like to expand the scope of the hearing to determine if there is some other basis for asserting RCRA jurisdiction - specifically, to determine if the "mixture rule" would be applicable by virtue of production of some product at the Plant other than dinoseb, which may have generated a hazardous waste. As you know, it was stipulated at the hearing that the "mixture rule" was deemed applicable solely as a result of the presence of dinoseb in soils and pond sediment at the Plant. Since this was the issue that we asked our consultants and witnesses at the hearing to address, my client is naturally concerned about agreeing to expand the scope of the hearing after it has been concluded by supplementing the record with responses to questionnaires and additional test data. This letter, however, is intended to afford a basis on which the record might be expanded to cover the additional issues that are now being raised in a manner that my client can accept.

Mr. Sam Mambry  
October 7, 1986  
Page Two

First, to be sure that there is no misunderstanding about the expanded scope of the hearing which you are proposing, it is my understanding that the new inquiry is focusing on past production of toxaphene at the Plant inasmuch as untreated process wastewater from toxaphene production, as well as wastewater treatment sludge resulting therefrom, have been classified as hazardous wastes under RCRA (K098 and K041 respectively) (It can easily be documented that the other three products which have been mentioned as candidates for review - chlordane, disulfaton and phorate - have never been produced at the Plant.)

I trust we can agree, based on EPA's Listing Background Document for toxaphene production, that K098 and K041 are listed as hazardous waste due to toxaphene concentrations of approximately 1% by weight in the wastewater treatment sludge at Hercules' Brunswick, Georgia Plant, and what EPA assumed to be even higher concentrations of toxaphene in the untreated processed wastewater which resulted in the sludges.

I am satisfied from discussions with Plant personnel that no such wastes were ever generated at the Vicksburg Plant. A review of the background document and other literature will demonstrate that Hercules' production method involved the filtering of toxaphene solution from the chlorinator, which system produced the seven tons of sludge which were generated daily by Hercules, according to the background document. No such procedure was used in connection with the Vicksburg process, and no such contaminated process wastewater streams or sludges were generated.

While the Vicksburg Plant did generate relatively small quantities of scrubber water from its air emission scrubber in connection with the HCl recovery system, this particular waste stream would not have contained any detectable toxaphene contamination. I trust we can agree that such a waste stream, by itself, would not be within the K098 classification contemplated by RCRA Regulations. I am certain that we can demonstrate to your satisfaction that no other wastewater was generated, either directly or indirectly, as a result of toxaphene production at the Vicksburg Plant.

The only remaining possible inquiry, it seems to me, would be whether any trace levels of toxaphene in the Pond sediment at the Plant which might have derived from past de minimis

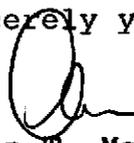
Mr. Sam Mambry  
October 7, 1986  
Page Three

losses would exceed .5 ppm using the EP toxicity method, thereby causing the pond sediment to be classified as D015 waste under 40 CFR 261.24. This question, however, has already been answered by past test data - both that of the State and of Cedar. In 1983, the State analyzed two grab samples of sediment from the east side of the impoundment. One indicated 360 ppm toxaphene and the other indicated 280 ppm. The sample that showed 280 ppm, when subjected to the EP toxicity method, showed less than 20 parts per billion toxaphene. More recently, our client took the two Pond sediment samples which the State split with the Company in connection with the August, 1986 sampling and submitted them to the Environmental Protection Systems Laboratory in Jackson, Mississippi for EP toxicity analysis. Despite the fact that these samples might be expected to contain high levels of toxaphene relative to other portions of the Pond, in both cases no toxaphene was detected at the Lab's limit of detection of less than ten parts per billion. Copies of the analytical results referred to are enclosed herewith.

Based on the foregoing, we would propose that Cedar respond to a questionnaire relative to past production of toxaphene and other products at the Plant in order to document that no K098 or K041 wastes were ever generated at the Plant, and that the other products whose wastewaters have been classified as hazardous under RCRA were never produced at the Plant. We would further agree that the administrative record could be supplemented by inserting these responses and further, that the record could include the analytical data on toxaphene described above. We cannot see any need for further supplements to the record and would propose that, with these supplements, the Commission should have no difficulty in ruling on Cedar's Motion to Dismiss.

As soon as you have had an opportunity to review this letter, I would like to discuss it with you and Bill Smith by conference call so we can get this matter concluded without further delay.

Sincerely yours,



Allen T. Malone

ATM:jw  
cc: Mr. William L. Smith



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 150 Upton Drive • Jackson, MS 39209  
Telephone (601) 922-8242  
(800) 523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone (904) 943-0301  
(800) 874-0272

## LABORATORY REPORT

86.1.2929

2/2

CLIENT: Vicksburg Chemical  
LOCATION: Vicksburg, Mississippi  
DATE: 09/26/86  
INVOICE NO.: 010870/ncr

COLLECTED BY: Client (7954)  
DATE COLLECTED: 09/03/86  
DATE RECEIVED: 09/08/86  
DATE ANALYZED: 09/24/86

## LABORATORY SAMPLE IDENTIFICATION

86094958 - Pond Inlet Sludge  
86094959 - Pond Cross-Over Sludge

ANALYSES	IDENTIFICATION NO.			QUALITY CONTROL		
	4958	4959		STANDARD OR SPIKE VALUE	RECOVERY	RELATIVE DEVIATION
Methoxychlor, EP Leachable, mg/l	<0.01	<0.01				
Toxaphene, EP Leachable, mg/l	<0.01	<0.01				
2,4 - D, EP Leachable, mg/l	<0.01	<0.01				
2,4,5 - TP Silvex, EP Leachable, mg/l	<0.01	<0.01				
"EP TOXICITY" Extraction	Yes	Yes				

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, July, 1982, Test Methods for Evaluating Solid Waste (SW-846).

## CERTIFICATION

*Donalea Dismore King*  
MANAGER, QUALITY ASSURANCE



*Arthur Carmichael*  
MANAGER, ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Upton Drive • Jackson, MS 39209  
Telephone: 601-922-8242  
800-523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: (904) 944-0301  
(800) 874-0272

## LABORATORY REPORT

86.1.3024

1/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105548 - Soil Sample A  
86105549 - Soil Sample B  
86105550 - Soil Sample C  
86105551 - Soil Sample D

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5548	5549	5550	5551	STANDARD OR SPIKE VALUE	RECOVERY	RELATIVE STANDARD DEVIATION
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER, QUALITY ASSURANCE



*Arthur Carver*  
MANAGER, ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Upton Drive • Jackson, MS 39209  
Telephone: 601-922-8242  
800-523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-344-0301  
800-374-0272

## LABORATORY REPORT

86.1.3024

2/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/lm

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105552 - Soil Sample E  
86105553 - Soil Sample F  
86105554 - Soil Sample G  
86105555 - Soil Sample H

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5552	5553	5554	5555	STANDARD OR SPIKE VALUE	RECOVERY	PRECISION
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnson*  
MANAGER, QUALITY ASSURANCE



*Arthur Smith*  
MANAGER, ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 John Drive • Jackson, MS 39209  
Telephone: 601-937-8242  
800-522-0659

1215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-944-0301  
800-874-0272

## LABORATORY REPORT

86.1.3024

3/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105556 - Soil Sample I  
86105557 - Soil Sample J  
86105558 - Soil Sample K  
86105559 - Soil Sample L

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5556	5557	5558	5559	STANDARD OR SPIKE VALUE	RECOVERY	PRECISION
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER QUALITY ASSURANCE



*Arthur Canine*  
MANAGER ANALYTICAL DEPARTMENT



# ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P. O. Box 20382 • 160 Lorton Drive • Jackson, MS 39209  
Telephone: 601-922-8242  
800-523-0659

7215 Pine Forest Road • Pensacola, FL 32506  
Telephone: 904-944-0301  
800-874-0272

## LABORATORY REPORT

86.1.3024

4/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/1m

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105560 - Soil Sample M  
86105561 - Soil Sample N  
86105562 - Soil Sample O  
86105563 - Soil Sample P

ANALYSES	IDENTIFICATION NO.				QUALITY CONTROL		
	5560	5561	5562	5563	STANDARD OF SPIKE VALUE	RECOVERY	PRECISION
Toxaphene, mg/kg	<0.1	<0.1	<0.1	<0.1	0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnston*  
MANAGER, QUALITY ASSURANCE



*Arthur Camiel*  
MANAGER, ANALYTICAL DEPARTMENT



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(800) 523-0659

7215 Pine Forest Road • Pensacola, FL 32508  
Telephone: (904) 944-0301  
(800) 874-0272

## LABORATORY REPORT

86.1.3024

5/5

CLIENT: Vicksburg Chemical Corporation  
LOCATION: Vicksburg, MS  
DATE: 10/07/86  
INVOICE NO.: 011001/lm

COLLECTED BY: Client (7954)  
DATE COLLECTED: 10/03/86  
DATE RECEIVED: 10/03/86  
DATE ANALYZED: 10/07/86

## LABORATORY SAMPLE IDENTIFICATION

86105564 - Soil Sample Q  
86105565 - Soil Sample R

ANALYSES	IDENTIFICATION NO.			QUALITY CONTROL		
	5564	5565		STANDARD OR SPIKE VALUE	RECOVERY	PRECISION
Toxaphene, mg/kg	<0.1	<0.1		0.59	114	17.7

## COMMENT

Analyses conducted in accordance with 40 CFR, Part 136, 1984, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

## CERTIFICATION

*Herbert A. Johnson*  
MANAGER, QUALITY ASSURANCE



*Curtis Cannon*  
MANAGER, ANALYTICAL DEPARTMENT

**FILE COPY**

M E M O R A N D U M

TO: File

FROM: Jack McCord

SUBJECT: September 3, 1986 Sampling Trip to Vicksburg Chemical  
(Formerly Vertac)

DATE: September 22, 1986

On September 3, 1986, Melanie Rish, Michael Bradshaw, and I went to Vicksburg Chemical on a sampling inspection. The purpose of the trip was to establish the possibility of spills of dinoseb or returned product draining into the hazardous waste surface impoundment.

Sampling locations included the influent to the impoundment, the water and sludge in the impoundment, soils that could be washed through sewers into the impoundment, sumps that drain into the impoundment, and the hazardous waste and returned product drum storage areas.

Accompanying us on the sampling inspection was John Hill of Vicksburg Chemical, with whom we split samples.

Attached is a map showing sampling locations, a summary of parameters sampled for at those locations, and the sampling results.

JBM:vgr

Sampling Plan  
Vicksburg Chemical Impoundment  
MSD990714081  
Vicksburg, Mississippi

Parameter: Toxaphene  
Arsenic  
Dinoseb  
Acid Extractables  
Base Neutral Compounds

Total Extractions will be run for all parameters. If any samples contain over 0.5 mg/l of toxaphene, then both the Extraction Procedures Toxicity and the Toxicity Characteristic Leaching Procedure will be run on the sample with the highest level of toxaphene.

Safety: Due to the nature of the material in the impoundment and the probability that the sampling will require the use of a boat, a separate site safety plan will be prepared by the contractor.

Equipment: Samples may be collected from a boat using shelby tubes, split spoons, push tubes, or equivalent methods.

Coring equipment used to collect samples should be such that disturbance of the soil column is minimized.

Sample containers and ice chests will be provided by the MBPC.

Sample Types: Grab sediment samples.

Split Samples: Splits of all samples will be offered to Vicksburg Chemical Company.

Sampling Points: A series of 26 discrete sample point locations have been selected on a 50 ft. grid for the impoundment with the exception of sample points 1 and 1A which will be taken near the mouth of the inlet pipe [see illustration #1].

Sample Compositing: The samples from the 26 discrete sampling points will be composited per the following scheme:

\*6 ft. - 4 ft. core depth

	<u>Sample Number</u>
Composite discrettes 1 & 1A	VC-A
Composite discrettes 2 & 5	VC-B
Composite discrettes 3 & 4	VC-C
Composite discrettes 6, 7, & 8	VC-D

\*4 ft. - 2 ft. core depth

Composite discrettes 1 & 1A	VC-E
Composite discrettes 2 & 5	VC-F
Composite discrettes 3 & 4	VC-G
Composite discrettes 6, 7, & 8	VC-H

\*2 ft. - 0 ft. core depth

	<u>Sample Number</u>
Composite discretetes 1 & 1A	VC-I
Composite discretetes 2 & 5	VC-J
Composite discretetes 3 & 4	VC-K
Composite discretetes 6, 7, & 8	VC-L
Composite discretetes 9, 10, 11 & 12	VC-M
Composite discretetes 13 & 14	VC-N
Composite discretetes 15 & 16	VC-O
Composite discretetes 17 & 18	VC-P
Composite discretetes 19 & 20	VC-Q
Composite discretetes 21, 22, & 24	VC-R
Composite discretetes 23 & 25	VC-S

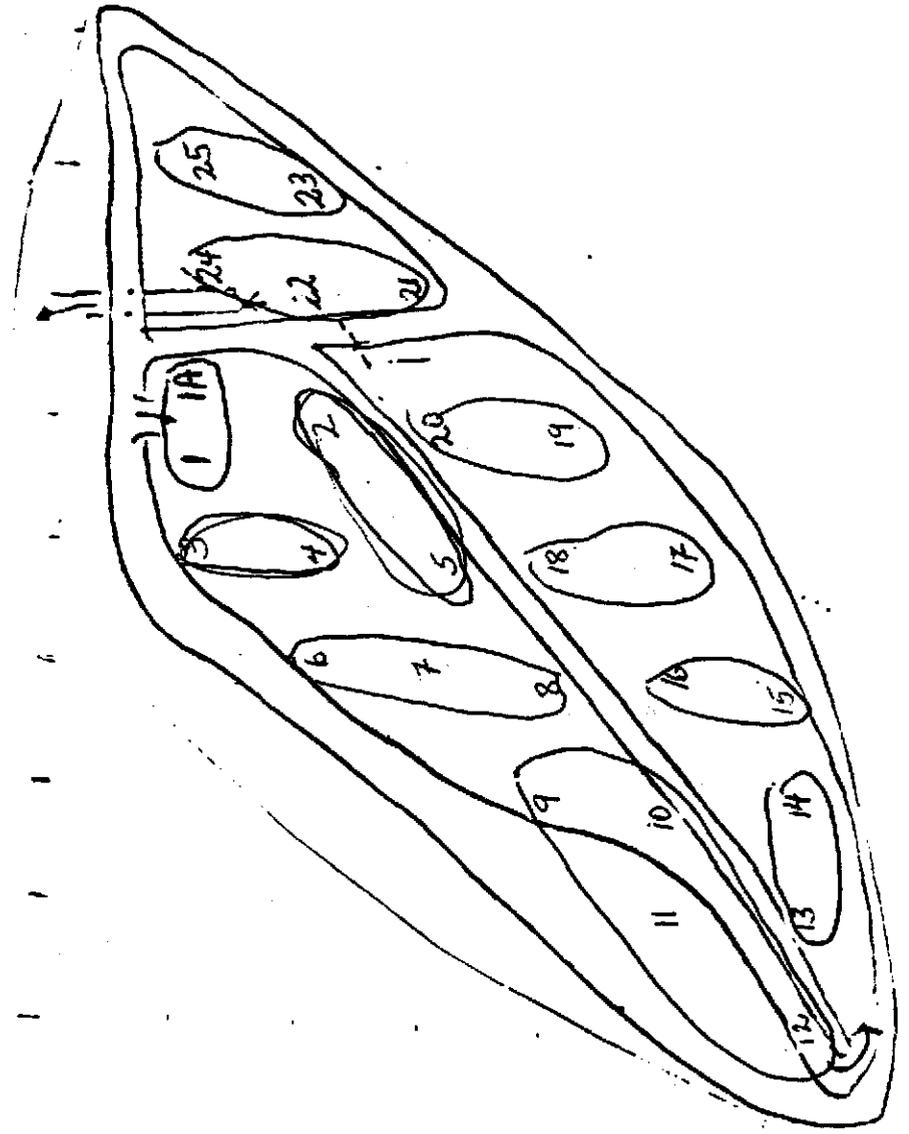
Sample Collection: Samples 1, 1A, and 2 through 8 shall be collected in 2 ft. portions to a total depth of 6 ft. Sample points 9-25 should be collected to a maximum depth of 2 ft. Illustration #2 provides information as to the expected sediment depths. All samples will be collected according to EPA QA/QC standards. Samples shall be composited in glass or stainless steel bowls that have been cleaned with acetone and hexane and covered with aluminum foil prior to use. The samples will be thoroughly mixed using stainless steel spoons prior to placing in the sample container.

All sampling activities will be conducted under the supervision of a representative of MBPC.

JM:els

Illustration #1

N →



50 ft grid

75ft 0 75ft  
|-----|  
approximate scale

Surface Impoundment - Vicksburg, Miss.



Lab #	Marked	As PPM	Toxaphene [PPM]	Pcb (PPM) (Aroclor 1254)	DNBP ug/kg	Atrazine ug/kg	Blodex ug/kg	Other
726113	A	43.8	536	ND @ 10 PPM	64,000	21,000,000	1,700,000	1,2-dichlorobenzene 20,000 Methyl parathion 400,000
726114	B	7.1	223	58.4	40,000	3,000,000		
	EP EXT B	0.067	ND @ 0.004	ND @ 0.004	3,700	37,000	5,000	
726115	C	14.5	680	ND @ 10	770,000	9,000,000	3,000,000	
726116	D	9.0	322	37.1	170,000	8,000,000	700,000	
726117	E	143	2,320	ND @ 10	5,910,000	3,900,000	5,000,000	Methyl parathion 500,000
726118	F	66.9	541	ND @ 10	330,000	78,000,000		
	EP EXT F	0.86	ND @ 0.1	ND @ 0.004	3,800	51,000	3,000	2,4-dinitrophenol - tr
	TCLP F	1.36	ND @ 0.04	ND @ 0.004	6,300	45,000	9.00	4-nitrophenol - tr
726119	G	40.1	381	ND @ 10	1,100,000	30,000,000		4-nitrophenol - 50,000 4-nitrophenol - tr
726120	H	7.7	6.33	ND @ 10	25,000	15,000,000		2,4-dinitrophenol - tr
726121	I	114	17.5	ND @ 10	1,600,000	8,000,000		4-nitrophenol - 70,000
726122	J	216	18.1	ND @ 10	160,000	2,000,000		
	EP EXT J	1.6	ND @ 0.04	ND @ 0.004	3,700	49,000		
726123	K	108	1.82	ND @ 10	620,000	360,000		4-nitrophenol - 30,000
726124	L	93.5	1.18	ND @ 10	15,000	22,000		4-nitrophenol - tr
726125	M	29.2	ND @ 1	ND @ 10	11,000	13,000		
726126	N	41.0	ND @ 1	ND @ 10	10,000	230,000		
726127	O	57.8	ND @ 1	ND @ 10	4,000	1,500,000	143,000	4-nitrophenol - tr
726128	P	16.9	22.0	51.9	6,000	1,000,000		pentaachlorophenol 1200
726129	Q	46.2	29.1	4.65	92,000	300,000		
726130	R	50.3	4.60	9.16	60,000	5,000		
726131	S	96.5	42.9	33.8				

ND - none detected at stated level

As, Toxaphene, and Pcb amounts are PPM (ug/g), other values are PPB (ug/kg or ug/l)

Blodex identification by computer spectral match, no standard shot to confirm retention time  
Blodex concentration estimates relative to internal std.

RECEIVED

NOV 17 1986

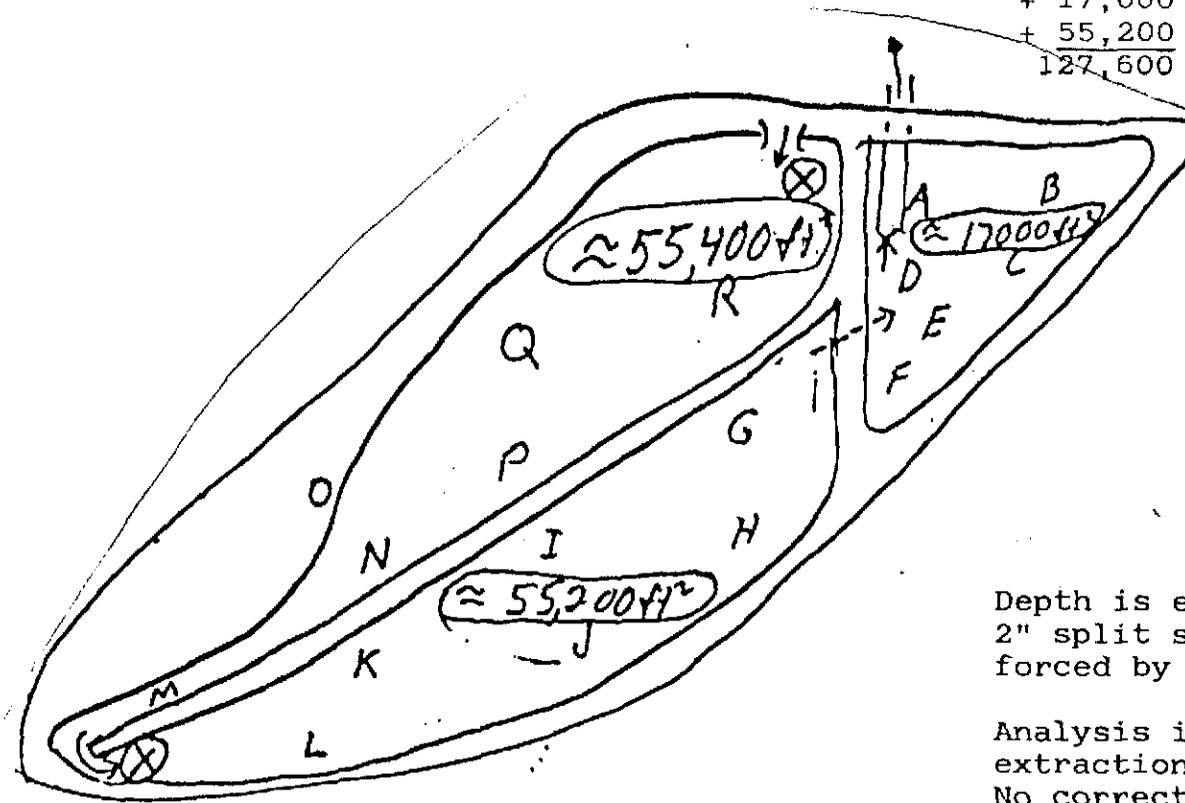
DEPT. OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

Sediment Depth/Analysis  
ft. - in. mg/kg

A	1-0	/	12
B	1-0	/	20
C	0-4	/	28
D	0-4	/	37
E	1-0	/	82
F	1-0	/	30
G	1-0	/	6.8
H	0-9	/	16
I	1-3	/	15
J	1-3	/	24
K	1-6	/	2.0
L	1-6	/	8.4
M	1-6	/	70
N	1-6	/	74
*O	0-2	/	31
P	7-0	/	46
Q	6-0	/	52
R	7-0	/	172

Samples collected in 2' long, 2" dia.  
split spoon : composited along length  
of core.  
Letters indicate approx. sample location

Total Sediment Surface  
= 55,400  
+ 17,000  
+ 55,200  
127,600 ft<sup>2</sup>



Depth is extent to which  
2" split spoon could be  
forced by hand into sediment.

Analysis is for DNBP by  
extraction and GC injection.  
No correction has been made  
for less than 100% extraction  
efficiency. Results are on  
an as sampled (wet sludge)  
basis.

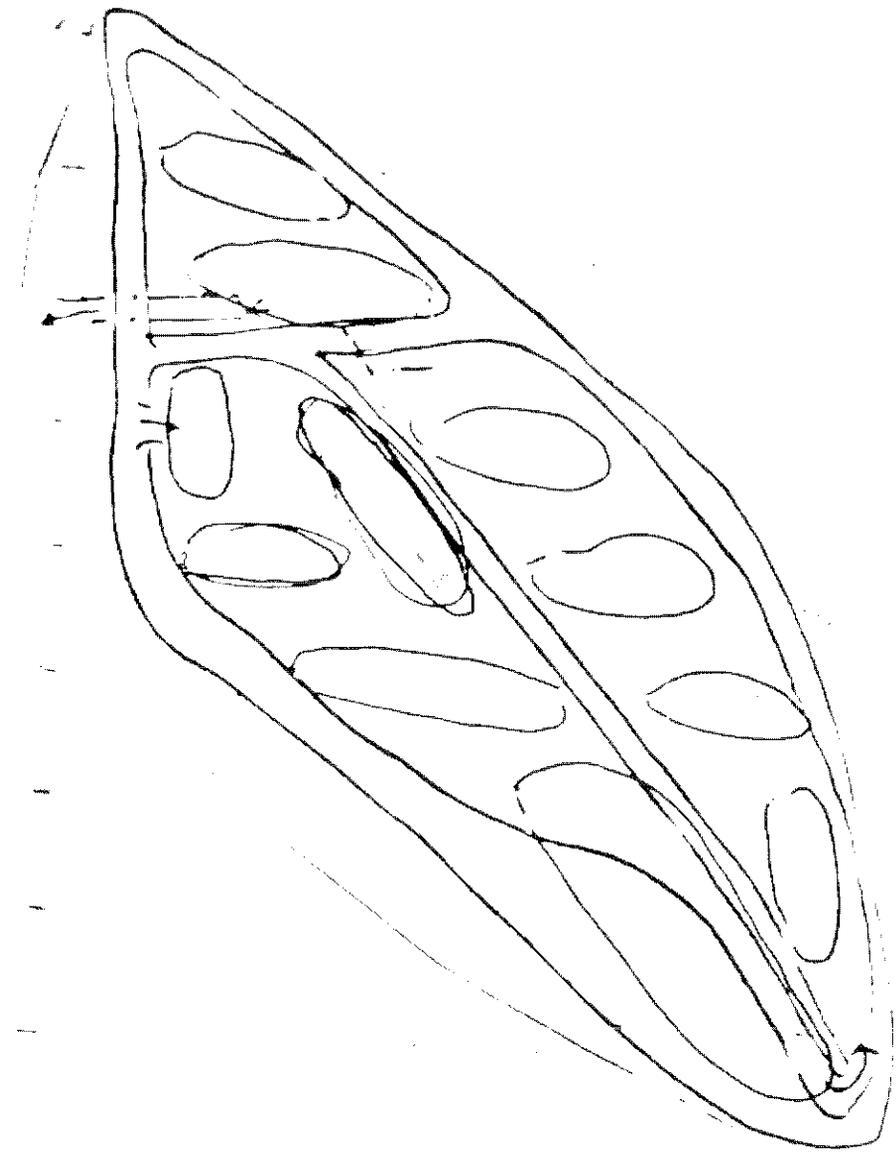
⊗ ⇒ State Sample Locations

\*O, - from exposed delta  
sample taken from top 2 inches

Vertec Sampling Results of Impoundment  
produced in bearing 9-16-86

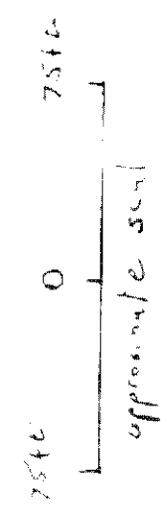
Handwritten text at the top left, possibly a date or location.

N →



Handwritten text at the bottom left, possibly a title or description.

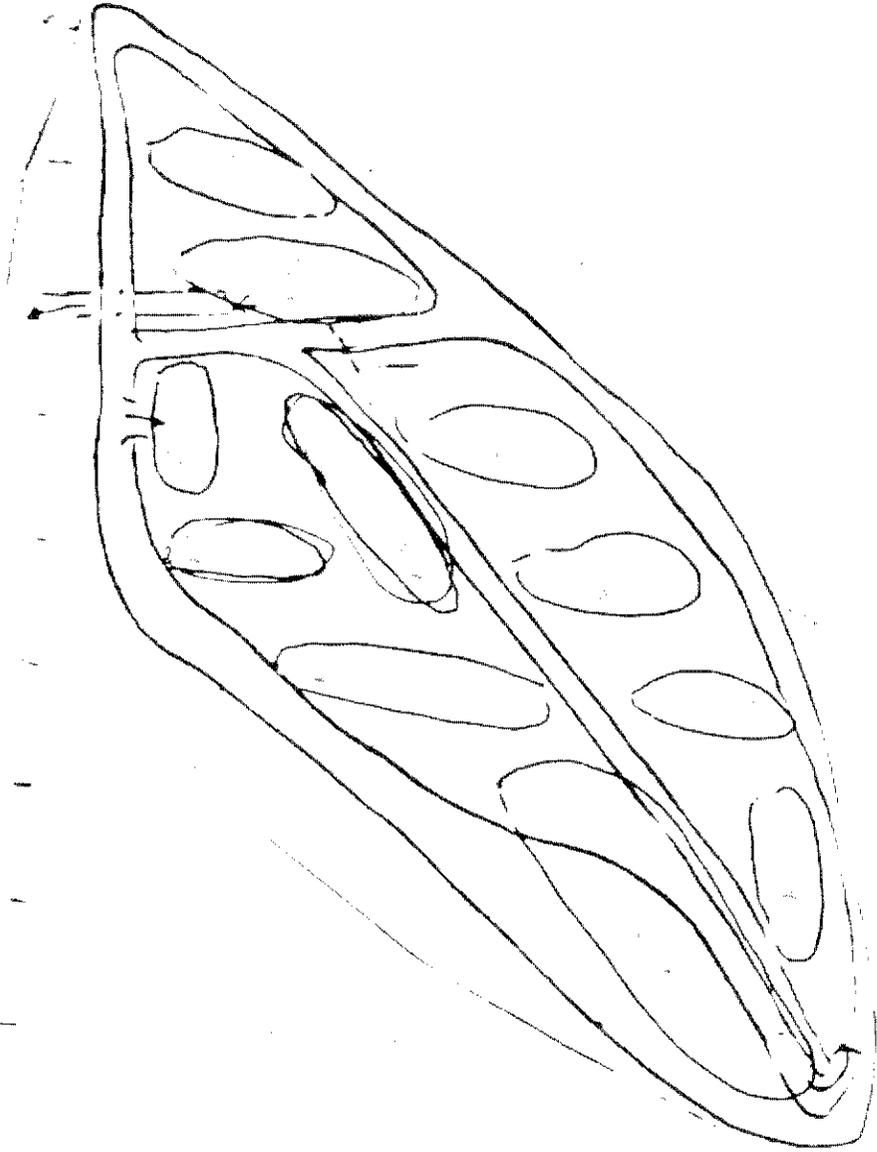
50 ft grid



Handwritten text at the bottom right, possibly a note or reference.

Surface Improvement - V.L.M. 10/1/01

N →



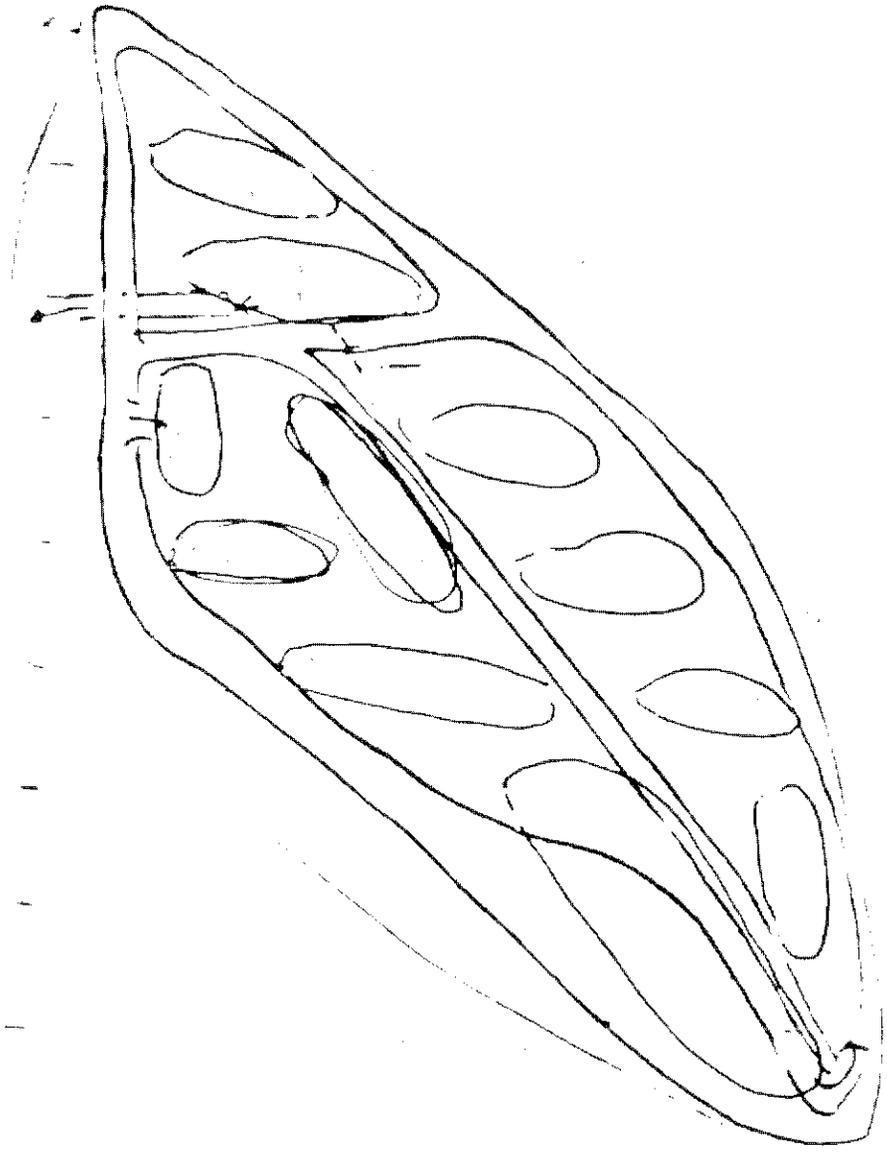
75ft 0 75ft  
|-----|  
approximate scale

50 ft grid

Surface Improvement - V.L.L. 1

MAILING LABEL

N →



50 ft grid

75ft 0 75ft  
 |-----|  
 approximate scale

50 ft grid

1. Texas Conservation (ppm)

Surface Temperature - 1

\$46.00

# FARM CHEMICALS HANDBOOK

# 86

FERTILIZER  
DICTIONARY  
BUYERS' GUIDE  
APPLICATION  
EQUIPMENT  
PESTICIDE  
DICTIONARY  
FERTILIZER  
TRADE NAMES

RECEIVED

NOV 17 1986

DEPT. OF AGRICULTURE  
BUREAU OF PESTICIDES CONTROL

RECEIVED

NOV 17 1986

**Atrazine**

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

**CHEMICAL NAME:** 2-chloro-4-ethylamino-6-isopropylam triazine.

**COMMON NAME:** atrazine.

**OTHER NAMES:** *AAtrex\** (Ciba-Geigy Corp.), *Atranex\**, *Atred\** (discontinued by Farmoplant), *Crisazina\**, *Farmco Atrazine* (C.I.K. Australia), *Griffex\** (Griffin), *Shell Atrazine Herbicide*, *Vectal\* SC* (FBC Ltd.)

**ACTION:** Selective herbicide.

**CHEMICAL PROPERTIES:** Colorless crystals melting at 173-175° C. Solubility in water, 33 ppm at 25° C; in n-pentane, 360 ppm; in diethyl ether, 12,000 ppm; in methanol, 18,000 ppm; in ethyl acetate, 28,000 ppm; in chloroform, 52,000 ppm; in dimethyl sulfoxide, 183,000 ppm.

**TOXICITY:** Acute oral LD<sub>50</sub> (tech. atrazine) (rat), 1780 mg/kg.

**SIGNAL WORD:** CAUTION.

**HANDLING AND STORAGE CAUTIONS:** Harmful if swallowed. Avoid contact with eyes, prolonged contact with skin, inhalation of dust. Use with adequate ventilation. Do not contaminate food, feed, or water supplies.

*Atred\** must be stored in its sealed original containers, in well-aired, fresh and dry storehouses or in shaded and possibly well-aired places. It is recommended that the product be kept away from sources of heat, free flames, or spark-generating equipment. The biological activity of the product remains practically unvaried for 3 years under environmental conditions, provided the product is stored in its unopened and undamaged original containers, in shaded and possibly well-aired places.

**APPLICATION:** Used for season-long weed control in corn, sorghum, and certain other crops. At highest rates it is used for non-selective weed control in noncropped areas.

*Crisatrina\** is a preemergent and early postemergent herbicide for use on corn, sorghum, coffee, African oil palm, sugarcane, pineapples, citrus groves, and bananas.

**FORMULATIONS:** *Atranex\**, 50% and 80% wettable powder, 4 lb./gal. flowable, 4L liquid. *Griffex\* 4L* contains 4 pounds flowable atrazine. *Drexel Atrazine 4L*, *Drexel Atrazine 5L* (contains 5 pounds of flowable atrazine/gallon), *Drexel Atrazine 80W*, and *Drexel Atrazine 90DF*. *Shell\* Atrazine 4L* (4 pounds flowable), *Shell\* Atrazine 90DF* (90% dry flowable) and *Shell\* Atrazine 80W* (80% Wettable Powder). *Farmco Atrazine Flowable* contains 500 g/l. *FBC Atrazine 80\**, *Vectal\* SC* (500 g/l).

**COMBINATION:** *Alazine\** is a mixture of *alachlor* and *atrazine*. *Atramel Combi* and *Crisazina-Crisatrina Kombi\** are mixtures of atrazine and ametryne. *Drexel Atrazine Plus Linuron WP*. *Drexel Atrazine 4L* can be tank mixed with fertilizer solutions, emulsifiable oil, *Paraquat CL*, *alachlor 4EC*, or *propachlor 65W*. *Farmco Amizine-AA Flowable* contains 320 g/l amitrole, 320 g/l atrazine.

See *AAtrex\**.

**BP:** CIFA, Laboratori Chimici (Italy)

Crystal Chemical Inter-America (*Crisazina\**, *Crisazina-Crisatrina Kombi\**)

Drexel Chemical Co. (*Drexel\* Atrazine 4L, 5L, 80W, 90DF* and *Atrazine Plus Linuron*)

FBC Ltd. (Great Britain) (*FBC Atrazine 80\**, *Vectal\* SC*)

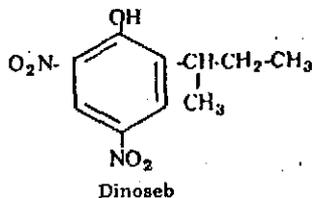
**Dinoseb**

CHEMICAL NAME: 2-(sec-butyl)-4,6-dinitrophenol.  
 COMMON NAMES: DNBP, dinitro, dinoseb (BSI, ISO, WSSA), dinoseb (France).  
 OTHER NAMES: Basanite\* (DASF Wyandotte), Caldon\*, Chemox\* General, Chemox\* PE, Chemsect\* DNBP, DN-289\* (product discontinued), Dinitro\*, Dinitro-3\*, Dinitro General\*, Dynamyte\* (Drexel Chemical), Elgetol\* 318, Gebutox\*, Hel-Fire\* (Helena), Kiloseb\*, Nitropone\* C, Premerge\* 3, Sinox\* General (FMC Corp.), Subitex\*, Unicrop DNBP, Vertac\* Dinitro Weed Killer 5, Vertac General Weed Killer, Vertac Selective Weed Killer.  
 ACTION: Herbicide, desiccant, dormant fruit spray.  
 CHEMICAL PROPERTIES: Dark brown solid or viscous liquid, melting at 36-40° C.

TOXICITY: Acute oral LD<sub>50</sub> (rat), 40-60 mg/kg.  
 SIGNAL WORD: DANGER-POISON.  
 APPLICATION: The phenol form (Vertac General Weed Killer\*, Sinox\* General, Caldon) is used as a general contact herbicide, in orchards, vineyards, forage legumes, and for killing potato vines and desiccating seed crops to facilitate harvest. The ammonium salt (Vertac Selective\*, Sinox\* W) is used as a selective contact herbicide in alfalfa, clover, birdsfoot trefoil, onions, garlic, peas, and small grains. Alkanolamine salts such as Premerge\* 3 are applied to kill germinating seeds contained in the upper soil surface layers in pre-emergence treatments and also in early postemergence and directed sprays in numerous crops. Drexel Dynamyte\* 3 for use on lentils.

The triethanolamine salt (DN-289\* not available commercially, Elgetol\*, Gebutox\*) is commonly applied as a dormant fruit spray for control of many insects, mites and certain fungus diseases.  
 SLN: Nevada, Arizona, Virginia, North Carolina, Georgia, Alabama, Indiana, Illinois, and Missouri.  
 FORMULATIONS: Emulsifiable concentrate, aqueous solution, and oil solution.

COMBINATION: DNBP with Alanap\* (=Dyanap\*); Premerge Plus\* with Dinitro, Klean-Krop\*; Naptalam/dinoseb (Premerge Plus\*).  
 TANK MIXES: Dynamyte\* 3 plus Amiben (soybeans); Dynamyte\* 3 plus Lasso (soybeans, peanuts, potatoes).  
 See Auerack\*.



BP: Drexel Chemical Co. (Dynamyte\* 2.5, 3, 5, 300, T)  
 Hoechst AG (West Germany) (Caldon\*, Gebutox\*, Subitex\*)  
 A.H. Marks & Co., Ltd. (Great Britain)  
 Tifa Ltd. (Chemox\* PE, Chemox\* General, Chemsect\* DNBP)  
 Uniroyal Chemical, Div. of Uniroyal, Inc. (Dinoseb 1,3,5)  
 Universal Crop Protection Ltd. (Great Britain) (Unicrop\* DNBP)  
 Vertac Chemical Corp. (Dinitro\* 3, Dinitro\* General, Premerge\* 3, Premerge\* Plus, Vertac\* Dinitro\* Weed Killer, Vertac\* Dinitro\* Weed Killer 5, Vertac\* General Weed Killer, Vertac\* Selective Weed Killer)

**Bladex\***

CHEMICAL NAME: 2-[[4-(6-ethylamino)-S-triazin-2-yl]amino]-2-methylpropionitril (PAC).  
 COMMON NAME: cyanazine (BSI, ISO, WSSA).  
 OTHER NAMES: SD 15418 (Shell Chemical), WL 19805, Fortrol\*.  
 ACTION: Selective herbicide, preplant incorporated, preemergence and postemergence.  
 CHEMICAL PROPERTIES: White crystalline solid melting at 167.5-169° C.  
 TOXICITY: Acute oral LD<sub>50</sub> (rat), 182-320 mg/kg depending on concentration of Cyanazine and carrier used. Acute dermal LD<sub>50</sub> (rabbit) for 50% WP is > 2000 mg/kg (a.i.).  
 SIGNAL WORD: WARNING (wetable powder, liquid); CAUTION (granules).

ANTIDOTE: No specific antidote is known. See product label for practical treatment following ingestion or skin or eye contact.  
 HANDLING AND STORAGE CAUTIONS: Harmful if swallowed. Use with adequate ventilation and avoid breathing of dust. Avoid contact with the skin or eyes. Avoid contact with water, feed, or food. Keep out of reach of domestic animals, particularly cattle. Consumption of this product, spray solutions, or water contaminated with product can result in serious illness or possible death of bovines.

APPLICATION: For early preplant, preemergence or postemergence use on field corn; on sorghum preemergence as a tank mix combination with Ramrod\* (propachlor) east of Rocky Mountains or with Milogard\* (propazine) in Texas (Upper Gulf Coast/Coastal Bend, and Blackland areas), Oklahoma, and Kansas; cotton preemergence as a tank mix combination with Zorial in Alabama, Arkansas, Louisiana and Mississippi. Bladex\* and tank mix combinations with MSMA and/or Dinitro\* may be applied directed postemergence/layby in all cotton growing states, except do not apply Bladex\* with Dinitro\* in Arizona or California. For weed control on fallow cropland. Applications may be made by ground or aerial equipment on corn and fallow cropland, and ground equipment only on sorghum and cotton. Always read the label for complete use directions.

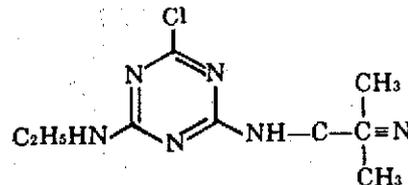
FORMULATION: (U.S.A.) 80% wettable powder, 43% 4 lb/gal. liquid and 90% dry flowable; (SICC) 50% wettable powder, 50% suspension concentrate.

COMBINATIONS: In corn, may be used preemergence in tank mix combination with Lasso\* (alachlor EC), atrazine, Dual\* (metolachlor), Eradicane\*, Paraquat CL, Sulan+\* (butylate 6.7E). Refer to appropriate state 24(c) label recommendations for various 3-way tank mix combinations. Bladex\* 80W or 90DF may be used postemergence in tank mix combinations with atrazine 80W or 90D or Bau-

**Bladex\* (Cont.)**

vel\*. In sorghum, may be used in preemergence tank mix combinations with Ramrod\* (propachlor) or Milogard\* (propazine). In cotton, may be used postemergence in tank mix combination with MSMA and/or Dinitro. On fallow cropland, may be used in tank mix combination with Paraquat CL; also with atrazine in certain states. May be used as an early preplant treatment for cotton in California. Consult state 24(c) labels for recommendations concerning Bladex\* as an early preplant application to land intended for grain sorghum (Nebraska, Kansas) and winter wheat (Nebraska, Kansas, Oklahoma).

In Europe Bladex\* S.C. mixtures such as Bladex\*/MCPA (4 liters/ha) Bladex\*/CMPP (4 liters/ha) and Bladex\*/2.4-DP (WP) (3-4 kg/ha) have been successfully used as a postemergent application in cereals. In forestry (Bladex\*/atrazine (S.C.) may be used from 10 liters/ha to control most grasses and broadleaf weeds. For potato, Bladex\*/linuron (W.P.) is used at 1.5-5.0 kg/ha as a preemergence treatment to control grasses and broadleaf weeds. For maize Bladex\*/atrazine S.C. is used at 3-4 kg a.i./ha as a preemergent application and gives wide control of grasses and broadleaf weeds. In Europe Bladex\* is also used successfully in mixtures in soybeans to control broadleaf weeds. Application is preemergence. Extrazine 4L (Shell) (Bladex + atrazine) for field corn only.

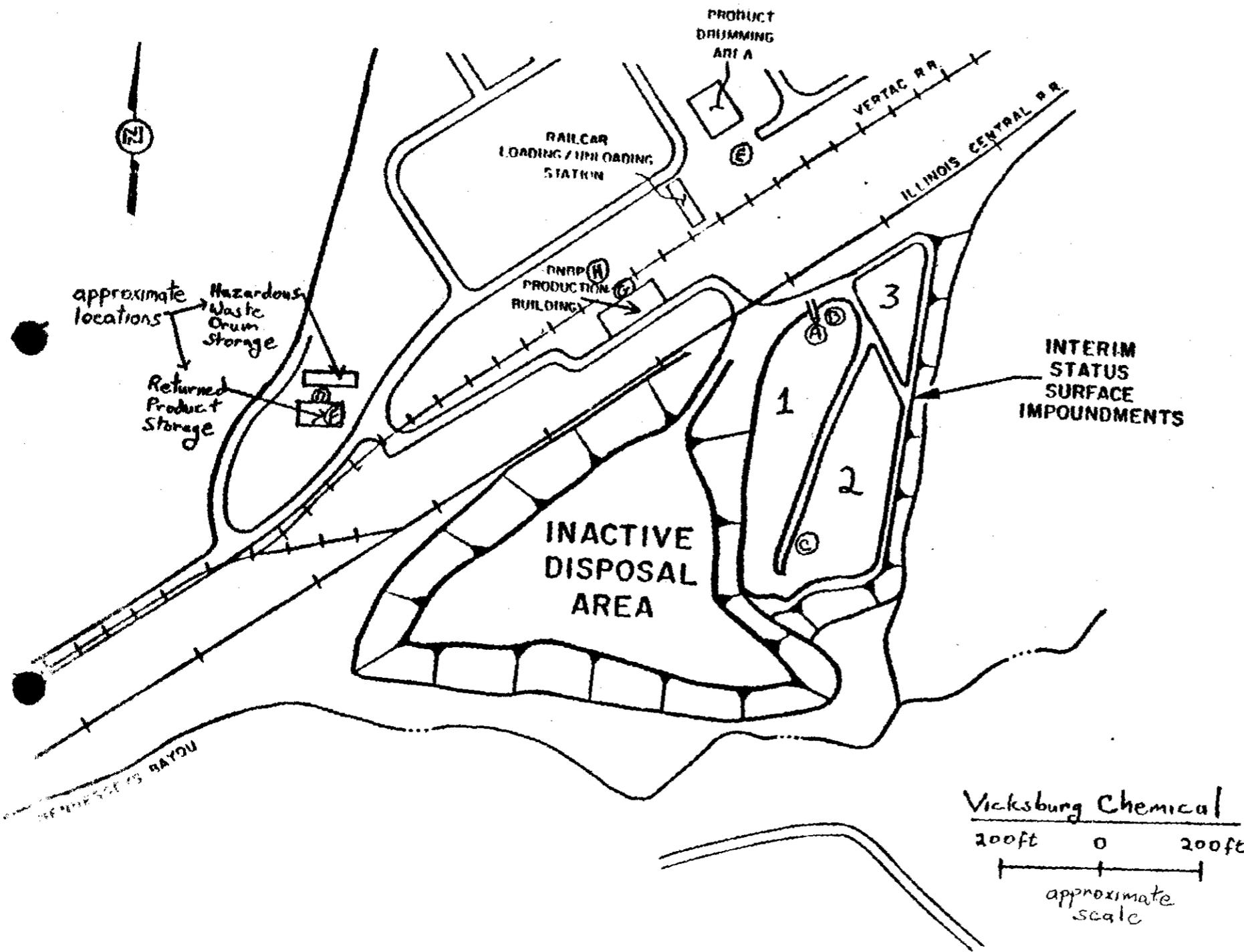


Cyanazine

BP: Shell Chemical Co.  
 Shell International Chemical Co., Ltd. (London)

#	Parameter	Type	Location
VC 1	Organics (P)*	Water	Influent to lagoon 1
VC 2	Metals	Water	Influent to lagoon 1
VC 3	Organics (P)	Sediment	" " " "
VC 4	Metals	Sediment	" " " "
VC 5	Organics	Water	Lagoon # 2
VC 6	Metals	Water	Lagoon # 2
VC 7	Organics	Sludge	Lagoon # 2
VC 8	Metals (P)	Sludge	" "
VC 9	Organics (P)	Water	Sump Near atrazine Plant
VC 10	Metals	Water	" " " "
VC 11	Organics	Water	Sump Below Product drumming Area
VC 12	Metals (P)	Water	" " " "
VC 13	Organics	Sediment	Returned Product Storage Area
VC 14	Metals	Sediment	" " " "
VC 15	Organics (P)	Soil	Northwest of DNBP Plant
VC 16	Metals	Soil	" " " "
VC 17	Organics	Water	Sump Northwest of DNBP Plant
VC 18	Metals (P)	Water	" " " "

\* (P) denotes picture taken



<u>sample location</u>	<u>sample number</u>
(A)	VC-1, VC-2
(B)	VC-3, VC-4
(C)	VC-5, VC-6-VC-7, VC-8
(D)	VC-9, VC-10
(E)	VC-11, VC-12
(F)	VC-13, VC-14
(G)	VC-15, VC-16
(H)	VC-17, VC-18

Vicksburg Chemical  
 200ft 0 200ft  
 approximate scale

*Summary*  
 SAMPLE RESULTS - VICKSBURG CHEMICAL

Sample #	Sample Type/Location	DNBP(ppm)	Atrazine(ppm)	Total chrome ppm	Total Arsenic ppm	Total Lead ppm
VC-1	Water; Influent pipe to lagoon	8	0.03			
VC-2	Water; Influent pipe to lagoon			0.03	.29	.008
VC-3	Sludge; Pond No. 1	13,000	5			
VC-4	Sludge; Pond No. 1			123	362	142
VC-5	Water; Lagoon No. 2	6	0.03			
VC-6	Water; Lagoon No. 2			.05	.74	.01
VC-7	Sludge; Lagoon No. 2	5.8				
VC-8	Sludge; Lagoon No. 2			10.2	21	5.3
VC-9	Water; sump near returned product area	130	15			
VC-10	Water; sump near returned product area			.03	2.47	.05
VC-11	Water; sump below product drumming area	260	.2			
VC-12	Water; sump below product drumming area			108	.68	2.9
VC-13	Solids; returned product area	330,000				
VC-14	Solids; returned product area			47.1	44.3	16.7
VC-15	Soil; N.W. of NDBP plant	96				
VC-16	Soil; N.W. of DNBP plant			40.1	27.8	170
VC-17	Water; sump N.W. of DNBP plant	300	0.01			
VC-18	Water; sump N.W. of DNBP plant			<.03	.02	.02







**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No. 1111

**I. GENERAL INFORMATION:** Facility Name Vicksburg Chemicals  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested \_\_\_\_\_  
 Sample Point Identification VC 8  
 Requested By \_\_\_\_\_ Data To Jack McCord  
 Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition Warm and cloudy Collected By MSR, JBM, MLB  
 Where Taken Lagoon #2

Type	Parameters	Preservative	Date	Time
1. <u>Sludge</u>	<u>Total Metals</u>	<u>Ice</u>	<u>9/3/86</u>	<u>1220</u>
2. _____	<u>EP Toxic Metals</u>	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

**IV. TRANSPORTATION OF SAMPLE:** Bus ( ) RO Vehicle ( ) Other ( )  
**V. LABORATORY:** Received By Jackie Key Date 9/4/86 Time 1139  
 Recorded By Dorothy Lewis Date Sent to State Office 9/12/86

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	(X)	<u>10.2</u> mg/kg	<u>LC</u>	<u>9/12/86</u>
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	(X)	<u>5.30</u> mg/kg	<u>LC</u>	<u>9/9/86</u>
Cyanide	(000722)	( )	_____ mg/l	_____	_____
Arsenic	_____	(X)	<u>21.0</u> mg/kg	<u>LC</u>	<u>9/9/86</u>
Selenium	_____	(X)	<u>0.50</u> mg/kg	<u>LC</u>	<u>9/9/86</u>
Barium	_____	(X)	<u>49.3</u> mg/kg	<u>LC</u>	<u>9/10/86</u>
Cadmium	_____	(X)	<u>1.30</u> mg/kg	<u>LC</u>	<u>9/12/86</u>
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks 7 day turn around

\*Date of Test Initiation











# MISSISSIPPI STATE UNIVERSITY



## MISSISSIPPI STATE CHEMICAL LABORATORY



BOX CR - MISSISSIPPI STATE, MISSISSIPPI 39762

September 15, 1986

DR. JAMES P. MINYARD, JR.  
State Chemist

Analysis No. 723,817 - 723,825  
Analysis of WATER, SOILS & SEDIMENTS Marked: BPC (See Below)  
Received on 9/4/86 from Bureau of Pollution Control  
Address Box 10385, Jackson, MS 39209

### RESULTS:

<u>MSCL No.</u>	<u>Sample</u>	<u>Bureau of Pollution Control Identification</u>
723,817	Water	Vicksburg Chemical, VC-1
723,818	Water	Vicksburg Chemical, VC-5
723,819	Water	Vicksburg Chemical, VC-9
723,820	Water	Vicksburg Chemical, VC-11
723,821	Water	Vicksburg Chemical, VC-17
723,822	Sediment	Vicksburg Chemical, VC-3
723,823	Sediment	Vicksburg Chemical, VC-7
723,824	Sediment	Vicksburg Chemical, VC-13
723,825	Soil	Vicksburg Chemical, VC-15

Attached sheets present the results from our analysis of the above water, sediment and soil samples for acid and base/neutral priority pollutants. The minimum quantifiable level (MQL) for water is normally 5 micrograms per liter, and for soil is normally 500 micrograms per kilogram. For samples such as these having high levels of organic matter, the extracts must be diluted, thereby increasing the MQL by the dilution factor. The applicable MQL for each sample is indicated on each Data Sheet for the specified priority pollutants, with the exception of Toxaphene. The MQL for Toxaphene is 10 times the stated MQL for each sample. Copies of computer generated GC/MS data are enclosed.

Also attached are results from analysis of the soil and sediment samples for arsenic and seven metals.

*James P. Minyard, Jr.*  
State Chemist

PLEASE GIVE NUMBER WHEN REFERRING TO THIS ANALYSIS

MISSISSIPPI STATE UNIVERSITY  
**MISSISSIPPI  
 STATE CHEMICAL LABORATORY**



BOX CR - MISSISSIPPI STATE, MISSISSIPPI 39762

September 15, 1986

DR. JAMES P. MINYARD, JR.  
 State Chemist

Analysis No. 723,822 - 723,825  
 Analysis of SOILS & SEDIMENTS  
 Received on 9/4/86  
 Address Box 10385, Jackson, MS 39209

Marked:  
 from Bureau of Pollution Control

RESULTS:

PARTS PER MILLION

Lab. No.	Marked	Barium	Cadmium	Chromium	Lead	Silver	Mercury	Selenium	Arsenic
723,822	VC-3	0.20	0.002	ND*	ND	ND	0.001	0.03	ND
723,823	VC-7	0.15	ND	ND	ND	ND	ND	0.04	0.001
723,824	VC-13	0.13	0.08	0.12	1.0	ND	ND	0.04	0.01
723,825	VC-15	0.21	0.02	0.08	0.30	ND	0.001	0.03	ND

\*ND = None Detected at the following Lower Levels of Detection:

Parts per Million (Milligrams per Kilogram)

Cadmium	0.001
Chromium	0.01
Lead	0.02
Silver	0.01
Mercury	0.0004
Arsenic	0.001

*James P. Minyard, Jr.*  
 State Chemist

PLEASE GIVE NUMBER WHEN REFERRING TO THIS ANALYSIS

MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET

MSCL ANALYSIS NO. 723,817

MARKED VC-1

ANALYSIS OF Water

ACID COMPOUNDS	MQL = 10	ND*	µg/l or µg/kg
2,4,6-trichlorophenol			
p-chloro-m-cresol			
2-chlorophenol			
2,4-dichlorophenol			
2,4-dimethylphenol			
2-nitrophenol			
4-nitrophenol			
2,4-dinitrophenol			
4,6-dinitro-2-methylphenol			
pentachlorophenol			
phenol			
DNEBP			8,000

BASE/NEUTRAL COMPOUNDS	ND	µg/l or µg/kg
benzo(a)pyrene		
benzo(b)fluoranthene		
benzo(k)fluoranthene		
chrysene		
acenaphthylene		
anthracene		
benzo(ghi)perylene		
fluorene		
phenanthrene		
dibenzo(a,h)anthracene		
indeno(1,2,3-cd)pyrene		
pyrene		

Atrazine Trace

BASE/NEUTRAL COMPOUNDS	MQL = 10	ND*	µg/l or µg/kg
acenaphthene			
benzidine			
1,2,4-trichlorobenzene			
hexachlorobenzene			
hexachloroethane			
bis(2-chloroethyl)ether			
2-chloronaphthalene			
1,2-dichlorobenzene			
1,3-dichlorobenzene			
1,4-dichlorobenzene			
3,3-dichlorobenzidine			
2,4-dinitrotoluene			
2,6-dinitrotoluene			
1,2-diphenylhydrazine			
fluoranthene			
4-chlorophenyl phenyl ether			
4-bromophenyl phenyl ether			
bis(2-chloroisopropyl)ether			
bis(2-chloroethoxy)methane			
hexachlorobutadiene			
hexachlorocyclopentadiene			
isophorone			
naphthalene			
nitrobenzene			
N-nitrosodiphenylamine			
N-nitrosodipropylamine			
bis(2-ethylhexyl)phthalate			
benzyl butyl phthalate			
di-n-butyl phthalate			
di-n-octyl phthalate			
diethyl phthalate			
dimethyl phthalate			
benzo(a)anthracene			

VOLATILE COMPOUNDS	ND	µg/l or µg/kg
acrolein		
acrylonitrile		
benzene		
carbon tetrachloride		
chlorobenzene		
1,2-dichloroethane		
1,1,1-trichloroethane		
1,1-dichloroethane		
1,1,2-trichloroethane		
1,1,2,2-tetrachloroethane		
chloroethane		
2-chloroethylvinyl ether		
chloroform		
1,1-dichloroethene		
trans-1,2-dichloroethene		
1,2-dichloropropane		
trans-1,3-dichloropropene		
cis-1,3-dichloropropene		
ethylbenzene		
methylene chloride		
chloromethane		
bromomethane		
bromoform		
bromodichloromethane		
fluorotrichloromethane		
dichlorodifluoromethane		
chlorodibromomethane		
tetrachloroethene		
toluene		
trichloroethene		
vinyl chloride		
o-xylene		

ND\* = None Detected

*James P. Maynard, Jr.*  
State Chemist

**MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET**

MSCL ANALYSIS NO. 723,822

MARKED VC-3

ANALYSIS OF Sediment

ACID COMPOUNDS		MQL = 100,000
	ND*	ug/l or ug/kg
2,4,6-trichlorophenol		
p-chloro-m-cresol		
2-chlorophenol		
2,4-dichlorophenol		
2,4-dimethylphenol		
2-nitrophenol		
4-nitrophenol		
2,4-dinitrophenol		
4,6-dinitro-2-methylphenol		
pentachlorophenol		
phenol		
DNBP		13,000,000 (1.3%)

BASE/NEUTRAL COMPOUNDS		ND	ug/l or ug/kg
benzo(a)pyrene			
benzo(b)fluoranthene			
benzo(k)fluoranthene			
chrysene			
acenaphthylene			
anthracene			
benzo(ghi)perylene			
fluorene			
phenanthrene			
dibenzo(a,h)anthracene			
indeno(1,2,3-cd)pyrene			
pyrene			
Atrazine	ND		

BASE/NEUTRAL COMPOUNDS		MQL = 100,000
	ND*	ug/l or ug/kg
acenaphthene		
benzidine		
1,2,4-trichlorobenzene		
hexachlorobenzene		
hexachloroethane		
bis(2-chloroethyl)ether		
2-chloronaphthalene		
1,2-dichlorobenzene		
1,3-dichlorobenzene		
1,4-dichlorobenzene		
3,3-dichlorobenzidine		
2,4-dinitrotoluene		
2,6-dinitrotoluene		
1,2-diphenylhydrazine		
fluoranthene		
4-chlorophenyl phenyl ether		
4-bromophenyl phenyl ether		
bis(2-chloroisopropyl)ether		
bis(2-chloroethoxy)methane		
hexachlorobutadiene		
hexachlorocyclopentadiene		
isophorone		
naphthalene		
nitrobenzene		
N-nitrosodiphenylamine		
N-nitrosodipropylamine		
bis(2-ethylhexyl)phthalate		
benzyl butyl phthalate		
di-n-butyl phthalate		
di-n-octyl phthalate		
diethyl phthalate		
dimethyl phthalate		
benzo(a)anthracene		

VOLATILE COMPOUNDS		ND	ug/l or ug/kg
acrolein			
acrylonitrile			
benzene			
carbon tetrachloride			
chlorobenzene			
1,2-dichloroethane			
1,1,1-trichloroethane			
1,1-dichloroethane			
1,1,2-trichloroethane			
1,1,2,2-tetrachloroethane			
chloroethane			
2-chloroethylvinyl ether			
chloroform			
1,1-dichloroethene			
trans-1,2-dichloroethene			
1,2-dichloropropane			
trans-1,3-dichloropropene			
cis-1,3-dichloropropene			
ethylbenzene			
methylene chloride			
chloromethane			
bromomethane			
bromoform			
bromodichloromethane			
fluorotrichloromethane			
dichlorodifluoromethane			
chlorodibromomethane			
tetrachloroethene			
toluene			
trichloroethene			
vinyl chloride			
o-xylene			

ND\* = None Detected

ND\* = None Detected

*James P. ...*  
State Chemist

**MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET**

MECL ANALYSIS NO. 723,818

MARKED VC-5

ANALYSIS OF Water

<u>ACID COMPOUNDS</u>	MQL = 10	ND*	<u>ug/l</u> or <u>ug/kg</u>
2,4,6-trichlorophenol			
p-chloro-m-cresol			
2-chlorophenol			
2,4-dichlorophenol			
2,4-dimethylphenol			
2-nitrophenol			
4-nitrophenol			
2,4-dinitrophenol			
4,6-dinitro-2-methylphenol			
pentachlorophenol			
phenol			
DNBP			6,300

<u>BASE/NEUTRAL COMPOUNDS</u>	ND	<u>ug/l</u> or <u>ug/kg</u>
benzo(a)pyrene		
benzo(b)fluoranthene		
benzo(k)fluoranthene		
chrysene		
acenaphthylene		
anthracene		
benzo(ghi)perylene		
fluorene		
phenanthrene		
dibenzo(a,h)anthracene		
indeno(1,2,3-cd)pyrene		
pyrene		
Atrazine		70

<u>BASE/NEUTRAL COMPOUNDS</u>	MQL = 10	ND*	ug/l or ug/kg
acenaphthene			
benzidine			
1,2,4-trichlorobenzene			
hexachlorobenzene			
hexachloroethane			
bis(2-chloroethyl)ether			
2-chloronaphthalene			
1,2-dichlorobenzene			
1,3-dichlorobenzene			
1,4-dichlorobenzene			
3,3-dichlorobenzidine			
2,4-dinitrotoluene			
2,6-dinitrotoluene			
1,2-diphenylhydrazine			
fluoranthene			
4-chlorophenyl phenyl ether			
4-bromophenyl phenyl ether			
bis(2-chloroisopropyl)ether			
bis(2-chloroethoxy)methane			
hexachlorobutadiene			
hexachlorocyclopentadiene			
isophorone			
naphthalene			
nitrobenzene			
N-nitrosodiphenylamine			
N-nitrosodipropylamine			
bis(2-ethylhexyl)phthalate			
benzyl butyl phthalate			
di-n-butyl phthalate			
di-n-octyl phthalate			
diethyl phthalate			
dimethyl phthalate			
benzo(a)anthracene			

<u>VOLATILE COMPOUNDS</u>	ND	ug/l or ug/kg
acrolein		
acrylonitrile		
benzene		
carbon tetrachloride		
chlorobenzene		
1,2-dichloroethane		
1,1,1-trichloroethane		
1,1-dichloroethane		
1,1,2-trichloroethane		
1,1,2,2-tetrachloroethane		
chloroethane		
2-chloroethylvinyl ether		
chloroform		
1,1-dichloroethene		
trans-1,2-dichloroethene		
1,2-dichloropropane		
trans-1,3-dichloropropene		
cis-1,3-dichloropropene		
ethylbenzene		
methylene chloride		
chloromethane		
bromomethane		
bromoform		
bromodichloromethane		
fluorotrichloromethane		
dichlorodifluoromethane		
chlorodibromomethane		
tetrachloroethene		
toluene		
trichloroethene		
vinyl chloride		
o-xylene		

ND\* = None Detected

*James P. Hingard, Jr.*  
State Chemist

**MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET**

MSCL ANALYSIS NO. 723,823

MARKED VC-7

ANALYSIS OF Sediment

ACID COMPOUNDS		MQL = 500
	ND*	ug/l or ug/kg
2,4,6-trichlorophenol		
p-chloro-m-cresol		
2-chlorophenol		
2,4-dichlorophenol		
2,4-dimethylphenol		
2-nitrophenol		
4-nitrophenol		
2,4-dinitrophenol		
4,6-dinitro-2-methylphenol		
pentachlorophenol		
phenol		
DNBP		5,800

BASE/NEUTRAL COMPOUNDS		ND	ug/l or ug/kg
benzo(a)pyrene			
benzo(b)fluoranthene			
benzo(k)fluoranthene			
chrysene			
acenaphthylene			
anthracene			
benzo(ghi)perylene			
fluorene			
phenanthrene			
dibenzo(a,h)anthracene			
indeno(1,2,3-cd)pyrene			
pyrene			
Atrazine			2,600
Toxaphene			Trace

BASE/NEUTRAL COMPOUNDS		MQL = 500
acenaphthene		
benzidine		
1,2,4-trichlorobenzene		
hexachlorobenzene		
hexachloroethane		
bis(2-chloroethyl)ether		
2-chloronaphthalene		
1,2-dichlorobenzene		
1,3-dichlorobenzene		
1,4-dichlorobenzene		
3,3-dichlorobenzidine		
2,4-dinitrotoluene		
2,6-dinitrotoluene		
1,2-diphenylhydrazine		
fluoranthene		
4-chlorophenyl phenyl ether		
4-bromophenyl phenyl ether		
bis(2-chloroisopropyl)ether		
bis(2-chloroethoxy)methane		
hexachlorobutadiene		
hexachlorocyclopentadiene		
isophorone		
naphthalene		
nitrobenzene		
N-nitrosodiphenylamine		
N-nitrosodipropylamine		
bis(2-ethylhexyl)phthalate		
benzyl butyl phthalate		
di-n-butyl phthalate		
di-n-octyl phthalate		
diethyl phthalate		
dimethyl phthalate		
benzo(a)anthracene		

VOLATILE COMPOUNDS	
acrolein	
acrylonitrile	
benzene	
carbon tetrachloride	
chlorobenzene	
1,2-dichloroethane	
1,1,1-trichloroethane	
1,1-dichloroethane	
1,1,2-trichloroethane	
1,1,2,2-tetrachloroethane	
chloroethane	
2-chloroethylvinyl ether	
chloroform	
1,1-dichloroethene	
trans-1,2-dichloroethene	
1,2-dichloropropane	
trans-1,3-dichloropropene	
cis-1,3-dichloropropene	
ethylbenzene	
methylene chloride	
chloromethane	
bromomethane	
bromoform	
bromodichloromethane	
fluorotrichloromethane	
dichlorodifluoromethane	
chlorodibromomethane	
tetrachloroethene	
toluene	
trichloroethene	
vinyl chloride	
o-xylene	

ND\* = None Detected

*James P. Maynard, Jr.*

State Chemist

**MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET**

MSCL ANALYSIS NO. 723,819

MARKED VC-9

ANALYSIS OF Water

**ACID COMPOUNDS** MQL = 50

	ND*	µg/l or µg/kg
2,4,6-trichlorophenol		
p-chloro-m-cresol		
2-chlorophenol		
2,4-dichlorophenol		
2,4-dimethylphenol		
2-nitrophenol		
4-nitrophenol		
2,4-dinitrophenol		50
4,6-dinitro-2-methylphenol		60
pentachlorophenol		
phenol		
DNBP		23,000

**BASE/NEUTRAL COMPOUNDS**

	ND	µg/l or µg/kg
benzo(a)pyrene		
benzo(b)fluoranthene		
benzo(k)fluoranthene		
chrysene		
acenaphthylene		
anthracene		
benzo(ghi)perylene		
fluorene		
phenanthrene		
dibenzo(a,h)anthracene		
indeno(1,2,3-cd)pyrene		
pyrene		
Atrazine		15,000
Toxaphene		Trace

**BASE/NEUTRAL COMPOUNDS** MQL = 10

acenaphthene		
benzidine		
1,2,4-trichlorobenzene		
hexachlorobenzene		
hexachloroethane		
bis(2-chloroethyl)ether		
2-chloronaphthalene		
1,2-dichlorobenzene		
1,3-dichlorobenzene		
1,4-dichlorobenzene		
3,3-dichlorobenzidine		
2,4-dinitrotoluene		
2,6-dinitrotoluene		
1,2-diphenylhydrazine		
fluoranthene		
4-chlorophenyl phenyl ether		
4-bromophenyl phenyl ether		
bis(2-chloroisopropyl)ether		
bis(2-chloroethoxy)methane		
hexachlorobutadiene		
hexachlorocyclopentadiene		
isophorone		
naphthalene		
nitrobenzene		
N-nitrosodiphenylamine		
N-nitrosodipropylamine		
bis(2-ethylhexyl)phthalate		
benzyl butyl phthalate		
di-n-butyl phthalate		
di-n-octyl phthalate		
diethyl phthalate		
dimethyl phthalate		
benzo(a)anthracene		

**VOLATILE COMPOUNDS**

acrolein		
acrylonitrile		
benzene		
carbon tetrachloride		
chlorobenzene		
1,2-dichloroethane		
1,1,1-trichloroethane		
1,1-dichloroethane		
1,1,2-trichloroethane		
1,1,2,2-tetrachloroethane		
chloroethane		
2-chloroethylvinyl ether		
chloroform		
1,1-dichloroethene		
trans-1,2-dichloroethene		
1,2-dichloropropane		
trans-1,3-dichloropropene		
cis-1,3-dichloropropene		
ethylbenzene		
methylene chloride		
chloromethane		
bromomethane		
bromoform		
bromodichloromethane		
fluorotrichloromethane		
dichlorodifluoromethane		
chlorodibromomethane		
tetrachloroethene		
toluene		
trichloroethene		
vinyl chloride		
o-xylene		

ND\* = None Detected

*James P. Hayward, Jr.*  
State Chemist

MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET

MSCL ANALYSIS NO. 723,820

MARKED VC-11

ANALYSIS OF Water

ACID COMPOUNDS	MQL = 1000	ND*	µg/l or µg/kg
2,4,6-trichlorophenol			
p-chloro-m-cresol			
2-chlorophenol			
2,4-dichlorophenol			
2,4-dimethylphenol			
2-nitrophenol			
4-nitrophenol			
2,4-dinitrophenol			22,000
4,6-dinitro-2-methylphenol			
pentachlorophenol			
phenol			
DNBP			260,000

BASE/NEUTRAL COMPOUNDS	ND	µg/l or µg/kg
benzo(a)pyrene		
benzo(b)fluoranthene		
benzo(k)fluoranthene		
chrysene		
acenaphthylene		
anthracene		
benzo(ghi)perylene		
fluorene		
phenanthrene		
dibenzo(a,h)anthracene		
indeno(1,2,3-cd)pyrene		
pyrene		
Atrazine		12,000

BASE/NEUTRAL COMPOUNDS	MQL = 200	ND*	µg/l or µg/kg
acenaphthene			
benzidine			
1,2,4-trichlorobenzene			
hexachlorobenzene			
hexachloroethane			
bis(2-chloroethyl)ether			
2-chloronaphthalene			
1,2-dichlorobenzene			
1,3-dichlorobenzene			
1,4-dichlorobenzene			
3,3-dichlorobenzidine			
2,4-dinitrotoluene			
2,6-dinitrotoluene			
1,2-diphenylhydrazine			
fluoranthene			
4-chlorophenyl phenyl ether			
4-bromophenyl phenyl ether			
bis(2-chloroisopropyl)ether			
bis(2-chloroethoxy)methane			
hexachlorobutadiene			
hexachlorocyclopentadiene			
isophorone			
naphthalene			
nitrobenzene			
N-nitrosodiphenylamine			
N-nitrosodipropylamine			
bis(2-ethylhexyl)phthalate			
benzyl butyl phthalate			
di-n-butyl phthalate			
di-n-octyl phthalate			
diethyl phthalate			
dimethyl phthalate			
benzo(a)anthracene			

VOLATILE COMPOUNDS	ND	µg/l or µg/kg
acrolein		
acrylonitrile		
benzene		
carbon tetrachloride		
chlorobenzene		
1,2-dichloroethane		
1,1,1-trichloroethane		
1,1-dichloroethane		
1,1,2-trichloroethane		
1,1,2,2-tetrachloroethane		
chloroethane		
2-chloroethylvinyl ether		
chloroform		
1,1-dichloroethene		
trans-1,2-dichloroethene		
1,2-dichloropropane		
trans-1,3-dichloropropene		
cis-1,3-dichloropropene		
ethylbenzene		
methylene chloride		
chloromethane		
bromomethane		
bromoform		
bromodichloromethane		
fluorotrichloromethane		
dichlorodifluoromethane		
chlorodibromomethane		
tetrachloroethene		
toluene		
trichloroethene		
vinyl chloride		
o-xylene		

ND\* = None Detected

James P. Hinzard, Jr.  
State Chemist

MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET

MSCL ANALYSIS NO. 723,824

MARKED VC-13

ANALYSIS OF Sediment

ACID COMPOUNDS		MQL = 1,000,000
	ND*	µg/l or µg/kg
2,4,6-trichlorophenol		
p-chloro-m-cresol		
2-chlorophenol		
2,4-dichlorophenol		
2,4-dimethylphenol		
2-nitrophenol		
4-nitrophenol		
2,4-dinitrophenol		
4,6-dinitro-2-methylphenol		
pentachlorophenol		
phenol		
DNBP		330,000,000 (33%)

BASE/NEUTRAL COMPOUNDS		ND	µg/l or µg/kg
benzo(a)pyrene			
benzo(b)fluoranthene			
benzo(k)fluoranthene			
chrysene			
acenaphthylene			
anthracene			
benzo(ghi)perylene			
fluorene			
phenanthrene			
dibenzo(a,h)anthracene			
indeno(1,2,3-cd)pyrene			
pyrene			
Atrazine	ND		

BASE/NEUTRAL COMPOUNDS		MQL = 1,000,000
	ND*	µg/l or µg/kg
acenaphthene		
benzidine		
1,2,4-trichlorobenzene		
hexachlorobenzene		
hexachloroethane		
bis(2-chloroethyl)ether		
2-chloronaphthalene		
1,2-dichlorobenzene		
1,3-dichlorobenzene		
1,4-dichlorobenzene		
3,3-dichlorobenzidine		
2,4-dinitrotoluene		
2,6-dinitrotoluene		
1,2-diphenylhydrazine		
fluoranthene		
4-chlorophenyl phenyl ether		
4-bromophenyl phenyl ether		
bis(2-chloroisopropyl)ether		
bis(2-chloroethoxy)methane		
hexachlorobutadiene		
hexachlorocyclopentadiene		
isophorone		
naphthalene		
nitrobenzene		
N-nitrosodiphenylamine		
N-nitrosodipropylamine		
bis(2-ethylhexyl)phthalate		
benzyl butyl phthalate		
di-n-butyl phthalate		
di-n-octyl phthalate		
diethyl phthalate		
dimethyl phthalate		
benzo(a)anthracene		

VOLATILE COMPOUNDS		ND	µg/l or µg/kg
acrolein			
acrylonitrile			
benzene			
carbon tetrachloride			
chlorobenzene			
1,2-dichloroethane			
1,1,1-trichloroethane			
1,1-dichloroethane			
1,1,2-trichloroethane			
1,1,2,2-tetrachloroethane			
chloroethane			
2-chloroethylvinyl ether			
chloroform			
1,1-dichloroethene			
trans-1,2-dichloroethene			
1,2-dichloropropane			
trans-1,3-dichloropropene			
cis-1,3-dichloropropene			
ethylbenzene			
methylene chloride			
chloromethane			
bromomethane			
bromoform			
bromodichloromethane			
fluorotrichloromethane			
dichlorodifluoromethane			
chlorodibromomethane			
tetrachloroethene			
toluene			
trichloroethene			
vinyl chloride			
o-xylene			

ND\* = None Detected

*James P. Murray*  
State Chemist

**MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET**

MSCL ANALYSIS NO. 723,825

MARKED VC-15

ANALYSIS OF Soil

ACID COMPOUNDS	MQL = 5,000	ND*	µg/l or (µg/kg)
2,4,6-trichlorophenol			
p-chloro-m-cresol			
2-chlorophenol			
2,4-dichlorophenol			
2,4-dimethylphenol			
2-nitrophenol			
4-nitrophenol			
2,4-dinitrophenol			
4,6-dinitro-2-methylphenol			
pentachlorophenol			
phenol			
DNBP			95,000

BASE/NEUTRAL COMPOUNDS	ND	µg/l or (µg/kg)
benzo(a)pyrene		
benzo(b)fluoranthene		
benzo(k)fluoranthene		
chrysene		
acenaphthylene		
anthracene		
benzo(ghi)perylene		
fluorene		
phenanthrene		
dibenzo(a,h)anthracene		
indeno(1,2,3-cd)pyrene		
pyrene		
Toxaphene		Trace
Atrazine	ND	

BASE/NEUTRAL COMPOUNDS	MQL = 5,000	ND*	µg/l or (µg/kg)
acenaphthene			
benzidine			
1,2,4-trichlorobenzene			
hexachlorobenzene			
hexachloroethane			
bis(2-chloroethyl)ether			
2-chloronaphthalene			
1,2-dichlorobenzene			
1,3-dichlorobenzene			
1,4-dichlorobenzene			
3,3-dichlorobenzidine			
2,4-dinitrotoluene			
2,6-dinitrotoluene			
1,2-diphenylhydrazine			
fluoranthene			
4-chlorophenyl phenyl ether			
4-bromophenyl phenyl ether			
bis(2-chloroisopropyl)ether			
bis(2-chloroethoxy)methane			
hexachlorobutadiene			
hexachlorocyclopentadiene			
isophorone			
naphthalene			
nitrobenzene			
N-nitrosodiphenylamine			
N-nitrosodipropylamine			
bis(2-ethylhexyl)phthalate			10,000
benzyl butyl phthalate			
di-n-butyl phthalate			
di-n-octyl phthalate			
diethyl phthalate			
dimethyl phthalate			
benzo(a)anthracene			

VOLATILE COMPOUNDS	ND	µg/l or (µg/kg)
acrolein		
acrylonitrile		
benzene		
carbon tetrachloride		
chlorobenzene		
1,2-dichloroethane		
1,1,1-trichloroethane		
1,1-dichloroethane		
1,1,2-trichloroethane		
1,1,2,2-tetrachloroethane		
chloroethane		
2-chloroethylvinyl ether		
chloroform		
1,1-dichloroethene		
trans-1,2-dichloroethene		
1,2-dichloropropane		
trans-1,3-dichloropropene		
cis-1,3-dichloropropene		
ethylbenzene		
methylene chloride		
chloromethane		
bromomethane		
bromoform		
bromodichloromethane		
fluorotrichloromethane		
dichlorodifluoromethane		
chlorodibromomethane		
tetrachloroethene		
toluene		
trichloroethene		
vinyl chloride		
o-xylene		

ND\* = None Detected

*James P. Hayward, Jr.*  
State Chemist

MISSISSIPPI STATE CHEMICAL LABORATORY  
PRIORITY POLLUTANT DATA SHEET

MSCL ANALYSIS NO. 723,821

MARKED VC-17

ANALYSIS OF Water

ACID COMPOUNDS MQL = 50

	ND*	µg/l or µg/kg
2,4,6-trichlorophenol		
p-chloro-m-cresol		
2-chlorophenol		
2,4-dichlorophenol		
2,4-dimethylphenol		
2-nitrophenol		
4-nitrophenol		
2,4-dinitrophenol		
4,6-dinitro-2-methylphenol		
pentachlorophenol		
phenol		
DNBP		30,000

BASE/NEUTRAL COMPOUNDS

	ND	µg/l or µg/kg
benzo(a)pyrene		
benzo(b)fluoranthene		
benzo(k)fluoranthene		
chrysene		
acenaphthylene		
anthracene		
benzo(ghi)perylene		
fluorene		
phenanthrene		
dibenzo(a,h)anthracene		
indeno(1,2,3-cd)pyrene		
pyrene		
Atrazine		10

BASE/NEUTRAL COMPOUNDS MQL = 10

acenaphthene		
benzidine		
1,2,4-trichlorobenzene		
hexachlorobenzene		
hexachloroethane		
bis(2-chloroethyl) ether		
2-chloronaphthalene		
1,2-dichlorobenzene		
1,3-dichlorobenzene		
1,4-dichlorobenzene		
3,3-dichlorobenzidine		
2,4-dinitrotoluene		
2,6-dinitrotoluene		
1,2-diphenylhydrazine		
fluoranthene		
4-chlorophenyl phenyl ether		
4-bromophenyl phenyl ether		
bis(2-chloroisopropyl) ether		
bis(2-chloroethoxy) methane		
hexachlorobutadiene		
hexachlorocyclopentadiene		
isophorone		
naphthalene		
nitrobenzene		
N-nitrosodiphenylamine		
N-nitrosodipropylamine		
bis(2-ethylhexyl) phthalate		
benzyl butyl phthalate		
di-n-butyl phthalate		
di-n-octyl phthalate		
diethyl phthalate		
dimethyl phthalate		
benzo(a)anthracene		

VOLATILE COMPOUNDS

acrolein		
acrylonitrile		
benzene		
carbon tetrachloride		
chlorobenzene		
1,2-dichloroethane		
1,1,1-trichloroethane		
1,1-dichloroethane		
1,1,2-trichloroethane		
1,1,2,2-tetrachloroethane		
chloroethane		
2-chloroethylvinyl ether		
chloroform		
1,1-dichloroethene		
trans-1,2-dichloroethene		
1,2-dichloropropane		
trans-1,3-dichloropropene		
cis-1,3-dichloropropene		
ethylbenzene		
methylene chloride		
chloromethane		
bromomethane		
bromoform		
bromodichloromethane		
fluorotrichloromethane		
dichlorodifluoromethane		
chlorodibromomethane		
tetrachloroethene		
toluene		
trichloroethene		
vinyl chloride		
o-xylene		

ND\* = None Detected

James P. Hayward, Jr.

State Chemist

Meeting of September 15, 1986  
with Vicksburg Chemical

Charles Estes	Bureau of Pollution Control	961-5171
David Kaufman	Brunini for Cedar	948-3101
DAVID OLSCHESKY	EIT	214-960-6855
Gary N. Dieblich	ICF Technology	202-862-7271
SAM Nott	EIT	214-960-6855
Allen T Malove	Apparon, Crump/Cedar	901-525-1711
BILL SMITH	BRUNINI - for Cedar	948-3101
Sam Mabry	Bureau of Pollution Control	961-5171
Charles Chisolm	Poll. Control	961-5171
Larry Zimmerman	ORC-IV EAA	347-2641
Randy A. Spaff	EPA-Region IV	404/347-3067
Jack McLeod	MIB PC	961-5171

## **EPA bans herbicide due to health risks**

WASHINGTON — The Environmental Protection Agency said Tuesday it was imposing an immediate ban on dinoseb, a widely used herbicide, because of the danger of birth defects and sterility it poses to farmworkers.

Normally, the agency proposes a pesticide ban and orders hearings, but this time, EPA said the risk was too great. It estimated that 25,400 farm workers, 1,300 of them females, could be exposed during the several months that hearings would require.

In the course of a year, about 45,000 workers will normally be exposed to 7 million to 11 million pounds of dinoseb.

*Manufactured by Vicksburg Chemical*



E.A. KENNEDY III The Clarion-Ledger

**ITS UPS AND DOWNS** — Elementary School first-graders enjoy rides on the play-

ground of the Clinton school, at the intersection of Old Vicksburg Road and Northside Drive. From left, they are Nakeisha Carter, 6, Bennett Rogers, 7, and Cliftron Spann, 6.

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# Cotton, soybean herbicide threatens fetuses, EPA says

By ALAN HUFFMAN  
Clarion-Ledger Staff Writer

Pregnant women exposed to a herbicide widely used in Mississippi cotton and soybean fields run the risk of birth defects in their unborn children, the U.S. Environmental Protection Agency reports.

Other studies show the herbicide dinoseb affects fertility of male rats and mice, the agency said. Dinoseb is cleared for both aerial and ground spraying in Mississippi, commonly under the trade name Dinitro.

"It's used extensively in Mississippi, but the season and the potential for problems is essentially over this year," said Wayne Houston, Mississippi Cooperative Extension Service weed-control specialist.

The chemical will be used again next year, however, on about 50 percent of the cotton planted in the state and about 25 percent to 30 percent of the soybeans, Houston estimated.

Chemical industry representatives could not be reached for comment Monday.

Dinoseb is sprayed on crops between mid-May and July to control broad-leaf weeds such as cocklebur and morning glory.

The dangers of swallowing, absorbing or inhaling dinoseb have long been known.

"It's been around for a long time and sold under a lot of trade names," Houston said. "It falls in a very toxic range. You get behind a sprayer on a hot day, you're going to the hospital. And it can kill you."

An oral dose of between seven drops and one teaspoonful of the undiluted liquid can kill a 150-pound person, according to EPA reports.

Symptoms of poisoning include extreme fatigue, thirst, sweating, flushing of the face, vomiting, diarrhea, nervousness, rapid heartbeat, fever, respiratory problems, muscle cramps and sometimes convulsions.

Pregnant women were warned not only about direct contact with the material, but also cautioned to take care in handling or laundering contaminated clothing.

"While EPA's primary concern is for women, because of

*Ventur's product*  
"Dinoseb has) been around for a long time and sold under a lot of trade names. It falls in a very toxic range. You get behind a sprayer on a hot day, you're going to the hospital. And it can kill you."

— Wayne Houston

the sterility studies the agency is recommending that all persons . . . take precautions from direct exposure associated with the application of the pesticide," the agency warned in a news release issued last month.

Houston said the potential danger "may be overblown. It's usually applied with ground equipment, and ordinarily there are no pregnant women around.

"But we do have some farm wives who drive tractors, and there is the possibility of drift from airplanes. And they don't really know how much exposure is necessary to cause a problem."

The danger apparently is greatest when the chemical is inhaled or absorbed through the skin, not when foods from contaminated fields are eaten, the EPA said.

Dinoseb is used as a contact herbicide in 180 products. Between 7 million and 11 million pounds of the active ingredient are sprayed "as a liquid from airplanes, tractor-drawn equipment and hand-held equipment," the EPA said.

Among the names the herbicide is marketed under are: AATOX, Aretit, Basanite, BNP, Butaphene, Caldon, Chemox, DBNF, Dinitro, Dibutox, Dinitrall, Dinomyte and Dinitrol.

Also, Dinotrobutylphenol, Dinoseb, Dow General Weed Killer, Dytop, Elgetol, Gebutox, Hivertox, Kiloseb, Knox-weed, Ladob, Laseb, Nitropon, Phenol, Premerg, Sinox General and Subitex.

**FILE COPY**

September 10, 1986

Mr. John G. Hill  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Hill:

The Bureau of Pollution Control hereby requests a complete drainage diagram showing the sewers, sumps, and drains that currently, or in the past, have discharged into the hazardous waste surface impoundment. This diagram must be submitted to this department for review on or before September 15, 1986. Since this diagram will be essential in determining whether hazardous waste has been placed in the impoundment, it will be necessary that this document be available for review prior to the hearing on September 16, 1986.

If you have any questions or comments, please contact me at 961-5171.

Sincerely,

Jack B. McCord  
Hazardous Waste Management Section

JBN:vgr



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

4WD-WC

RECEIVED

SEP - 1 1986

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Charles H. Estes, Acting Director  
Division of Solid/Hazardous  
Waste Management  
Mississippi Department of  
Natural Resources  
P.O. Box 10385  
2380 Highway 80 West  
Jackson, Mississippi 39209

Dear Mr. Estes:

To follow up the phone conversations with Paul Peronard of my staff on August 22, 1986, I have enclosed the information you requested. To touch briefly on the three subjects we discussed:

- 1) Overfiling in Vertac Case: I talked with Allan Antley and Doyle Brittain concerning the drum storage violations. The EPA had intended to include in our actions the 265 Subpart I container storage violations, a citing of 265.31 (for not minimizing releases to the environment), and citing for the 265 Subpart F financial responsibility violations. These three citations were in addition to the previously noted violations. It is our understanding that the BPC is planning to issue an order on 8/27/86 in the Vertac case. If this order includes the three above-mentioned violations, and if appropriate penalties are levied for these violations, the EPA will not assess a penalty for these violations and allow the MDNR the lead for these actions. We will still mention these violations in our order as this should best support both of our enforcement positions.
- 2) Use of the Surface Impoundment at Vertac: The surface impoundment at Vertac lost its interim status on November 9, 1985. A closure plan will have to be implemented within the normal timeframe. I have enclosed the Headquarters guidance for the addition of non-hazardous waste to a unit that lost interim status. Please note that the guidance clearly does not alleviate closure responsibilities and goes as far as to say that the start and cost of closure shall not be delayed or adversely affected.
- 3) Sprayfield of Koppers Grenada: I have also enclosed a preliminary ruling from Judge Yost concerning the spray fields at the Koppers Organics Plant in Dolomite, Alabama. Note that it clearly states that the Brown Wood decision does not give a blanket regulatory exemption to all spray fields and that this decision should, and cannot, be the sole basis for a claim to exemption. I suggest that if Koppers presses the matter further that the presence of a sludge (and constituents of concern) be documented through inspections, photographs and sampling.

✱

I appreciate your time and effort in the RCRA enforcement program in Mississippi.

Sincerely yours,

*Allan E. Antley*

Allan E. Antley, Chief  
Waste Compliance Section

**BRUNINI, GRANTHAM, GROWER & HEWES**

ATTORNEYS AT LAW

1400 TRUSTMARK BUILDING

JACKSON, MISSISSIPPI 39201

EDMUND L. BRUNINI  
JOHN M. GROWER  
GEORGE P. HEWES, III  
NEWT P. HARRISON  
RICHARD W. DORTCH  
JOHN A. WELSCH, JR.  
LEIGH B. ALLEN, III  
JOHN R. HUTCHERSON  
EDMUND L. BRUNINI, JR.  
LAWRENCE E. ALLISON, JR.  
CHARLES P. ADAMS, JR.  
W. DAVID WATKINS  
HOLMES S. ADAMS  
WILLIAM L. SMITH  
JEFFERSON D. STEWART  
ROBERT D. DRINKWATER  
CHRISTOPHER A. SHAPLEY  
LESLIE H. SOUTHWICK  
R. DAVID KAUFMAN  
JOHN E. MILNER

R. WILSON MONTJOY, II  
WALTER S. WEEMS  
JAMES A. KEITH  
JOSHUA J. WIENER  
LOUIS G. FULLER  
JOHNNY M. LOPER  
W. RODNEY CLEMENT, JR.  
BROOKS EASON  
JOHN E. WADE, JR.  
ELIZABETH LYVIAN RILEY  
J. PERRY SANSING  
WILSON H. CARROLL  
C. VICTOR BOURDESH, III  
LISA E. BOURDEAUX  
JAMES L. HALFORD  
JAMIE P. MARTIN  
GRANVILLE TATE, JR.

September 2, 1986

MAILING ADDRESS:  
POST OFFICE DRAWER 119  
JACKSON, MISSISSIPPI 39205

TELEPHONE:  
601-948-3101

R. GORDON GRANTHAM  
(1912 - 1986)

**FOR HAND DELIVERY**

Mr. Charles Chisolm, Director  
Department of Natural Resources  
Pollution Control Division  
Southport Mall  
Jackson, Mississippi

Re: Cedar Chemical Corporation

Dear Mr. Chisolm:

Cedar Chemical Corporation (Cedar) formally requests that the Mississippi Commission on Natural Resources (Commission) make available for Cedar's inspection and, if necessary, copying, the following information and documents in connection with the hearing scheduled for September 16, 1986:

1. All information upon which the Commission's staff relies in support of its "position that the facility has had spills of such quantity that the wastewater entering the impoundment is a hazardous waste and does not contain just 'de minimus losses.'" Fact Sheet accompanying Vertac Chemical Corporation Permit Denial MSD990714081;
2. All regulations, legislative histories, guidance documents, and any other documents upon which the staff relies in support of its position that the pond on Cedar's property is a RCRA regulated facility;
3. All information, analyses, data and related documents prepared or obtained by the Commission from inspections of Cedar's Vicksburg facilities;
4. All information and documents which support Cedar's position that its pond is not a RCRA regulated facility;

**RECEIVED**

SEP - 3 1986

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Charles Chisolm  
September 2, 1986  
Page 2

5. All evidence that the staff intends to introduce at the hearing scheduled for September 16, 1986.

6. The identification of all witnesses the staff intends to sponsor at the hearing.

In view of the time constraints under which we are operating, we would like to inspect the requested information and documents as soon as possible. I or Bill Smith can be available at any time to review the information.

I would also like to take this opportunity to request a pre-hearing meeting with you and your staff and representatives from the Environmental Protection Agency just as soon as you can arrange a meeting. I believe Bill Smith previously indicated that a meeting on September 5, 8, or 9 would be agreeable to us.

We appreciate your cooperation and look forward to hearing from you on these matters.

Sincerely yours,

BRUNINI, GRANTHAM, GROWER & HEWES

  
R. David Kaufman

RDK/afg



**VERTAC CHEMICAL CORPORATION**

24th Floor • 5100 Poplar • Memphis, TN 38127 • 901-767-6851

**RECEIVED**

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 638-1231

AUG 06 1986

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Jack McCord  
Mississippi Department of Natural  
Resources  
Bureau of Pollution Control  
Industrial Wastewater Control Section  
2380 Highway 80 West  
Jackson, MS 39204

August 4, 1986

Dear Mr. McCord:

Enclosed is an expanded summary of our discussions of July 17th. We believe the meeting resulted in very good progress in addressing Gary's concerns and hope this narrative, with references, will clarify essentially all of the points presented in the Bureau's July 2, 1986 letter. We wish to use this summary as basis for discussion at our next meeting during the morning of August 11.

I also wish to report the analytical results obtained during most recent sampling. DNPB analyses for Well #1A on July 28th and 29th were 265 ppb and 380 ppb, respectively. Arsenic analyses (as reported verbally by the contract lab) for Well #8 on July 22nd and 29th were 20 ppb and 150 ppb, respectively. Additional sampling is planned to determine the cause of this second anomolous value

If anything develops between now and the 11th, please feel free to give me a call.

Sincerely,

John G. Hill  
Environmental Engineer

DIVISION OF SOLID WASTE

REVIEWED BY \_\_\_\_\_

DATE \_\_\_\_\_

COMMENTS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

JGH/ld

Enc.

cc - F. Ahlers  
D. Madsen  
(w/enc.)

Mr. Fred Ahlers  
Plant Manager  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

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July 31, 1986

CERTIFIED MAIL NO. P 283 765 886

**FILE COPY**

Mr. Fred Ahlers  
Plant Manager  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

Re: Part B Application Denial and  
Closure Plan Comments  
MSD990714081

This is to notify you that the Mississippi Natural Resources Permit Board's decision to deny issuance of a hazardous waste storage permit to Vicksburg Chemical is final as of this date. Therefore, Vicksburg Chemical has 15 days from the receipt of this letter to either submit an interim status closure/post closure plan in accordance with the Mississippi Hazardous Waste Management Regulations Part 265 or to notify the Bureau, in writing, that you wish the closure and post closure plans submitted with your Part B application to be considered as your interim status closure plan.

We have completed our review of your Part B closure and post closure plans and our comments are attached. Should you choose to use these plans as stated above, they must be modified to address the attached comments and resubmitted to our office by September 1, 1986.

If you have any questions or comments, please contact Mr. Jack McCord, of my staff, at 961-5171.

Very truly yours,

Charles H. Chisolm  
Bureau Director

CHC:JEM:cm

Attachment

cc: Mr. John G. Hill, Vicksburg Chemical Corporation  
Mr. Jim Scarbrough, EPA

VICKSBURG CHEMICAL CORPORATION -  
CLOSURE/POST-CLOSURE PLAN REVIEW  
JULY, 1986  
ITEMS NEEDED ATTENTION

1. The stabilized sediment and sludge must pass a paint filter test.
2. The rinsate from decontamination of equipment associated with the operation of the impoundment should be handled in the same manner as the rinsate from decontamination of equipment used during closure.
3. How will the rinsate be collected and transported to the wastewater treatment system?
4. Vertac must describe the USCS classification of the clay to be used in the cap. Additional specifications such as water content and organic content must also be submitted.
5. Will the clay liner be constructed in lifts, and if so what will be the uncompacted thickness of each lift.
6. What methods will be used to compact the clay cap, and to what density will the clay be compacted.
7. The installation of the drain pipes to prevent ponding on top of the landfill must be included as part of the closure plan.
8. Calculations should be provided to show that the drain pipes are capable of removing the precipitation from a 10 year, 1 hour storm event.
9. Vertac must perform a water balance on the cover system to determine percolation rates through the cap.
10. The solidified sludge and soil should be covered with a buffer layer that provides good drainage and a smooth clod free base for additional layers. Since Vertac proposes to close the impoundment below the level of the dikes, the drainage layer should include drainage pipes to release any water percolation through the cap.
11. Provisions must be made for establishing and maintaining permanently surveyed benchmarks. These costs should be reflected in the facility's closure and post-closure plan.
12. Certification of closure must be by both an independent registered Professional Engineer, and the owner/operator.
13. The post-closure plan must include provisions for maintaining the permanent surveyed benchmarks.
14. Any changes in the closure or post-closure plans must be reflected in the cost estimates.
15. The specifications of the top soil should include the USCS classification.
16. The closure plan should specify how the topsoil will be prepared prior to planting.

17. The topsoil should be placed on the cap relatively dry to prevent compaction.

18. Vicksburg Chemical must specify what methods of quality assurance and quality control will be implemented during construction to ensure the closure plan is followed and materials meet specifications.

JM: cm

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

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

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

S E / J M R

Mr. Fred Ahlers  
 Plant Manager  
 Vicksburg Chemical Corporation  
 P. O. Box 3  
 Vicksburg, Mississippi 39180

## 4. Type of Service:

- Registered       Insured  
 Certified       COD  
 Express Mail

## Article Number

P 283  
 765 886

Always obtain signature of addressee or agent and  
DATE DELIVERED.

## 5. Signature - Addressee

X

## 6. Signature - Agent

X

## 7. Date of Delivery

8/5/86

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

MSD9990714081

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**OFFICIAL BUSINESS**



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- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

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USE, \$300

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DEPT. OF NATURAL RESOURCES  
BUREAU OF COLLECTIBLES  
P. O. BOX 1030  
JACKSON



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



July 31, 1986

CERTIFIED MAIL NO. P 283 765 886

Mr. Fred Ahlers  
Plant Manager  
Vicksburg Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Ahlers:

Re: Part B Application Denial and  
Closure Plan Comments  
MSD990714081

This is to notify you that the Mississippi Natural Resources Permit Board's decision to deny issuance of a hazardous waste storage permit to Vicksburg Chemical is final as of this date. Therefore, Vicksburg Chemical has 15 days from the receipt of this letter to either submit an interim status closure/post closure plan in accordance with the Mississippi Hazardous Waste Management Regulations Part 265 or to notify the Bureau, in writing, that you wish the closure and post closure plans submitted with your Part B application to be considered as your interim status closure plan.

We have completed our review of your Part B closure and post closure plans and our comments are attached. Should you choose to use these plans as stated above, they must be modified to address the attached comments and resubmitted to our office by September 1, 1986.

If you have any questions or comments, please contact Mr. Jack McCord, of my staff, at 961-5171.

Very truly yours,

*Bill Barrett*

Charles H. Chisolm  
Bureau Director

CHC:JBM:cm  
Attachment

cc: Mr. John G. Hill, Vicksburg Chemical Corporation  
Mr. Jim Scarbrough, EPA

← THIS COPY FOR

VICKSBURG CHEMICAL CORPORATION -  
CLOSURE/POST-CLOSURE PLAN REVIEW  
JULY, 1986  
ITEMS NEEDED ATTENTION

1. The stabilized sediment and sludge must pass a paint filter test.
2. The rinsate from decontamination of equipment associated with the operation of the impoundment should be handled in the same manner as the rinsate from decontamination of equipment used during closure.
3. How will the rinsate be collected and transported to the wastewater treatment system?
4. Vertac must describe the USCS classification of the clay to be used in the cap. Additional specifications such as water content and organic content must also be submitted.
5. Will the clay liner be constructed in lifts, and if so what will be the uncompacted thickness of each lift.
6. What methods will be used to compact the clay cap, and to what density will the clay be compacted.
7. The installation of the drain pipes to prevent ponding on top of the landfill must be included as part of the closure plan.
8. Calculations should be provided to show that the drain pipes are capable of removing the precipitation from a 10 year, 1 hour storm event.
9. Vertac must perform a water balance on the cover system to determine percolation rates through the cap.
10. The solidified sludge and soil should be covered with a buffer layer that provides good drainage and a smooth clod free base for additional layers. Since Vertac proposes to close the impoundment below the level of the dikes, the drainage layer should include drainage pipes to release any water percolation through the cap.
11. Provisions must be made for establishing and maintaining permanently surveyed benchmarks. These costs should be reflected in the facility's closure and post-closure plan.
12. Certification of closure must be by both an independent registered Professional Engineer, and the owner/operator.
13. The post-closure plan must include provisions for maintaining the permanent surveyed benchmarks.
14. Any changes in the closure or post-closure plans must be reflected in the cost estimates.
15. The specifications of the top soil should include the USCS classification.
16. The closure plan should specify how the topsoil will be prepared prior to planting.

17. The topsoil should be placed on the cap relatively dry to prevent compaction.

18. Vicksburg Chemical must specify what methods of quality assurance and quality control will be implemented during construction to ensure the closure plan is followed and materials meet specifications.

JM:cm



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

JUL 22 1986

4WD-WC

RECEIVED

JUL 24 1986

Mr. Charles H. Estes, Acting Director  
Division of Solid/Hazardous  
Waste Management  
Mississippi Department of  
Natural Resources  
P.O. Box 10385  
2380 Highway 80 West  
Jackson, Mississippi 39209

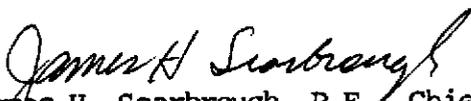
DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Dear Mr. Estes:

We recently received Charles Chisolm's July 9, 1986, letter regarding enforcement actions. We are in the final stages of issuing a civil referral against Vertac for LOIS violations. We will not take any additional enforcement actions until we have an opportunity to review the appropriateness of actions taken by the Commission on July 23, 1986. If we find they are appropriate (with penalties so that non-compliance costs more than compliance), we will not overfile. Please send us copies of all Commission Orders as soon as the Commission acts on them. Your cooperation in developing a RCRA enforcement program in Mississippi that takes timely and appropriate action will be appreciated.

Please let us know if we can be of assistance.

Sincerely yours,

  
James H. Scarbrough, P.E., Chief  
Residuals Management Branch  
Waste Management Division

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

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

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

*ML* *JWH*  
 Honorable Allen T. Malone  
 Attorney at Law  
 Suite 2610, 100 North Main  
 Memphis, Tennessee 38103

7-28-86  
 ...

## 4. Type of Service:

- Registered       Insured  
 Certified       COD  
 Express Mail

Article Number

*P 283765-821*

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

## 5. Signature - Addressee

X *Bud Thompson*

## 6. Signature - Agent

X

## 7. Date of Delivery

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



*[Handwritten signature]*

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USE, \$300**

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TO**



— DEPT. OF NATURAL RESOURCES  
— BUREAU OF POLLUTION CONTROL  
— P. O. BOX 10385  
— JACKSON

MS  
39209

Honorable Allen T. Malone  
Attorney at Law  
Suite 2610, 100 North Main  
Memphis, Tennessee 38103

P 283 765 821

*Enforcement Letter 7/28/86 for Hearing*

**FILE COPY**

July 28, 1986

CERTIFIED MAIL - No. P 283 765 821

Honorable Allen T. Malone  
Attorney at Law  
Suite 2610, 100 North Main  
Memphis, Tennessee 38103

Dear Mr. Malone:

Re: Cedar Chemical, Inc.  
Warren County, Mississippi

The hearing scheduled before the Mississippi Commission on Natural Resources for Cedar Chemical, Inc., which was postponed at your request, has now been scheduled to begin at 3:00 p.m., Tuesday, August 26, 1986.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

Charles H. Chisels  
Bureau Director

CHC:JWH:cl

cc: Mr. Fred Ahlers, Cedar Chemical, Inc.



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



July 18, 1986

Honorable Allen T. Malone  
Attorney at Law  
Suite 2610 100 North Main  
Memphis, Tennessee 38103

Dear Mr. Malone:

Re: Cedar Chemical, Inc.  
Warren County, Mississippi

This letter will confirm our telephone conversation of this date wherein you requested a continuance in the matter referenced above.

The matter has been continued until the Commission meeting of August 20, 1986, and we will advise you of a time at a later date.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

John W. Harner  
Chief of Law Enforcement

JWH/me

cc: Mr. Fred Ahlers



MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, Mississippi 39209  
(601) 961-5171



M E M O R A N D U M

TO: File

FROM: Chuck Estes

SUBJECT: Show Cause Meeting with Cedar Chemical Corporation  
(Formerly Vertac Chemical) July 8, 1986

DATE: July 10, 1986

Charles Chisolm, George Williamson (A.G.), John McNeal (A.G.), Gary Payne and I met with Dave Madsen, Fred Ahlers, John Hill and Alan Gradet (consultant) of Cedar Chemical Corporation.

We briefly summarized the RCRA history of the facility and cited current violations occurring at the facility. These include: inadequate closure plan and groundwater assessment and corrective action plans which are in violation of a Commission order and failure to obtain coverage for sudden and non-sudden liability insurance.

We indicated to the facility that a hearing would be held, possibly as soon as July 23, 1986, before the Commission. At the hearing, the staff will recommend a penalty for the violations and ask that the facility be placed under a compliance schedule to correct the violations.

The representatives of Cedar Chemical Corporation indicated that they needed some time to study the situation and would contact us in the near future for further discussion. Also, further discussions would be needed on the technical deficiencies of the closure plan and groundwater issue between the respective staffs.

CE:hdb

July 9, 1986

FILE COPY

CERTIFIED MAIL NO. P 283 765 622

Vertac Chemical Corporation  
24th Floor, 5100 Poplar,  
Memphis, Tennessee 38137

CERTIFIED MAIL NO. P 283 765 623

Mr. Fred Ahlers  
Vertac Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 29180

CERTIFIED MAIL NO. P 283 765 624

Mr. Fred Ahlers  
Cedar Chemical Corporation  
P. O. Box 3  
Vicksburg, Mississippi 29180

Gentlemen:

Under the authority of Section 49-17-31 of the Mississippi Code, the Mississippi Commission on Natural Resources hereby causes this written complaint to be served on Vertac Chemical Corporation and/or Cedar Chemical Corporation (hereinafter referred to as respondents) for apparent violations which include the following:

Investigations by the Bureau of Pollution Control have revealed that respondents are in apparent violation of an Order of the Mississippi Commission on Natural Resources. Specifically, respondents failed to submit a report including the groundwater data and closure/post-closure information that satisfies the requirements of the Bureau of Pollution Control's letter of November 14, 1985, and MHWNR Part 264 Subparts G and K on or before January 10, 1986; failed to submit a draft Groundwater Corrective Action Plan to the Bureau of Pollution Control in accordance with MHWNR Section 264.100 on or before May 16, 1986; failed to submit the finalized Groundwater Corrective Action Plan and begin implementation in accordance with the Bureau of Pollution Control's letter of November 14, 1985 and MHWNR Section 264.100 on or before June 16, 1986, as required by Commission Order No. 948-85 issued November 20, 1985; and also failed to obtain sudden and non-sudden liability insurance as required by MHWNR Section 265.147.

July 9, 1986

Page -2-

Respondents are therefore notified to appear before the Mississippi Commission on Natural Resources on the 22nd day of July, 1986, at 3:30 p.m., in the conference room of the Commission in the Southport Center Building, 2380 Highway 80 West, Jackson, Mississippi, where the matter will be heard by the Commission.

You have the right to be accompanied by your legal counsel and such witnesses as you deem necessary in presenting your defense. This will be a formal hearing, and all testimony will be taken under oath as in a courtroom trial. The Commission is empowered to levy penalties of up to \$25,000.00 per day per violation, and any appeal of the Commission's decision will be to the Chancery Court.

Attached you will find a copy of the Commission's hearing procedures and also a copy of frequently asked questions regarding hearings. We urge you to review these documents carefully.

If you have any questions regarding this matter, please contact us.

Yours very truly,

Charlie L. Blalock  
Executive Director

CLB:cm  
Attachment

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

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 2.  Restricted Delivery.

MH

Mr. Fred Ahlers  
 Cedar Chemical Corporation  
 P. O. Box 3  
 Vicksburg, Mississippi 29180

## 4. Type of Service:

- Registered       Insured  
 Certified       COD  
 Express Mail

## Article Number

P283

765424

Always obtain signature of addressee or agent and DATE DELIVERED.

## 5. Signature - Addressee

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## 6. Signature - Agent

X

## 7. Date of Delivery

7-16

7 S.

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

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BUREAU OF POLLUTION CONTROL  
P. O. BOX 10385  
JACKSON

MS  
39209

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

MH

Mr. Fred Ahlers  
 Vertac Chemical Corporation  
 P. O. Box 3  
 Vicksburg, Mississippi 29180

**4. Type of Service:**

- Registered       Insured  
 Certified       COD  
 Express Mail

**Article Number**

P 283  
 765 623

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**6. Signature - Agent**

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**7. Date of Delivery**

7-10-86 F

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JACKSON

MS  
39209

PS Form 3811, July 1983 4474

**SENDER: Complete Items 1, 2, 3 and 4.**

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

MH

Vertac Chemical Corporation  
24th Floor, 5100 Poplar  
Memphis, Tennessee 38137

4. Type of Service:
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  - Certified
  - Express Mail
  - Insured
  - COD

Article Number  
P283  
765622

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5. Signature - Addressee

6. Signature - Agent

Brenda Cowdy

7. Date of Delivery

7-15-86

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

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TO**



DEPT. OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL  
P. O. BOX 10385  
JACKSON

MS  
39209



FILE COPY

July 2, 1986

Mr. John Hill  
Vertac Chemical Company  
P. O. Box 3  
Vicksburg, Mississippi 39180

Dear Mr. Hill:

Vertac has not installed a sufficient number of wells to adequately define the extent of subsurface contamination. **Re: Review of Groundwater Assessment**

We have completed our review of your groundwater assessment submitted on January 11, 1986. Please find enclosed our comments regarding the adequacy of your assessment. Any enforcement actions or penalty may be discussed at our meeting on July 8, 1986.

If you have questions or comment, please contact us at 961-5171.

The pentachlorophenol concentration associated with MW-1 has not been adequately defined. **sincerely,**

ASSESSMENT OF GROUNDWATER AND SITE CHARACTERISTICS

*Charles Ester for*

1. The areas of recharge and discharge for the shallow, confined, saturated silt and clay aquifer have not been adequately defined. **Hazardous Waste Section**

JMc:cl

2. The vertical groundwater flow direction and velocity in the shallow aquifer has not been evaluated.

3. The permeability of the Byram Member Marl has not been determined.

a. Permeability.

b. Vertical flow direction and velocity.

c. Groundwater flow direction and velocity.

4. The permeability of the Byram Member Marl has not been determined.

5. The aquifer beneath the Byram Member Marl has not been identified.

6. The absence of piezometric data in the Byram Member Marl has not been identified. The connectivity between the shallow aquifer and the confined aquifer beneath the Byram Member Marl has not been identified.

# FILE COPY

May 23, 1986

Mr. E. M. Bellet  
Vertac Chemical Corporation  
24th Floor  
5100 Poplar  
Memphis, Tennessee 38137

Dear Mr. Bellet:

Re: Treated NSAS for Irrigation Water

This letter is in response to our telephone conversation of May 8, 1986. In that conversation, you requested that Vertac Chemical Company be allowed to give Neutralized Spent Acid Solution (NSAS) to farmers as irrigation or make-up water, as stated in your proposal of January 31, 1986. You amended your proposal over the phone stating that the NSAS would be treated so that 2,4-dinitrophenol concentrations would be below detection limits, and the concentration of DNBP (Dinoseb) would be on the order of 50 parts per billion.

Although 2,4 dinitrophenol and Dinoseb are both P-listed wastes, under Section 261.33(e), the Division of Solid and Hazardous Waste does not regulate manufacturing process wastes that contain these substances, unless that waste is identified as a hazardous waste in the Mississippi Hazardous Waste Management Regulations (MHWMR), 261.31 or 261.32. Since Vertac's NSAS is not listed in MHWMR's 261.31 or 261.32, the Division of Solid and Hazardous Waste cannot prohibit or approve Vertac's proposed use of NSAS. However, any discharge of NSAS will be regulated by the Bureau of Pollution Control's Industrial Wastewater Division, and Vertac should obtain approval from that Division before implementing their proposal.

If the NSAS is mixed with a P-listed or U-listed waste under MHWMR, Section 261.33 that is either off-specification or has been spilled, or if it is mixed with any other listed waste, the NSAS would be regulated as a hazardous waste. As a hazardous waste, any storage over 90 days or treatment of the NSAS would be prohibited without Vertac first obtaining a hazardous waste treatment or storage permit for this waste.

If you have questions or comments, please call us at 961-5171.

Sincerely,

Jack B. McCord  
Hazardous Waste Section

JBM:vgc



**VERTAC CHEMICAL CORPORATION**

24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TELEX 53927

April 18, 1986

RECEIVED  
APR 21 1986

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL

Mr. Jack McCord  
Mississippi Department of Natural Resources  
Bureau of Pollution Control  
P. O. Box 10385  
Jackson, MS 39209

Dear Mr. McCord:

The Closure/Post Closure cost estimates are herein adjusted for inflation:

1985 Costs:

\$1,008,000	Closure
<u>243,200</u>	Post Closure
\$1,251,200	

Inflation Factor:

1.033

Cost to be used for 1986 Trust Fund allocation:

\$1,292,489.60

Best regards,

Dick Karkkainen  
Director of Environment and Safety

RDK/bh

cc: J. C. Bumpers  
J. L. Hanna  
J. Hill

DIVISION OF SOLID WASTE  
 REVIEWED BY ST  
 DATE \_\_\_\_\_  
 COMMENTS sent to EPA  
11-16-87



1.a. EPA ID: MD030702020081

GW INFORMATION

2.a. Date Status Sheet Submitted 4/25/86

b. Facility Name: Vestac

b. First Time Report  Update

If using this form to report on status of groundwater monitoring activities, fill in 3 and 4 as appropriate.

3. Facility Groundwater Monitoring Status A

D = Detection Monitoring

X = Well System Not Present

Choose one.

A = Assessment or Compliance Monitoring

N = Not applicable

W = Waiver (Hydrogeologic)

For 4., more than one Groundwater Monitoring Activity can be reported on a single Status Sheet.

4. Activity Reported with this Submission	Respon. Agency E=EPA S=State	Date Status Determined	Compliance Status Y=Compliance N=Noncompl. (Class I violation only)	Date Report Received	Hazardous Waste Constituent (HWC) Flag Y=HWC in GW N=No HWC in GW
01 Evaluation of Well System				XXXXXXXXXXXX XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX
02 Evaluation of Sampling and Analysis Program	S	84-12-14	Y	XXXXXXXXXXXX XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX
03 Notice of Significant Increase	S	XXXXXXXXXXXX XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX
04 GW Quality Assessment Report	S	85-4-17	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX	85-4-15	Y
05 Waiver Demonstration (Hydrogeologic)				XXXXXXXXXXXX XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX
06 GW Records	S	8-12-14		XXXXXXXXXXXX XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX
07 Evaluation of Hydrogeologic Information				XXXXXXXXXXXX XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX

COMMENTS: \_\_\_\_\_

10/11/85 DRAFT FINAL

FY 1986 FACILITY STATUS SHEET  
FINANCIAL INFORMATION

DATE STATUS SHEET SUBMITTED 4-25-85  
NEW \_\_\_\_\_ UPDATE ✓

EPA ID: MSD 990714081  
FACILITY NAME Vectac-Chemical

If reporting on Financial Documents, fill in 5 as appropriate.

5. Financial Assurance/Insurance Type	Respon. Agency	Evaluation Status X=Not Applicable N=Not Evaluated	Compliance Status Y=Compliance N=NonCompliance
C= Closure Assurance	<u>S</u>		<u>Y</u>
L= Post Closure Assurance	<u>S</u>		<u>Y</u>
S= Sudden Liability Instrument	<u>S</u>		<u>N</u>
N= Non-Sudden Liability Instrument	<u>S</u>		<u>N</u>
R= Corrective Action Assurance Instrument	<u>S</u>	<u>N</u>	

Comments: \_\_\_\_\_  
\_\_\_\_\_



CALIFORNIA PERMITS DIVISION

PROCESS CODE	AMOUNT	UNIT (CHECK ONE)	
S01 CONTAINERS		<input type="checkbox"/> GALLONS	<input type="checkbox"/> LITERS
S02 STORAGE TANKS	1030000	<input checked="" type="checkbox"/> GALLONS	<input type="checkbox"/> LITERS
T01 TREATMENT TANKS		<input type="checkbox"/> GPD	<input type="checkbox"/> LPD
T04 OTHER TREATMENT	1200000	<input checked="" type="checkbox"/> GPD	<input type="checkbox"/> LPD
T03 INCINERATOR		<input type="checkbox"/> TONS/hr <input type="checkbox"/> GAL/hr	<input type="checkbox"/> M TONS/hr <input type="checkbox"/> BTU/hr
S03 WASTE PILES		<input type="checkbox"/> Cu Yards	<input type="checkbox"/> Cu Meters
S04 STORAGE SURFACE IMPOUNDMENTS	3000000	<input checked="" type="checkbox"/> GALLONS	<input type="checkbox"/> LITERS
T02 TREATMENT SURFACE IMPOUNDMENTS		<input type="checkbox"/> GPD	<input type="checkbox"/> LPD
D03 DISPOSAL SURFACE IMPOUNDMENTS		<input type="checkbox"/> GALLONS	<input type="checkbox"/> LITERS
D09 INJECTION WELLS		<input type="checkbox"/> GALLONS	<input type="checkbox"/> LITERS
D01 LANDFILLS		<input type="checkbox"/> ACRE-feet	<input type="checkbox"/> HECTARE-feet
D02 LAND APPLICATION		<input type="checkbox"/> ACRES	<input type="checkbox"/> HECTARES

1. PART B CALL-IN
2. PART B RECEIVED
4. 800 SENT  
1st notice of deficiency   
2nd notice of deficiency   
notice of violation
6. APPLICATION COMPLETE
13. PUBLIC NOTICE   
 draft permit, HSA not applicable  
 state permit, HSA portion not included  
 joint permit, with compliance schedule  
 joint permit, schedule not required  
 withdrawn, interim status terminated
16. PERMIT DETERMINATION   
 issued, HSA not applicable  
 issued, HSA portion not included  
 issued, with HSA compliance schedule  
 issued, schedule not required  
 denied  
 withdrawn, interim status terminated
17. PERMIT EFFECTIVE
36. PERMIT EXPIRES
22. PERMIT TERMINATED
20. PERMIT MODIFIED   
 groundwater monitoring  
 corrective action  
 both G&M and CA  
 other
33. REQUEST WITHDRAWN   
 90 day storage  
 small quantity generator  
 no RCRA waste handled now  
 protective filler  
 closing
32. DETERMINATION ON REQUEST   
 approved, Closure plan approved  
 approved, No closure required  
 denied

37. DOUBLE LINER WAIVER REQUESTED
38. DETERMINATION ON WAIVER   
 approved  
 disapproved
39. FACILITY NOT SCREENED   
 environmentally significant  
 not significant
40. FACILITY NOT PLAN APPROVED
43. EXPOSURE INFORMATION RECEIVED
45. REFERRED FOR HEALTH ASSESSMENT
47. SRIIS DETERMINATION   
 yes, SRIIS present  
 no, SRIIS not present
54. PRELIM. ASSESSMENT COMPLETE   
 remedial inv. necessary  
 remedial inv. not required
57. REMEDIAL INV. PLAN APPROVED   
 as part of permit  
 in compliance order
58. REMEDIAL INV. COMPLETE   
 corrective measures necessary  
 corrective measures not required
59. CORR. MEASURES PLAN APPROVED
62. DETERMINATION OF COMPLIANCE WITH 265.91 and/or 270.14(c)
63. MONITORING PROGRAM DEVELOPED   
 detection monitoring/permit  
 detection monitoring/order  
 compliance monitoring/permit  
 compliance monitoring/order  
 corrective action/permit  
 corrective action/order
3. INITIAL REVIEW COMPLETED
5. ADDITIONAL INFO RECEIVED
80. WED TO STATE
81. SITE VISIT

\*\*\*REQUIRED FROM EPA PERMIT HOLDERS\*\*\*



**VERTAC CHEMICAL CORPORATION**

24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 3  
VICKSBURG, MS 39180  
(601) 636-1231

*Handwritten signature*  
MAR 11 1986

Mr. Jack McCord  
Mississippi Department of Natural  
Resources  
Bureau of Pollution Control  
Industrial Wastewater Control Section  
2380 Highway 80 West  
Jackson, MS 39204

DEPT. OF NATURAL RESOURCE  
BUREAU OF POLLUTION CONTROL  
March 12, 1986

Dear Mr. McCord:

The following are the latest analytical results for the ground-water wells at the Vertac Vicksburg Facility. These samples were collected on March 5, 1986.

	Monitoring Well Number	DNBP ppb
<b>DIVISION OF SOLID WASTE</b>		
REVIEWED BY <i>JGH</i>	1	940
DATE <i>3-18-86</i>	11	<40
COMMENTS <i>consistent with</i>	10	<40
<i>all but 1 other sampling</i>	9	<40
	4	<40

Sincerely,

*John G. Hill*

John G. Hill  
Environmental Engineer

JGH/ld

cc - D. Madsen  
D. Karkkainen



# VERTAC CHEMICAL CORPORATION

24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TELEX 53927

## AGRONOMIC USE OF THE NEUTRALIZED SPENT ACID SOLUTION

### A PROPOSAL

#### I. BACKGROUND OF THE PROJECT

As a component to the manufacture of 2-sec-butyl-4,6-dinitrophenol (DNBP), two water washes are performed. This process wash water constitutes what is known as the Spent Acid Solution (SAS). For each pound of DNBP produced, 0.4 gallon of waste water is generated. At present, approximately 4.5 million gallons of this SAS is generated annually.

After the second water wash, the waste water is ammoniated with liquid ammonia and the Neutralized Spent Acid Solution (NSAS) is stored in holding tanks.

Currently there are two methods being utilized to dispose of this waste water. In the first method, under an approved NPDES permit, a small portion of the waste water is filtered through charcoal beds and then is disposed of directly into the Mississippi River. In the second method, the solution is transported to Oklahoma for approved deep well injection.

Analysis of the NSAS showed the solution contained approximately 3.5% nitrogen (as  $\text{NO}_3^-$  and  $\text{NH}_4^+$ ) and 2.7% sulfur (as  $\text{SO}_4^{=}$ ). These fertilizer components are beneficial for growing crops.<sup>4</sup> The NSAS was analyzed for the acid and base neutral priority pollutants by standard EPA GC/MS Priority Pollutant Methods (EPA 8270) at the Mississippi State Chemical Laboratory. The only listed pollutant detected was 2,4-dinitrophenol at 20 ppm. Confirmed analysis revealed 2-methylbutyric acid at 1400 ppm and DNBP at 210 ppm.

A review of RECRA, Subpart C, Section 261.6 and Subpart D, 261.30, 261.32 and 261.33 for trace quantities of wastes confirms the level of DNBP constitutes no hazard. Under 261.33 (d) we note, "a manufacturing process waste that contains any of the substances listed in paragraphs (e) or (f) is not considered a hazardous waste - under certain conditions." The paragraph (e) referred to contains DNBP.

In order to completely minimize any environmental concerns regarding the use of the NSAS, Vertac investigated procedures necessary to remove the 2,4-dinitrophenol and DNBP to levels below 1.0 ppm. Satisfactory filtering procedures are now in place which will remove 2,4-dinitrophenol and DNBP to levels below 1.0

ppm. Samples of the filtered NSAS (FNSAS) from these new procedures have been sent to the Mississippi State Chemical Laboratory where these levels were confirmed to be below the sensitivity of the method for 2,4-dinitrophenol (0.05 ppm) and near the sensitivity of the method for DNBP, 0.04 ppm (the sensitivity of the method for DNBP is 0.03 ppm).

Our proposal as described below is to use this Filtered Neutralized Spent Acid Solution on field crops under very tight controls and restrictions.

~~A proposed label which will accompany each bulk shipment is attached.~~ N/A

## II. VERTAC PROPOSAL

### A. USES

Through various research studies (both controlled field research and laboratory analysis), Vertac Chemical Corporation has demonstrated that the solution can be applied to agronomic crops as a supplemental source of nitrogen and sulfur. The following information contains some of the general parameters that will be used when the FNSAS is transported and applied to field crops.

There are five agronomic/cropping systems that have been selected for major application of the FNSAS (these are: corn, cotton, soybeans, pastures, wheat and other small grains). Applications to corn, cotton and soybeans will be primarily preplant and/or sidedress. The pasture and wheat/small grains will be topical broadcast. Within these cropping systems, there are various intervals within the growing season that the FNSAS will be applied:

- |          |                                                                           |
|----------|---------------------------------------------------------------------------|
| Cotton   | 1. Late fall (Nov.-Dec.) as a fall applied preplant                       |
|          | 2. Early spring (March-May) as a spring preplant                          |
|          | 3. Mid summer (May-June) side dress as a directed dribble                 |
| Corn     | 1. Fall and winter (Oct.-Feb.) as a preplant                              |
|          | 2. Spring (March-April) as a spring preplant                              |
|          | 3. Late spring (April-June) side dress as a directed dribble              |
| Soybeans | 1. Late spring (April-June) as a preplant                                 |
|          | 2. Summer (June-July) as a preplant for double crop beans following wheat |

- Wheat      1. Late fall (Oct.-Dec.) as an early tiller application
2. Early spring (March) during early growth and shoot formation
- Pasture    1. Anytime of the year with fall and spring being the primary treatment periods. If pastureland is being cut for hay, could have treatments approximately 45 days apart between cuttings and up three treatments per growing season.

#### B. USERS

To ensure that the FNSAS is applied correctly, Vertac has conducted a series of meetings with various growers and application personnel who will be handling and applying the FNSAS. Each participant (including the grower) has been or will be informed on the correct manner of utilizing the FNSAS for maximum benefit of the nutrient content.

Mr. Eddie Smith of Vicksburg, MS is currently being considered as the primary person who will transport and apply the FNSAS to various grower's fields. Mr. Smith has the necessary equipment, background, expertise and personnel to safely and correctly transport and apply the FNSAS.

The following list of growers (all with farms within 15 miles of the Vertac Plant in Vicksburg, MS) have been individually contacted, and have confirmed their desire to have the FNSAS applied to specific crops and acreages, etc:

##### Mr. Jim Howard

500 acres of common bermudagrass pasture that is cut and baled for hay. Apply FNSAS beginning in early March and two additional treatments approximately 45 days apart.

##### Mr. Ken Whittington

50 acres of common bermudagrass pasture that will be used primarily for grazing. Apply in early March and keep cattle off treated areas until rainfall. Retreat in fall.

##### Mr. Luther Barbee

120 acres of common bermudagrass pasture. Same general parameters as Mr. Whittington.

##### Mr. Eddie Smith

750 acres of winter wheat. Apply FNSAS solution in early March.  
1200 acres of field corn. Apply FNSAS in early April as a preplant incorporated treatment.  
700 acres of soybeans. Apply FNSAS in early May as a preplant incorporated treatment.

Mr. Lee Pennybaker

1500 acres of cotton. Apply FNSAS in late March as preplant incorporated treatment.

Mr. J. O. Smith

320 acres of common bermudagrass pasture. Same parameters as Mr. Whittington.

Mr. Glen Jones

100 acres of field corn. Apply FNSAS in early April as a preplant incorporated treatment. May retreat in mid season as a post directed dribble.

Mr. Billy Hackler

50 acres of common bermudagrass pasture. Same parameters as Mr. Whittington.

Mr. Jim Berryman

160 acres of common bermudagrass pasture. Same parameters as Mr. Whittington.

Mr. Richard Templeton

250 acres of common bermudagrass pasture. Same parameters as Mr. Whittington. Will retreat in the fall.

Mr. Tommy Middleton

45 acres of common bermudagrass. Treat with two applications. One spring and one fall applied.  
250 acres corn. Apply FNSAS as spring preplant and incorporate.

In addition to the above individuals there have been several other area cotton, soybean and pasture/wheat growers that are very interested in utilizing the FNSAS. Their estimated acreages total approximately 2500 acres.

C. APPLICATION EQUIPMENT

Transport Trucks

Currently, the NSAS is transported from the plant to the deep well injection site in tanker trucks with 5,000 gallon stainless steel tank cars. These trucks are widely used in transporting chemical solutions within all aspects of the chemical industry.

In the proposed transport of the FNSAS from the Vicksburg plant to the various application sites within Warren County, MS, similar transports will be used. Two 5,000 gallon tankers will be solely dedicated for this purpose. It will be necessary to utilize two rigs in order to keep an uninterrupted supply of FNSAS at the application sites. While one transport is at the application site, the other will be in transit to the plant to be filled and then returned to the field. As the other truck becomes empty, it

applicator spray tanks during the loading process. This will filter any debris (rust, leaves, etc.) that may be in the FNSAS. By filtering the solution, the possibility of stopping up the spray boom would be eliminated. The personnel involved in transporting and applying the FNSAS will be trained and knowledgeable in all aspects of agrochemical application. They will be required to be certified private applicators within the State of Mississippi.

#### E. HANDLING PRECAUTIONS

As with any agrochemical application, persons involved in the handling, transport and application of FNSAS will use normal safety practices.

Analysis of the FNSAS shows the material has a pH between 8.6-9.2. This alkaline pH, due to the presence of aqua ammonia could cause a mild skin irritation if the FNSAS is allowed to come into contact with the skin for a prolonged period of time. All personnel handling the FNSAS will be and required to thoroughly wash exposed skin areas immediately after such exposure.

#### F. DISCLAIMER

The filtered Neutralized Spent Acid Solution is being provided to farmers under a strict set of limitations and guidelines. Through research studies, Vertac has shown that the FNSAS may be used as an additional source of nitrogen and sulfur to agronomic crops and pastures. It should be kept in mind that the nutrient content of the FNSAS is low. It contains approximately 3.5% nitrogen (in both the  $\text{NO}_3^-$  and  $\text{NH}_4^+$  forms) and approximately 2.7% sulfur (in the  $\text{SO}_4$  form). In addition to FNSAS Applications, soil analysis and proper application of N-P-K and trace elements are recommended as part of the basic crop production program.

swill return to the Vicksburg plant for the repeat loading process.

The transport trucks will be equipped with appropriate dedicated hoses, valves, pumps, etc. to ensure complete containment of the FNSAS during loading, transporting and the unloading process.

Once the transport truck has arrived at the application site, and is ready to unload, a discharge pump will be used for pumping the FNSAS into the applicator rig.

#### Application Sprayers

Two high volume sprayer units will be utilized in applying the FNSAS to fields. These units will be modified to deliver rates between 150 and 250 gallons per acre. The application sprayers will have a 1,500 gallon stainless steel tank, a 3 inch positive displacement Roper pump, and will be designed with application booms that will be 40 feet in length fully extended. A total of 3 T junctions will be tapped into the booms (one for each wing of the boom and one in the center) to ensure even pressure and application rates.

The sprayers will have wide floatation tires to keep subsoil compaction and tire tracks at a minimum within the treated fields.

The spray booms will be made of one inch diameter carbon steel and will have 1/4 inch holes drilled every three inches apart. This design will allow a uniform placement of the FNSAS. Each section of the boom will have a cutoff valve that will be turned off when the sprayer is making turns at the end of the field or when the sprayer is not in use. The sprayers will be equipped with foam marking devices on each end of the spray boom and these will be used during all applications. This will ensure even, uniform applications throughout the field.

The spray units will be be solely used for applications of the FNSAS and will not be used for application of any other agrichemicals.

#### D. HANDLING AND STORAGE

The NSAS is currently stored in a 1.5 million gallon storage tank at the Vertac Vicksburg plant. To load, the NSAS will be pumped from the storage tank through the processing unit (filters) and then directly into the transports. Personnel are required to wear safety goggles, gloves and suitable clothing to prevent accidental exposure to the skin. The same precautions will be utilized when the FNSAS is being transported and applied to field sites.

No modifications will be needed at the Vicksburg plant regarding the storage or filling of transport trucks with the FNSAS, except that a filtering screen (20-30 mesh) will be placed on top of the

February 20, 1986

Mr. David Small  
D. M. Weatherly Company  
1100 Spring Street  
Suite 800  
Atlanta, Georgia 30309

**FILE COPY**

Dear Mr. Small:

Re: Hazardous Waste Resulting From the Flushing  
of Ammonia Lines

This is in response to your telephone call inquiry on February 11, 1986, regarding the hazardous waste generated during the flushing out of ammonia lines at Vertac Chemical in Vicksburg, Mississippi. Your question concerned whether the responsibility for complying with the generator standards of Part 262 would fall on the facility, or the contractor who flushes the lines.

Mississippi Hazardous Waste Regulation 260.10 defines a generator as, "any person, by site, whose act or process produces hazardous waste identified or listed in Part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.". The facility is included in the first part of this definition and any contractor would be included in the second part. Therefore both the facility and the contractors are generators, and are subject to all of the requirements of Part 262. (See attached regulation)

If you have any further questions, or need additional information, please call me at 961-5057.

Sincerely,

Jack B. McCord  
Hazardous Waste Section

JBM:cm  
Enclosure  
cc: Mr. John Hill



**VERTAC CHEMICAL CORPORATION**

24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TELEX 53927

January 9, 1986



DEPT. OF NATURAL RESOURCES  
BUREAU OF POLLUTION CONTROL

Mr. Charles Chisolm  
Director  
Bureau of Pollution Control  
Department of Natural Resources  
2350 Highway 80 West  
Jackson, MS 39209

Dear Mr. Chisolm:

There will be a structural reorganization of Vertac Chemical Corporation. The Vicksburg facility of Vertac Chemical Corporation will be a part of Cedar Chemical Corporation. Cedar Chemical Corporation will be a sister company to Vertac Chemical Corporation. This letter is a notification of intent to transfer all environmental and operating permits to Cedar Chemical Corporation.

The various permits are listed for reference:

1. RCRA Part A permit number MSD 99071408. Pursuant to 40CFR 270.72(d) a RCRA Part A permit application is attached. The application has been countersigned by Mr. J. C. Bumpers, the Secretary of Cedar Chemical Corporation.
2. NPDES Permit number MS0027995.
3. State Air/Operating permit number 2780-00041.

Very truly yours,

Dick Karkkainen  
Director of Environment and Safety

RDK/bh

cc: Mr. Jack Ravan  
EPA - Region IV  
Atlanta, GA