UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-8909

FEB 0 3 1998

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Steven T. Boswell
Director of Environmental Affairs
Vicksburg Chemical Company
Post Office Box 821003
Vicksburg, Mississippi 39182

SUBJ: Designation by EPA of
Corrective Action Management Unit,
Pursuant to Subpart S of 40 CFR Part 264,
At Vicksburg Chemical Company
MSD 990 714 081

Dear Mr. Boswell:

The purpose of this letter is to notify you that the U.S. Environmental Protection Agency (EPA), Region 4, hereby designates a Corrective Action Management Unit (CAMU) at the Vicksburg Chemical Company (VCC) site on Rifle Range Road, Vicksburg, Mississippi.

As you know, on November 12, 1997, EPA notified the public of its intent to designate a CAMU at VCC. The public was also notified of an opportunity for public comment on this intent, extending from November 14, 1997 through January 13, 1998, and a public meeting on December 9, 1997. EPA did not receive any public comments during the comment period or at the public meeting. One gentleman appeared at the meeting site for a short time, but did not offer any comments on the CAMU. He was provided with a summary of the regulatory requirements for CAMUs.

EPA's decision is based on the revised CAMU application information submitted by VCC, on September 29 and October 22, 1997, in response to EPA comments. The areal configuration of the CAMU is as shown in Figure 1 of the revised application submitted by VCC on September 29, 1997. The CAMU occupies approximately one third of the 130 acres presently or formerly used for plant operations at VCC. Management of remediation wastes within the CAMU, and closure and post-closure care will be conducted as stated in the revised application, and in accordance with Consent Decree, Civil Number W92-0008(B) ("Consent Decree"). The approved CAMU shall be used and maintained so as to protect

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human health and the environment in accordance with all requirements of 40 CFR Part 264, Subpart S, and the Consent Decree.

If you have any questions, please contact Judy Sophianopoulos, EPA Project Coordinator, at (404) 562-8604.

Sincerely yours,

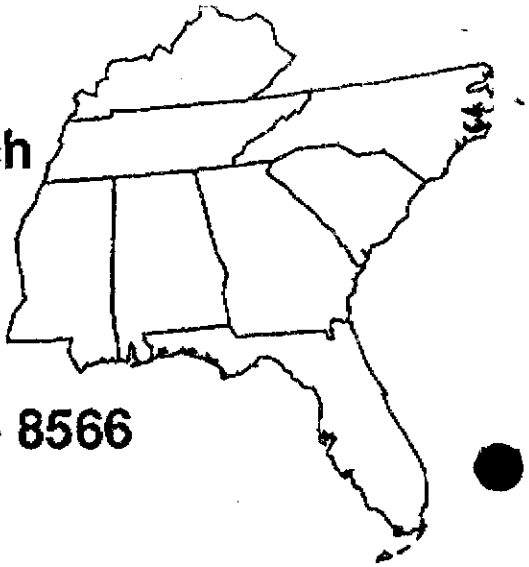
Richard D. Green
Director
Waste Management Division

Enclosure: "Application for Corrective Action Management Unit (CAMU)," Vicksburg Chemical Company, Vicksburg, Mississippi, September 1997; and revised pages, submitted October 22, 1997

cc: w/enclosure

Mr. Jerry Banks, MSDEQ
Mr. Kevin Posey, MSDEQ

EPA Region 4
Enforcement and Compliance Branch
Atlanta Federal Center, 10th Floor
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
Phone (404) 562 - 8579 FAX (404) 562 - 8566



1/28/98

TO: KEVIN POSEY, MSDEQ

Phone: 601-961-5128

FAX: 601-961-5741

FROM: Judy Sophianopulos

Phone: (404) 562 - 8604

Number of Pages (including cover page): 3

Comments: KEVIN, THIS IS LETTER OF FINAL APPROVAL FOR CMMU AT UCC, WHICH I AM ROUTING. LET ME KNOW BY PHONE OR FAX IF THIS LOOKS OK.

THANK YOU,

Judy

VICKSBURG CHEMICAL WARREN CO. RCRA Rec'd

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-8909

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Steven T. Boswell
Director of Environmental Affairs
Vicksburg Chemical Company
Post Office Box 821003
Vicksburg, Mississippi 39182

SUBJ: Designation by EPA of
Corrective Action Management Unit,
Pursuant to Subpart S of 40 CFR Part 264,
At Vicksburg Chemical Company
MSD 990 714 081

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The purpose of this letter is to notify you that the U.S. Environmental Protection Agency (EPA), Region 4, hereby designates a Corrective Action Management Unit (CAMU) at the Vicksburg Chemical Company (VCC) site on Rifle Range Road, Vicksburg, Mississippi.

As you know, on November 12, 1997, EPA notified the public of its intent to designate a CAMU at VCC. The public was also notified of an opportunity for public comment on this intent, extending from November 14, 1997 through January 13, 1998, and a public meeting on December 9, 1997. EPA did not receive any public comments during the comment period or at the public meeting. One gentleman appeared at the meeting site for a short time, but did not offer any comments on the CAMU. He was provided with a summary of the regulatory requirements for CAMUs.

EPA's decision is based on the revised CAMU application information submitted by VCC, on September 29 and October 22, 1997, in response to EPA comments. The areal configuration of the CAMU is as shown in Figure 1 of the revised application submitted by VCC on September 29, 1997. The CAMU occupies approximately one third of the 130 acres presently or formerly used for plant operations at VCC. Management of remediation wastes within the CAMU, and closure and post-closure care will be conducted as stated in the revised application, and in accordance with Consent Decree, Civil Number W92-0008(B) ("Consent Decree"). The approved CAMU shall be used and maintained so as to protect

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human health and the environment in accordance with all requirements of 40 CFR Part 264, Subpart S, and the Consent Decree.

If you have any questions, please contact Judy Sophianopoulos, EPA Project Coordinator, at (404) 562-8604.

Sincerely yours,

Richard D. Green
Director
Waste Management Division

Enclosure: "Application for Corrective Action Management Unit (CAMU)," Vicksburg Chemical Company, Vicksburg, Mississippi, September 1997; and revised pages, submitted October 22, 1997

cc: w/enclosure

Mr. Jerry Banks, MSDEQ
Mr. Kevin Posey, MSDEQ

Warren

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

November 6, 1997

RECEIVED
NOV 10 1997
Dept. of Environmental Quality
Office of Pollution Control

file

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Steven T. Boswell
Director of Environmental Affairs
Vicksburg Chemical Company
Post Office Box 821003
Vicksburg, Mississippi 39182

SUBJ: Public Notice of EPA Intent to Designate a Corrective Action Management Unit, Pursuant to Subpart S of 40 CFR Part 264, At Vicksburg Chemical Company
MSD 990 714 081

Dear Mr. Boswell:

The U.S. Environmental Protection Agency (EPA), Region 4, has prepared the public notice referenced above, which states that EPA intends to designate a Corrective Action Management Unit (CAMU) at the Vicksburg Chemical Company (VCC) site on Rifle Range Road, Vicksburg, Mississippi. The Agency's decision is based on the revised information submitted by VCC, on September 29 and October 22, 1997, in response to EPA comments. Enclosed please find the public notice of EPA's intent to designate a CAMU at VCC.

Please arrange for this public notice to be published in the *Vicksburg Evening Post* on November 12, 1997, for a public review and comment period from November 14, 1997 through January 13, 1998. In addition, please arrange for the following:

1. Public review of all relevant documents at the Warren County Library, 700 Veto Street, Vicksburg, Mississippi 39180; Phone: (601) 636-6411; and

2. A public meeting at the Warren County Library, on Tuesday, December 2, 1997, beginning at 5:45 PM and ending at 7:45 PM, Central Standard Time.

EPA will also make copies of all relevant documents available for public review at the EPA, Region 4 Library, in Atlanta, and at the Mississippi Department of Environmental Quality (MSDEQ), in Jackson.

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If you have any questions, please contact Judy Sophianopoulos, EPA Project Coordinator, at (404) 562-8604.

Sincerely yours,

Richard D. Green
Director
Waste Management Division

Enclosure

cc: w/enclosure

[redacted], MSDEQ
Mr. Kevin Posey, MSDEQ

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 4
NOTICE OF INTENT TO DESIGNATE
A CORRECTIVE ACTION MANAGEMENT UNIT
AT THE VICKSBURG CHEMICAL COMPANY,
RIFLE RANGE ROAD, VICKSBURG, MISSISSIPPI,

The United States Environmental Protection Agency (EPA), Region 4, requests public comment upon the intent of the Director of the Waste Management Division to designate a Corrective Action Management Unit (CAMU) at the Vicksburg Chemical Company (VCC) located on Rifle Range Road in Vicksburg, Mississippi. VCC submitted information relative to this CAMU designation to Region 4, in accordance with the Resource Conservation and Recovery Act (RCRA), which regulates hazardous waste. Specifically, the requirements for designation of CAMUs are contained in the RCRA regulations for corrective action to address contamination at facilities which manage hazardous waste (Subpart S of Part 264 of Title 40 of the Code of Federal Regulations (40 CFR Part 264, Subpart S)). The proposed designation was also made in accordance with Consent Decree, Civil Number W92-0008(B), between EPA and VCC, to address contamination at the site due to past production of pesticides, such as dinoseb and toxaphene.

Consent Decree W92-0008(B) requires VCC to clean up the contamination at its site on Rifle Range Road. The cleanup process is called "corrective action," and as part of this process, VCC submitted information to EPA, Region 4, to enable a CAMU designation, in accordance with the RCRA corrective action regulations. Also in accordance with those regulations, EPA, Region 4, requests public comment on the Agency's intent to designate a CAMU at VCC.

EPA, Region 4, hereby gives public notice of intent to designate a CAMU, because the Agency believes that VCC's CAMU will facilitate cleanup of the site, and meet all other requirements of the RCRA corrective action regulations.

Copies of all relevant documents are available for review by the public at:

Warren County Library
700 Veto Street
Vicksburg, Mississippi 39180
Phone: (601) 636-6411

Copies of these documents are also available for review by the public at the EPA Library, and the Mississippi Department of Environmental Quality, at the locations shown below:

EPA Library
U.S. EPA, Region 4
Atlanta Federal Center
61 Forsyth Street.
Atlanta, GA 30303
Phone: (404) 562-8190

Hazardous Waste Division Library
Mississippi Department of
Environmental Quality
Southport Center, Ellis St. & HWY 80
Jackson, MS 39289
Phone: (601) 961-5062

Copies of all documents may be obtained by calling Dr. Judy Sophianopoulos, EPA Project Coordinator, at (404) 562-8604, or by writing to her at the following address:

U.S. EPA, Region 4
Atlanta Federal Center
61 Forsyth Center/4WD-RCRA
Atlanta, GA 30303

Dr. Sophianopoulos can also be reached at the following toll-free number:

(800) 241-1754.

Please leave a message with your name, address, and phone number, and Dr. Sophianopoulos will call you back as soon as possible.

Questions may be directed to Dr. Sophianopoulos, or to Mr. Steven T. Boswell, Director of Environmental Affairs, Vicksburg Chemical Company, Post Office Box 821003, Vicksburg, Mississippi 39182; Phone: (601) 636-1231.

The public review and comment period is from November 14, 1997 through January 13, 1998. Please submit comments in writing to:

Richard D. Green
Director, Waste Management Division
U.S. EPA, Region 4
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303.

A public meeting for discussion of the application for this CAMU at Vicksburg Chemical Company will be held in the Warren County Library, on Tuesday, December 2, 1997, beginning at 5:45 PM and ending at 7:45 PM, Central Standard Time.

EPA, Region 4, will take into account all public comments on this intended designation of a CAMU at VCC before reaching a final decision.

VIA AIRBORNE EXPRESS

Vicksburg chemical company

RECEIVED
OCT 28 1997
Dept. of Environmental Quality
Office of Pollution Control

Dr. Judy Sophianopoulos
RCRA and FF Office
United States Environmental Protection Agency, Region IV
Atlanta Federal Center
100 Alabama Street, SW
Atlanta, Georgia 30303

October 22, 1997

Re: Cedar Chemical Company
Consent Decree W92-0008(B)
Corrective Action Management Unit Application

Dear Dr. Sophianopoulos:

Please find accompanying this letter two copies of the pages you requested be changed in Cedar's Application for a Corrective Action Management Unit to be located within the Cedar Chemical (Vicksburg Chemical) facility in Vicksburg, MS. Please contact me with any questions or comments.

Sincerely,

Steven T. Boswell
Director of Env. Affairs

STB: pc

xc: Mr. Posey, MSDEQ

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Figure 1 *SWMU Locations, Soil Boring Locations and Site Plan*

LIST OF ACRONYMS

Acronym	Meaning
CCC	Cedar Chemical Corporation
VCC	Vicksburg Chemical Company
RFI	RCRA Facility Investigation
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
SWMU	Solid Waste Management Unit
GWA	Groundwater Assessment
AOC	Area of Concern
PECMT	Preinvestigation - Evaluation of Corrective Measures Technologies
EPA	United States Environmental Protection Agency
MSDEQ	Mississippi Department of Environmental Quality
CMS	Corrective Measures Study
SWMU 1	Hazardous Waste Container Storage Area
SWMU 17	Off-specification Product Storage Area
SWMU 2	Inactive Landfill will include AOC 4
SWMU 7	Former Dinoseb Production Area
SWMU 14	Former Toxaphene Production Area
SWMU 4	Activated Carbon Treatment Unit
SWMU 5	South Plant Drainage System
SWMU 8	Dinoseb Loading/Unloading Area
SWMU 9	Dinoseb Drumming Area

LIST OF ACRONYMS (Continued)

Acronym	Meaning
SWMU 11	Former MSMA Production Area
SWMU 12	Former MSMA Unloading Area
SWMU 13	South Plant Drainage Ditches
SWMU 15	Former Methyl Parathion Production Area
SWMU 16	Former Atrazine Production Area
SWMU 17	Returned Product Storage Area
SWMU 18	Former Blue Tank
SWMU 20	Railroad Car Loading/Unloading Station
SWMU 22	North Plant Neutralization System Concrete Sump
SWMU 25	North Plant Subsurface Wastewater Pipes
SWMU 29	Floor under North Plan Oil Collection Unit
SWMU 30	North Plant Waste Accumulation Area
SWMU 31	North Plant No. 6 Fuel Oil Area
bgs	below ground surface
TCL	Target Compound List
TAL	Target Analyte List

1.0
INTRODUCTION

Vicksburg Chemical Company (VCC) retained Woodward-Clyde International-Americas (Woodward-Clyde) to perform activities associated with a RCRA corrective action program. The corrective action program is in response to a Consent Decree. The Consent Decree requires that a RCRA Facility Investigation (RFI) be conducted at the Vicksburg, Mississippi manufacturing facility.

The purpose of the RFI is to determine the nature and extent of releases of hazardous wastes and/or constituents from regulated units, solid waste management unit (SWMUs), and other areas of concern (AOCs) at the facility to gather all necessary data to support a Corrective Measures Study (CMS).

The RFI constitutes the second phase of the RCRA corrective action program. The program's initial phase consists of the RCRA Facility Assessment (RFA) which is conducted by EPA and precedes the RFI. The RFI itself is divided into five separate tasks which includes the Preliminary Report (submitted as a separate document and resubmitted as the Amended and Restated Preliminary Report and subsequently approved by the U.S. EPA), the RFI Work Plan (submitted in June 1996), the Facility Investigation, and Investigative Analysis and Reports. In addition to these phases, a Groundwater Assessment (GWA) Work Plan and a Preinvestigation - Evaluation of Corrective Measures Technologies (PECMT) Report (both submitted in June 1996), a Closure Plan for SWMU 1 and SWMU 17 (submitted and subsequently approved by the U.S. EPA) and Annual Groundwater Assessment Reports are required by the Consent Decree.

PECMT report is a listing of technologies that may be utilized as corrective measures for the remediation of SWMUs and AOC. As part of the technology investigation process, VCC conducted laboratory scale tests on biodegradation of the contaminants of concern in soils and other media such as concrete at the VCC site. The results of the tests were sufficiently promising that VCC wished to proceed with pilot scale testing. A Request for Temporary Unit (TU) pursuant to 40 CFR 264.533 was prepared, submitted and subsequently approved by the U.S. EPA.

of a clay cap and vegetated topsoil. The exact site has not been chosen; however, after construction, the site will be maintained by mowing the vegetation, inspecting the cap monthly and making repairs to the cap as necessary.

2.6 HOW WILL USE OF THE CAMU EXPEDITE REMEDIATION OF THE SITE?

The CAMU will allow expedited management of remediation wastes generated from the following activities: (1) RFI field investigations, and (2) clearing the land and space required for the planned construction of new production facilities in areas currently occupied by SWMUs 1, 16, 17, 12, 11/15, 8, 9 or 5. Voluntary pre-RFI activities at SWMUs 1, 16 and 17 have already shortened the overall remediation time, and the CAMU will allow further reduction in the time required to remediate the entire site. In addition, profits from the new production facilities will help increase financial assurance for the required corrective action.

2.7 HOW WILL THE CAMU ENABLE THE USE, WHEN APPROPRIATE, OF TREATMENT TECHNOLOGIES (INCLUDING INNOVATIVE TECHNOLOGIES) TO ENHANCE THE LONG-TERM EFFECTIVENESS OF REMEDIAL ACTIVITIES BY REDUCING THE TOXICITY MOBILITY, OR VOLUME OF WASTES THAT WILL REMAIN IN PLACE AFTER CLOSURE OF THE CAMU? (40 CFR.552(c)(6))

The CAMU will allow the use of biotreatment and/or stabilization/solidification depending on the contaminant and the concentration of the contaminant. Biotreatment will allow destruction of constituents, thereby, reducing the toxicity. The stabilization/solidification will reduce the mobility of constituents.

Subsequently the wastes will be covered by a sloped (3 to 5 percent) cap and topsoil cover system. The cover system will mitigate entry of rainwater further reducing potential for release of constituents.

slope of the cap will be 3% to 5% which is steep enough to easily shed rainwater but at the same time shallow enough to minimize erosion and allow easy access for maintenance activities such as mowing.

- Inspection and repair, if necessary, of the cap will occur monthly. This frequent activity will prevent serious maintenance problems from occurring.

Potential impact to human health and the environment is minimized and controlled by the treatment and containment scenario mentioned above. The concentration of toxic organic constituents in the waste will be reduced by biodegradation. Toxic inorganic constituents will be made less mobile by solidification/stabilization. Then the wastes will be covered by an engineered system consisting of two feet of clay, one foot of topsoil and vegetation.

Wastes will be excavated from various areas prior to being consolidated, treated and then capped. A discussion of the typical method of excavation and the construction quality assurance plan can be found in the "RCRA Corrective Measures Implementation Plan For SWMU 16, 1 and 17" dated June 1997 and submitted to the U.S. EPA and MSDEQ by Vicksburg Chemical. Specifically, reference is made to Section 3.0 "Corrective Measures Conceptual Design" and Section 4.0 "Corrective Measures Construction".

Also, as noted above,, the areas where wastes will remain after closure will be capped with two feet of clay and one foot of topsoil and vegetation. The area to be capped has not yet been selected; however one of the criteria for the area is to minimize the amount of land used.

All the equipment devices and structures used in the remediation waste management activities will be properly decontaminated after cessation of activity. The concrete wash pad in front of (east) the former dinoseb drumming shed serves as a decontamination pad for large mobile equipment such as drilling equipment and backhoes. Equipment will be washed and/or steam cleaned and inspected by VCC personnel prior to leaving the site. There are concrete structures that are being utilized for the biotreatment area. After completion of the RFI and treatment of soils, the structures will be decontaminated and demolished and placed in the landfill that is to be the depository for waste residue on this project.

3.5 **WITH REGARD TO CLOSURE REQUIREMENTS IN THE CAMU, DESCRIBE THE FOLLOWING:**

- **CAMU Characteristics**
- **Volume Of Wastes Which Remain In Place After Closure**
- **Potential For Release From The CAMU**
- **Physical And Chemical Characteristics Of The Waste**
- **Hydrological And Other Relevant Environmental Conditions At The Facility Which May Influence The Migration Of Any Potential And Actual Releases**
- **Potential For Exposure Of Humans And Environmental Receptors If Releases Were To Occur From The CAMU**
- **Post-Closure Requirements As Necessary To Protect Human Health And The Environment, To Include, For Areas Where Water Will Remain In Place, Monitoring And Maintenance Activities, And The Frequency With Which Such Activities Shall Be Performed To Ensure The Integrity Of Any Cap, Final Cover, Or Other Containment System.**
- **Public Participation**
- **Permit Procedures**
- **EPA's Authority To Address Clean-Up Levels, Media-Specific Points Of Compliance To Be Applied To Remediation At A Facility Or Other Remedy Selection Decisions (40 CFR 264.552(E)(4)(Iii))**

The CAMU is area as described by the boundaries noted on Figure 1. The boundaries encompass a significant portion of the south plant, specifically those areas on which pesticide chemical production formerly occurred or areas in which wastes are deposited. As VCC converts demolished production areas into modern facilities it is necessary to investigate the soil and construction debris that remain and remediate waste as necessary. (The investigation and remediation all take place pursuant to a Consent Decree in compliance with RCRA corrective action programs.) The remediation consists of consolidating the various wastes by bringing them to one location (SWMU 7) for temporary storage. The wastes will be treated by biodegradation in cells adjacent to SWMU 7. Inorganic contamination will be solidified/stabilized. The final repository (landfill) for waste residues within the CAMU has not yet been chosen.

toxaphene, arsenic, dinoseb and atrazine. Sampling would occur quarterly the first year and semi-annually thereafter.

The public will be given the opportunity to participate in the CAMU approval process. A notification will be placed in the newspaper announcing EPA's intent to approve a CAMU and hold a public meeting at the Warren County Library. The public meeting will be held during a 60-day public comment period.

EPA's procedures for designating a CAMU may be found in 40 CFR 264.552 and 40 CFR 270.42.

The designation of the CAMU does not change the authority of the U.S. EPA to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility, or other remedy selection decisions.

6.0
CLOSURE AND POST CLOSURE REQUIREMENTS

6.1 WHAT TYPES OF CLOSURE AND POST CLOSURE REQUIREMENTS WILL YOU BE USING?

6.1.1 Closure

Requirements include biotreatment and/or solidification/stabilization of all wastes, placement of the wastes and construction of a cap and cover system in accordance with a Construction Quality Assurance (CQA) Plan. The substantive requirements of 40 CFR 264 Subpart G will be used. VCC will file a notation on the deed to the facility property within 60 days of completion of cap and cover systems. The documentation in the deed will include the information set forth in 40 CFR 264.119(b). VCC will provide to the Regional Administrator of EPA a copy of the documentation in deed and certification that it has been recorded pursuant to 40 CFR 264.119(b).

The Construction Quality Assurance (CQA) Plan parallels the guidelines outlined in the EPA Technical Guidance Document "Construction Quality Assurance for Hazardous Waste Land Disposal Facilities". The plan defines a system of construction quality management to verify, with a justifiable degree of certainty, that the construction activity encompassed by the CMIP will meet or exceed the corrective action objectives. This plan will be administered by a third party chosen by VCC to provide the information necessary to certify the closure of the tanks and surface impoundments.

Construction Quality Management comprises both a planned system of inspection and testing activities that are necessary to monitor and control the quality of a construction project and a planned system of overview activities that these activities are being properly performed and documented.

The CQA Plan is comprised of the following elements:

- Responsibility and authority

- CQA personnel qualifications
- Inspection activities
- Sampling requirements
- Certification documentation

This CQA Plan is presented in the Corrective Measures Implementation Plan.

The CQA Plan specifies an inspection and testing program to assure completion of closure in accordance with the project specifications.

6.1.2 Post Closure

The CAMU, as now requested, will not include regulated RCRA units. Post-Closure care will include:

- Groundwater monitoring, evaluation and reporting as discussed in Section 5.1
- Monthly inspection of the areas for signs of erosion, loss of vegetative cover, or other conditions requiring maintenance or repair
- Maintenance or repair of the monitor wells or cover system as necessary

6.2 WHAT WILL BE DONE TO ENSURE THE LONG TERM RELIABILITY AND EFFECTIVENESS OF CAMU REMEDIAL ACTION?

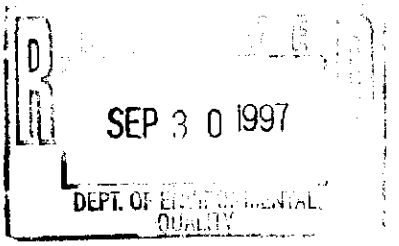
The Post-Closure Care Program described in Section 6.1 and groundwater monitoring program described in Section 5.1 will assure the long term reliability and effectiveness of the remediation. In addition, the deed recordation described in Section 6.1.2 will assure that any future owner is aware of the landfilled stabilized wastes, preventing inadvertent disturbance or damage of the cover system.

6.3 WHAT WASTES WILL REMAIN IN PLACE IN THE CAMU AFTER REMEDIATION?

Biotreated and/or stabilized/solidified wastes may remain in place as described in Sections 2.7, 4.2 and 4.3. They may also be used beneficially within the CAMU.

VIA AIRBORNE EXPRESS

Vicksburg
chemical company



Dr. Judy Sophianopoulos
RCRA and FF Office
United States Environmental Protection Agency, Region IV
Atlanta Federal Center
100 Alabama Street, SW
Atlanta, Georgia 30303

September 29, 1997

Re: Cedar Chemical Company
Consent Decree W92-0008(B)
Corrective Action Management Unit Application

Dear Dr. Sophianopoulos:

Please find accompanying this letter two copies of the revised Application for a Corrective Action Management Unit to be located within the Cedar Chemical (Vicksburg Chemical) facility in Vicksburg, MS. Please contact me with any questions or comments.

Sincerely,

Steven T. Boswell
Director of Env. Affairs

STB: pc

xc: Mr. Posey, MSDEQ
Mr. Politzer
Mr. Miles
Mr. Keen
Mr. Karkkainen, Woodward-Clyde

APPLICATION FOR CORRECTIVE ACTION MANAGEMENT UNIT (CAMU)

VICKSBURG CHEMICAL COMPANY
VICKSBURG, MISSISSIPPI

Prepared for
Vicksburg Chemical Company
Vicksburg, Mississippi

September 1997

WCC File 96B315-7

RECEIVED
SEP 30 1997
DEPT. OF

Woodward-Clyde

Woodward-Clyde International-Americas
2822 O'Neal Lane
Baton Rouge, Louisiana 70816
(504) 751-1873

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1.0
INTRODUCTION

Vicksburg Chemical Company (VCC) retained Woodward-Clyde International-Americas (Woodward-Clyde) to perform activities associated with a RCRA corrective action program. The corrective action program is in response to a Consent Decree. The Consent Decree requires that a RCRA Facility Investigation (RFI) be conducted at the Vicksburg, Mississippi manufacturing facility.

The purpose of the RFI is to determine the nature and extent of releases of hazardous wastes and/or constituents from regulated units, solid waste management unit (SWMUs), and other areas of concern (AOCs) at the facility to gather all necessary data to support a Corrective Measures Study (CMS).

The RFI constitutes the second phase of the RCRA corrective action program. The program's initial phase consists of the RCRA Facility Assessment (RFA) which is conducted by EPA and precedes the RFI. The RFI itself is divided into five separate tasks which includes the Preliminary Report (submitted as a separate document and resubmitted as the Amended and Restated Preliminary Report and subsequently approved by the U.S. EPA), the RFI Work Plan (submitted in June 1996), the Facility Investigation, and Investigative Analysis and Reports. In addition to these phases, a Groundwater Assessment Work Plan and a Preinvestigation - Evaluation of Corrective Measures Technologies (PECMT) Report (both submitted in June 1996), a Closure Plan for SWMU 1 and SWMU 17 (submitted and subsequently approved by the U.S. EPA) and Annual Groundwater Assessment Reports are required by the Consent Decree.

PECMT report is a listing of technologies that may be utilized as corrective measures for the remediation of SWMUs and AOC. As part of the technology investigation process, VCC conducted laboratory scale tests on biodegradation of the contaminants of concern in soils and other media such as concrete at the VCC site. The results of the tests were sufficiently promising that VCC wished to proceed with pilot scale testing. A Request for Temporary Unit (TU) pursuant to 40 CFR 264.533 was prepared, submitted and subsequently approved by the U.S. EPA.

Subsequently an RFI Expedited Work Plan (January 1997) was executed for the following areas:

- SWMU 16, Former Atrazine Production Area (including warehouse);
- SWMU 1, Container (Drum) Storage Area; and
- SWMU 17, Returned Product Storage Area.

The field work was implemented in February 1997 with additional follow-up in May 1997.

The expedited work was executed because of VCC's plans for construction of a new manufacturing facility in the South Plant and to utilize some of the area to be investigated for storage, transportation and manufacturing.

The RFI is intended to obtain information to characterize the nature and extent of releases of hazardous waste or constituents, if any. This information is used to determine whether a CMS is necessary. The purpose of a CMS is to develop and evaluate the corrective action alternatives and to recommend the corrective measure or measures to be taken at the facility. The RFI Report, CMS and a Corrective Measures Implementation Plan (CMIP) are published simultaneously because of VCC's expedited effort.

One of the recommendations of the CMS and CMIP is that a Corrective Action Management Unit (CAMU) be established onsite pursuant to 40 CFR 264.552. CAMUs are established:

"(a) For the purpose of implementing remedies under §264.101 or RCRA Section 3008(h), the Regional Administrator may designate an area at the facility as a corrective action management unit, as defined in §260.10, in accordance with the requirements of this section. One or more CAMUs may be designated at a facility.

(1) Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(2) Consolidation or placement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements."

Further:

"(b)

(1) The Regional Administrator may designate a regulated unit (as defined in §264.90(a)(2) as a CAMU, or may incorporate a regulated unit into a CAMU, if:

(i) The regulated unit is closed or closing, meaning that it has begun the closure process under §264.113 or §265.113; and

(ii) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(2) The subpart F, G, and H requirements and the unit-specific requirements of part 264 or 265 that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU."

This document is an application for designation as a CAMU. VCC does not plan to incorporate a regulated unit within the CAMU. The information required in an application for a CAMU is found in the following sections:

2.0 Implementation
3.0 CAMU Description
4.0 Waste Description
5.0 Monitoring
6.0 Closure and Post Closure Requirements
7.0 Land Use

1.1 DESCRIPTION OF THE PLANT

VCC is located in Warren County, Mississippi along the Mississippi River immediately on the south area of Vicksburg within the city limits. About 70 acres border on the Mississippi River, however, none of the plant production facilities are located along the river. The address is:

Vicksburg Chemical Company
Post Office Box 821003
Rifle Range Road
Vicksburg, Mississippi 39182-1007

The facility is a manufacturer of chemicals. The 650 acre plant site is divided into two separate and distinct operations known as the North Plant and the South Plant. Active operations are conducted or have been conducted on about 130 acres.

In operation since 1961, the North Plant produces potassium nitrate, liquid chlorine, sodium hypochlorite and liquid nitrogen tetroxide. The raw materials for the North Plant include potassium chloride and nitric acid. The potassium nitrate is sold in varying grades as a chemical fertilizer and for industrial uses. The chlorine is sold for various industrial uses. Most nitrogen tetroxide is sold to the government as an oxidizer for rocket fuels (it is used in the Shuttle, Titan, Atlas and Delta programs).

The South Plant, in operation since 1953, formerly manufactured chlorinated pesticides, nitrogen based herbicides, and other agricultural chemicals. The only active operations at the South Plant are a nitric acid unit constructed in 1986 and a potassium carbonate (k-carb) unit constructed in 1994. The manufactured nitric acid is used primarily in the North Plant as a raw material. During various periods prior to 1987, the South Plant produced dinitro butyl phenol (dinoseb or DNBP), monosodium methane arsonate (MSMA), diethyl hexyl phosphoric acid (DEHPA), 1-hydroxy-ethylidene-1,1-diphosphonic acid (UNIHIB), toxaphene, methyl parathion, cyanazine (bladex), and atrazine. Toxaphene and methyl parathion are insecticides, while atrazine, dinoseb, and MSMA are herbicides. Raw materials or solvent for these operating processes included chlorine, camphene, ortho secondary butyl phenol (OSBP), sodium arsenite, sodium hydroxide, methyl chloride, sulfuric acid, sodium paranitrophenolate, phosphorus trichloride, cyanuric chloride, tributylamine, carbon tetrachloride, epichlorohydrin,

ortho-cresol, methanol, triethanolamine, xylene, isopropylamine, mono-ethylamine, toluene, poly glycol, diethanolamine and acetone.

1.2 OWNERSHIP HISTORY OF THE PLANT

Originally, the two plants were completely separate, owned and operated by two different companies. The South Plant was originally constructed by Spencer Chemical in 1953 to produce agricultural chemicals: ammonia, nitric acid, urea, and ammonium nitrate. After purchasing the facility in 1964, Gulf Chemical added a formaldehyde unit in 1966. American Metal Climax Corporation (Amax) constructed the North Plant in 1961 to produce chloride-free potassium nitrate for selected crops in the southeast United States, such as tobacco, tomatoes, and certain vegetables. The main reason the potassium nitrate plant was built at Vicksburg, Mississippi was the availability of nitric acid from the adjacent Gulf Oil installation. The Amax plant was also referred to as the Southwest Potash Division.

Vicksburg Chemical Company was formed in early 1972 and purchased both the Gulf Oil and Amax Chemical facilities except the formaldehyde plant on July 12, 1972. Production, under the new management, began in October of the same year. Vicksburg Chemical then operated the nitric acid, potassium nitrate, and nitrate solutions plants about 2 ½ years. By September, 1974 five more facilities were built for atrazine, methyl parathion, dinoseb, toxaphene, and UDMH (Unsymmetrical Dimethyl Hydrazine) production. The UDMH facility process was experimental and not well defined. Consequently, the UDMH process was eliminated due to production problems and economic reasons.

In 1978, Vicksburg Chemical Company was merged into Vertac, Inc. Effective September 1, 1979 Vertac, Inc. was merged into Vertac Chemical Corporation (Vertac). In February, 1986 Cedar Chemical Corporation acquired the Vicksburg Chemical plant from Vertac Chemical Corporation pursuant to a reorganization agreement among Vertac's shareholders and Fermenta A.B. of Sweden. Nine West Corporation, (a wholly owned subsidiary of Trans Resources, Inc.) acquired Cedar Chemical Corporation from Fermenta A.B. in January, 1988. Effective January 1, 1992 Cedar Chemical Corporation incorporated its Vicksburg, Mississippi facility as Vicksburg Chemical Company, a wholly owned subsidiary of Cedar Chemical Corporation.

A formaldehyde unit owned and operated by Borden Chemical is located inside the boundary of the South Plant. It was previously owned by Gulf and, later, Perkins Company and is referred to in this manner occasionally. The small portion of the South Plant site occupied by the Borden operation is not separated from the rest of the plant. There is no fence or other barrier.

The majority of the SWMUs and AOCs identified in the Consent Decree are located in the South Plant. Production operations associated with the SWMUs and AOCs have been discontinued. The plans for the South Plant are to expand the line of potassium based inorganic chemicals.

disposition which is protective of human health and the environment. The cap system will be designed to minimize erosion, providing long term reliability.

The CAMU will also minimize the amount of offsite transport and disposal of wastes. The site is surrounded by houses, historic places and commercial establishments all served by narrow roadways. The CAMU will reduce the transport of waste along these roads with consequent reduction of risk of accidents/spills during transport.

The economic and cost-effectiveness of the remedies will be a function of the amount of wastes ultimately found, treated, stored, disposed or otherwise handled within the CAMU. That amount will be better known when the overall RFI for the VCC site is executed. Nonetheless, it can be generalized that alternatives to designation as a CAMU include elements of the following:

- offsite disposal
- offsite treatment and disposal
- multiple treatment and disposal units onsite

All the alternatives carry a significantly higher price tag by a factor of two to five. The problem associated with costs of offsite disposition is that VCC utilizes RCRA facilities in order to be conservative, despite the fact that the wastes are not RCRA hazardous. The conservatism arises from the fact that direct control by VCC is not possible offsite; however, long term liabilities ultimately remain with the generator. Utilization of multiple onsite treatment and disposal units to, for example, serve each SWMU individually would provide a management and operational nightmare of the individual units but more significantly would cause interference with existing operations and likely preclude expansion of existing operations because of land and space constraints.

2.2 PROVIDE A CLEAR STATEMENT OF HOW AND WHEN THE WASTE WILL BE MOVED/STORED/DISPOSED OF WITHIN THE CAMU INCLUDING TIMELINES.

Figure 1 shows the locations of the SWMUs. Figure 1 also shows the location of planned soil borings which will generate small amounts of waste soil cuttings.

The following describes how wastes will be moved/stored/treated and disposed of within the CAMU:

- As remediation debris or contaminated soil is removed for purposes of construction of new facilities from SWMUs 1, 16, 17, 12, 11/15, 8, 9 or 5, it will be temporarily stored on SWMU 7.
- As soil cuttings are generated during field investigation activities at the SWMUs noted above and additionally at SWMUs 2, 5, 7, 14, 20, 18, 13, and 23, they will be temporarily stored on SWMU 7.
- Contaminated soil requiring remediation as delineated from the investigations noted above will be temporarily stored on SWMU 7.
- The wastes within the CAMU will be biotreated, stabilized/solidified or otherwise treated depending on the contamination.
- The residues within the CAMU will be capped with an engineered system as a non-regulated unit.

2.3 HOW WILL YOU ENSURE THAT WASTE MANAGEMENT ACTIVITIES ASSOCIATED WITH THE CAMU WILL NOT CREATE UNACCEPTABLE RISKS TO HUMANS OR THE ENVIRONMENT? (40 CFR 264.552(c)(2))

The wastes will consist of:

- contaminated soil that to a significant extent is surface soil or near surface soil (less than two feet),
- contaminated concrete that existed as a floor in former chemical processing areas, and
- soil cuttings from investigations.

The wastes will be treated with care to avoid personal exposure. Those engaged in the waste excavation or movement activities will be dressed in appropriate protective equipment. Soil will be transported to the designated temporary storage or collection point in dump trucks that will, if dusting occurs, be covered with a tarp. Soil cuttings will be transported in closed 55 gallon drums.

One of the fundamental reasons for the CAMU is to consolidate the wastes and reduce the aerial extent of exposure and also manage the ingress and egress of the area for waste storage treatment and disposal. The opportunity for exposure is, therefore, reduced when comparing the consolidated areas versus the existing situation.

2.4 WILL THE CAMU INCLUDE UNCONTAMINATED AREAS OF THE FACILITY? THE CAMU SHALL INCLUDE UNCONTAMINATED AREAS OF THE FACILITY, ONLY IF INCLUDING SUCH AREAS FOR THE PURPOSES OF MANAGING REMEDIATION WASTE IS MORE PROTECTIVE THAN MANAGEMENT OF SUCH WASTES AT CONTAMINATED AREAS OF THE FACILITY. (40 CFR 264.552(c)(3))

Based on the field investigations to date it is probable that trace contamination exists within all areas of the CAMU. The CAMU will improve the VCC Plant site, because contaminated soil and debris will be removed from all areas of the Plant and will be contained and treated in a much smaller area.

Nevertheless, surface soil in some portions of the CAMU is not contaminated. Concrete in some portions of the CAMU is not contaminated. VCC has carried out an Expedited RFI for SWMUs 1, 17 and 16; results are found in the Expedited RFI Report, Expedited CMS and Expedited CMIP published in June 1997. VCC has submitted a RFI Work Plan and GWA Work Plan for investigation of additional areas to delineate the extent of contamination.

2.5 HOW WILL AREAS WITHIN THE CAMU, WHERE WASTES REMAIN IN PLACE AFTER CLOSURE OF THE CAMU BE MANAGED AND CONTAINED SO AS TO MINIMIZE FUTURE RELEASES TO THE EXTENT PREDICTABLE? (40 CFR 264.552(c)(4))

The wastes will be temporarily stored underneath a tarp. Then the wastes will be treated (either biotreatment and/or stabilization depending on the contaminant and the

concentration). The waste will ultimately be covered with a sloped cover system consisting of a clay cap and vegetated topsoil. The exact site has not been chosen; however, after construction, the site will be maintained by mowing the vegetation, inspecting the cap monthly and making repairs to the cap as necessary.

2.6 HOW WILL USE OF THE CAMU EXPEDITE REMEDIATION OF THE SITE?

The CAMU will allow expedited management of remediation wastes generated from the following activities: (1) RFI field investigations, and (2) clearing the land and space required for the planned construction of new production facilities in areas currently occupied by SWMUs 1, 16, and 17 have already shortened the overall remediation time, and the CAMU will allow further reduction in the time required to remediate the entire site. In addition, profits from the new production facilities will help increase financial assurance for the required corrective action.

2.7 HOW WILL THE CAMU ENABLE THE USE, WHEN APPROPRIATE, OF TREATMENT TECHNOLOGIES (INCLUDING INNOVATIVE TECHNOLOGIES) TO ENHANCE THE LONG-TERM EFFECTIVENESS OF REMEDIAL ACTIVITIES BY REDUCING THE TOXICITY MOBILITY, OR VOLUME OF WASTES THAT WILL REMAIN IN PLACE AFTER CLOSURE OF THE CAMU? (40 CFR.552(c)(6))

The CAMU will allow the use of biotreatment and/or stabilization/solidification depending on the contaminant and the concentration of the contaminant. Biotreatment will allow destruction of constituents, thereby, reducing the toxicity. The stabilization/solidification will reduce the mobility of constituents.

Subsequently the wastes will be covered by a sloped (3 to 5 percent) cap and topsoil cover system. The cover system will mitigate entry of rainwater further reducing potential for release of constituents.

2.8 DESCRIBE HOW THE CAMU SHALL, TO THE EXTENT PRACTICAL, MINIMIZE THE LAND AREA OF THE FACILITY UPON WHICH WASTES WILL REMAIN IN PLACE AFTER CLOSURE OF THE CAMU. (40 CFR 264.552(c)(9))

The RFI has not been implemented yet, but based on an expedited RFI completed on a voluntary basis for SWMUs 1, 17 and 16 it can be predicted that the waste will consist of contaminated soil and construction debris from small dispersed areas within the Plant site. The CAMU will allow the wastes to be consolidated in one location and then biotreated and/or stabilized.

The disposal of wastes will occur in a non-RCRA regulated landfill located within the boundaries of the CAMU. The landfill will be engineered with a cap and cover system consisting of two feet of compacted clay and one foot of topsoil that is vegetated. The specific location of the landfill is not yet known but will be chosen to minimize the land area utilized.

3.1 DESCRIBE THE AREAL CONFIGURATION OF THE CAMU (40 CFR 552-(e)(1))

Figure 1 shows the site plan including the boundaries of the CAMU.

3.2 HOW DO REQUIREMENTS FOR REMEDIATION WASTE MANAGEMENT INCLUDE THE SPECIFICATION OF APPLICABLE DESIGN, OPERATION AND CLOSURE REQUIREMENTS? (40 CFR 552(e)(2))

Surface soil in some portions of the CAMU is not contaminated. Concrete in some portions of the CAMU is not contaminated. VCC has carried out an Expedited RFI for SWMUs 1, 17 and 16; results are found in the Expedited RFI Report, Expedited CMS and Expedited CMIP published concurrently with this application. VCC has submitted a RFI Work Plan and GWA Work Plan for investigation of additional areas to delineate the extent of contamination.

A temporary unit was approved by the U.S. EPA. and is being used for biodegradation studies. It is planned to continue the use of the Temporary Unit under the CAMU designation. The Temporary Unit is located south of SWMU 8 and adjacent to SWMU 7 and SWMU 20. The structures are open top concrete structures noted in Figure 1. The structures were formerly secondary containment structures for tanks of pesticide intermediates and formulations. The tanks have been removed. Each of the concrete structures is approximately 5 feet by 23.5 feet by 70 feet and contains one inner partition. The wall thickness of the structure is eight (8) inches. Prior to being put in service as a Temporary Unit, cracks and holes within the concrete were patched or caulked. A removable tarpaulin cover constructed of fiber-reinforced polyethylene was placed atop the concrete structure in order to prevent rainfall from entering the structure.

Wastes will be stacked within the CAMU atop SWMU 7, the former Dinoseb Production Area. The wastes will be covered with a tarp prior to treatment and disposal.

The disposal of waste residues will occur in a non-RCRA regulated landfill located within the boundaries of the CAMU. The landfill will be engineered with a cap and cover system consisting of two feet of compacted clay and one foot of topsoil that is vegetated. The specific location of the landfill is not yet known. The location will be chosen to minimize the land area of the facility upon which wastes will remain in place after closure. (40 CFR 264.552 (C)(7))

3.3 HOW ARE REQUIREMENTS FOR GROUNDWATER MONITORING SUFFICIENT TO:

- **Continue To Detect And To Characterize The Nature, Extent, Concentration, Direction And Movement Of Existing Releases Of Hazardous Constituents In Groundwater From Sources Located Within The CAMU; And**
- **Detect And Subsequently Characterize Releases Of Hazardous Constituents To Groundwater That May Occur From Areas Of The CAMU In Which Wastes Will Remain In Place After Closure Of The CAMU. (40 CFR 264.552(e)(3))**

A groundwater monitoring system will be implemented within the CAMU. The RFI and GWA will delineate horizontal and vertical extent of groundwater contamination. The RFI will also evaluate appropriate locations and screening depths for additional wells. Those additional wells will be located on Figure 1. The monitoring system may include some or all of the existing monitor wells depending on the findings from the RFI. As a minimum, the monitoring system will include a perimeter detection monitoring or compliance monitoring program for the areas of the CAMU in which wastes will remain in place after closure of the CAMU, including the following:

- At least one monitor well in the selected monitoring zone located upgradient.
- At least three monitor wells completed in the same zone as the upgradient monitor well and located downgradient.

- A specified analyte list such as toxaphene, dinoseb, atrazine and arsenic.
- A specified sampling and analysis frequency such as a semiannual or annual.
- Measurement of groundwater elevation at each monitor well during each sampling event and an evaluation of whether direction of groundwater gradient has changed
- A specification for evaluating and reporting of results including provisions for additional response actions if constituent migration is detected
- A written Sampling and Analysis Plan specifying the above

3.4 DESCRIBE HOW CLOSURE AND POSTCLOSURE WILL BE ADDRESSED WITH REGARD TO THE FOLLOWING REQUIREMENTS:

- **Minimizing The Need For Further Maintenance**
- **Controlling Minimizing Or Eliminating To The Extent Necessary To Protect Human Health And The Environment, For Areas Where Wastes Remain In Place, Post-Closure Escape Of Hazardous Waste, Hazardous Constituents, Leachate, Contaminated Runoff, Or Hazardous Waste Decomposition Products To The Ground, To Surface Waters, Or To The Atmosphere**
- **Excavation, Removal, Treatment, Or Containment Of Wastes**
- **Capping Areas Where Wastes Will Remain After Closure**
- **Removal And Decontamination Of Equipment, Devices, And Structures Used In Remediation Waste Management Activities Within The CAMU (40 CFR 264.552 (e)(4)(I) And 40 CFR 264.552 (e) (4) (Ii))**

The need for further maintenance will be minimized by doing the following:

- The total area to be maintained as the repository of waste residue will be minimized by consolidating wastes throughout the plant site.
- The concentration of toxic organic constituents in the waste will be reduced by biodegradation. Toxic inorganic constituents will be more firmly bound to the solid matrix with solidification/stabilization. Then the wastes will be capped with an engineered system consisting of clay, topsoil and vegetation. The

slope of the cap will be 3% to 5% which is steep enough to easily shed rainwater but at the same time shallow enough to minimize erosion and allow easy access for maintenance activities such an mowing.

- Inspection and repair, if necessary, of the cap will occur monthly. This frequent activity will prevent serious maintenance problems from occurring.

Potential impact to human health and the environment is minimized and controlled by the treatment and containment scenario mentioned above. The concentration of toxic organic constituents in the waste will be reduced by biodegradation. Toxic inorganic constituents will be made less mobile by solidification/stabilization. Then the wastes will be covered by an engineered system consisting of two feet of clay, one foot of topsoil and vegetation.

Wastes will be excavated from various areas prior to being consolidated, treated and then capped. A discussion of the typical method of excavation and the construction quality assurance plan can be found in the "RCRA Corrective Measures Implementation Plan For SWMU 16, 1 and 17" dated June 1997 and submitted to the U.S. EPA and MSDEQ by Vicksburg Chemical. Specifically, reference is made to Section 3.0 "Corrective Measures Conceptual Design" and Section 4.0 "Corrective Measures Construction".

Also, as noted above,, the areas where wastes will remain after closure will be capped with two feet of clay and one foot of topsoil and vegetation. The area to be capped has not yet been selected; however one of the criteria for the area is to minimize the amount of land used.

All the equipment devices and structures used in the remediation waste management activities will be properly decontaminated after cessation of activity. The concrete wash pad in front of (east) the former dinoseb drumming shed serves as a decontamination pad for large mobile equipment such as drilling equipment and backhoes. Equipment will be washed and/or steam cleaned and inspected by VCC personnel prior to leaving the site. There are concrete structures that are being utilized for the biotreatment area. After completion of the RFI and treatment of soils, the structures will be decontaminated and demolished and placed in the landfill that is to be the depository for waste residue on this project.

3.5 WITH REGARD TO CLOSURE REQUIREMENTS IN THE CAMU, DESCRIBE THE FOLLOWING:

- **CAMU Characteristics**
- **Volume Of Wastes Which Remain In Place After Closure**
- **Potential For Release From The CAMU**
- **Physical And Chemical Characteristics Of The Waste**
- **Hydrological And Other Relevant Environmental Conditions At The Facility Which May Influence The Migration Of Any Potential And Actual Releases**
- **Potential For Exposure Of Humans And Environmental Receptors If Releases Were To Occur From The CAMU**
- **Post-Closure Requirements As Necessary To Protect Human Health And The Environment, To Include, For Areas Where Water Will Remain In Place, Monitoring And Maintenance Activities, And The Frequency With Which Such Activities Shall Be Performed To Ensure The Integrity Of Any Cap, Final Cover, Or Other Containment System.**
- **Public Participation**
- **Permit Procedures**
- **EPA's Authority To Address Clean-Up Levels, Media-Specific Points Of Compliance To Be Applied To Remediation At A Facility Or Other Remedy Selection Decisions (40 CFR 264.552(E)(4)(Iii))**

The CAMU is area as described by the boundaries noted on Figure 1. The boundaries encompass a significant portion of the south plant, specifically those areas on which pesticide chemical production formerly occurred or areas in which wastes are deposited. As VCC converts demolished production areas into modern facilities it is necessary to investigate the soil and construction debris that remain and remediate waste as necessary. (The investigation and remediation all take place pursuant to a Consent Decree in compliance with RCRA corrective action programs.) The remediation consists of consolidating the various wastes and bringing it to one location (SWMU 7) for temporary storage. The wastes will be treated by biodegradation in cells adjacent to SWMU 7. Inorganic contamination will be solidified/stabilized. The final repository (landfill) for waste residues within the CAMU has not yet been chosen.

The volume of wastes which will remain in place after closure can not be determined at this time. Wastes will result from contaminated soil, construction debris and cuttings from investigation drilling. The RFI to better define the volume of wastes has not yet been implemented. An expedited RFI, limited to SWMUs 1, 17 and 16, has been completed. Execution of the remedial activities as a follow up to the RFI will result in less than 50 cubic yards of waste.

The potential for releases from the CAMU will be mitigated during remedial activities. The work sequence is to excavate soil and/or construction debris and transport to SWMU 7 for temporary storage. The treatment (biotreatment and/or solidification/stabilization) will occur adjacent to the temporary storage. Temporary storage and treatment will occur under tarps or under roof to mitigate the potential for rainfall to carry contaminated soil by erosion. Residuals will be contained in a landfill, within CAMU boundaries, the location of which has not been chosen.

The wastes are soils or construction debris contaminated with trace concentrations of atrazine, dinoseb, arsenic and toxaphene. The nature of the wastes are such that volatility is not a significant concern and leaching is not a significant concern.

Hydrological conditions provide the most likely potential route of contaminant release. Release could occur as a result of rain eroding soil particulates and transporting those particles. For this reason, tarps will be placed over any temporary storage of the wastes.

The potential for exposure of humans and environmental receptors remains small even if there were a release. The most likely release, as noted above, would be erosion and transport of particles by rainwater. If that should happen the particles would flow to the rainwater impoundment and would be collected within the impoundment or would be trapped on the carbon absorption system that provides treatment for the effluent of the rainwater pond as it is pumped to the Mississippi River.

The post closure requirements for the repository of waste residues (landfill) will consist of maintenance and monitoring for a period of 30 years. Maintenance will consist of inspection and repair of the capping system on a monthly basis. Monitoring will consist of sampling and analysis of one upstream and three downstream monitor wells for

toxaphene, arsenic, dinoseb and atrazine. Sampling would occur quarterly the first year and semi-annually thereafter.

The public will be given the opportunity to participate in the CAMU permit. A notification will be placed in the newspaper describing the CAMU and the intent to hold an information meeting at the public library. Subsequently the meeting will be held at the public library, with the U.S. EPA in attendance.

The U.S. EPA will approve the CAMU permit according to the procedures of 40 CFR 270.42.

The designation of the CAMU does not change the authority of the U.S. EPA to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility, or other remedy selection decisions.

4.0
WASTE DESCRIPTION

4.1 DESCRIBE THE TYPE AND TOTAL QUANTITY OF WASTE TO BE DEPOSITED/TREATED IN THE CAMU.

The quantity of waste expected is unknown at this time. VCC has carried out an Expedited RFI for SMWUs 1, 17 and 16; results are found in the Expedited RFI Report, Expedited CMS and Expedited CMIP published concurrently with this application. The amount of soil and concrete to be excavated is less than 25 cubic yards. VCC has submitted a RFI Work Plan and GWA Work Plan for investigation of additional areas to delineate the extent of contamination. The type of waste expected is:

- Contaminated soil
- Contaminated concrete
- Cuttings generated as a result of investigation

4.2 WHAT IS THE SOURCE OF THE WASTE? LIST THE SOURCE, LOCATION AND ESTIMATED QUANTITY OF ALL WASTES TO BE DEPOSITED/TREATED IN THE CAMU.

The wastes are associated with discontinued operations. The wastes considered as candidates to be deposited/treated within the CAMU are contaminated surface soils resulting from spills and drips from the discontinued operations and debris resulting from demolition or remediation of the discontinued operation units. These wastes are located in proximity to each other and are very similar in characteristic (soil and/or concrete) but with contamination consisting of one or more of the following:

- Arsenic
- Atrazine or Cyanizine
- Dinoseb
- Toxaphene

As units are remediated or as demolition proceeds a common site within the CAMU is needed to store the wastes noted above. The wastes would be stored temporarily in SWMU 7 underneath a tarp to prevent leaching of constituents by rainwater. Depending on the level of contamination in the waste, the waste may be stabilized/solidified, biotreated, or otherwise treated prior to final disposition.

The following describes the source of the wastes to be moved/stored/treated and disposed of within the CAMU:

- Remediation debris or contaminated soil is removed for purposes of construction of new facilities from SWMUs 1, 16, 17, 12, 11/15, 8, 9 or 5, it will be temporarily stored on SWMU 7.

- Soil cuttings are generated during field investigation activities at the SWMUs noted above and additionally at SWMUs 2, 5, 7, 14, 20, 18, 13, and 23, they will be temporarily stored on SWMU 7.

- Contaminated soil requiring remediation as delineated from the investigations noted above will be temporarily stored on SWMU 7.

4.3 WHAT TYPE OF TREATMENT WILL BE USED IN THE CAMU?

The treatment to be used is biotreatment and/or stabilization/solidification depending on the contaminant and the concentration. Biotreatment utilized will take place in the Temporary Unit under CAMU designation.

4.4 WHAT IS THE ULTIMATE DISPOSITION OF THE WASTE? DESCRIBE THE FINAL DISPOSITION OF THE REMEDIATION WASTE.

The ultimate disposition of the waste is to be covered with a sloped cover system consisting of a clay cap and vegetated topsoil. The exact site has not been selected. The exact site will be selected after the execution of the RFI for the entire VCC site.

5.1 DESCRIBE ANY GROUNDWATER MONITORING WHICH WILL BE USED FOR THE CAMU.

A groundwater monitoring system will be implemented within the CAMU. The RFI and GWA will delineate horizontal and vertical extent of groundwater contamination. The RFI will also evaluate appropriate locations and screening depths for additional wells. The monitoring system may include some or all of the existing monitor wells depending on the findings from the RFI. As a minimum, the monitoring system will include a perimeter detection monitoring or compliance monitoring program including the following:

- At least one monitor well in the selected monitoring zone located upgradient.
- At least three monitor wells completed in the same zone as the upgradient monitor well and located downgradient.
- A specified analyte list such as toxaphene, dinoseb, atrazine and arsenic.
- A specified sampling and analysis frequency such as a semiannual or annual.
- Measurement of groundwater elevation at each monitor well during each sampling event and an evaluation of whether direction of groundwater gradient has changed
- A specification for evaluating and reporting of results including provisions for additional response actions if constituent migration is detected

- A written Sampling and Analysis Plan specifying the above

Additional details on groundwater monitoring are found in the GWA Work Plan and the RFI Work Plan.

5.2 DESCRIBE CONTROLS WHICH WILL BE USED FOR POTENTIAL AIR RELEASES.

At completion the wastes that might release emissions will be covered with a clay cap and vegetated topsoil cover system and the potential for air releases should be minimal.

During remediation, construction or closure the following actions will be used to control air releases:

- Dust control measures such as wetting or use of foams will be implemented as needed

- Foams or tarpaulin covers will be used as needed during waste storage, handling or treatment.

6.0
CLOSURE AND POST CLOSURE REQUIREMENTS

6.1 WHAT TYPES OF CLOSURE AND POST CLOSURE REQUIREMENTS WILL YOU BE USING?

6.1.1 Closure

Requirements include biotreatment and/or solidification/stabilization of all wastes, placement of the wastes and construction of a cap and cover system in accordance with a Construction Quality Assurance (CQA) Plan. The substantive requirements of 40 CFR 264.(g) will be used. VCC will file a notation on the deed to the facility property within 60 days of completion of cap and cover systems. The documentation in the deed will include the information set forth in 40 CFR 264.119(b). VCC will provide to the Regional Administrator of EPA a copy of the documentation in deed and certification that it has been recorded pursuant to 40 CFR 264.119(b).

The Construction Quality Assurance (CQA) Plan parallels the guidelines outlined in the EPA Technical Guidance Document "Construction Quality Assurance for Hazardous Waste Land Disposal Facilities". The plan defines a system of construction quality management to verify, with a justifiable degree of certainty, that the construction activity encompassed by the CMIP will meet or exceed the corrective action objectives. This plan will be administered by a third party chosen by VCC to provide the information necessary to certify the closure of the tanks and surface impoundments.

Construction Quality Management comprises both a planned system of inspection and testing activities that are necessary to monitor and control the quality of a construction project and a planned system of overview activities that these activities are being properly performed and documented.

The CQA Plan is comprised of the following elements:

- Responsibility and authority

- CQA personnel qualifications
- Inspection activities
- Sampling requirements
- Certification documentation

This CQA Plan is presented in the Corrective Measures Implementation Plan.

The CQA Plan specifies an inspection and testing program to assure completion of closure in accordance with the project specifications.

6.1.2 Post Closure

The CAMU, as now requested, will not include regulated RCRA units. Post-Closure care will include:

- Groundwater monitoring, evaluation and reporting as discussed in Section 5.1
- Monthly inspection of the areas for signs of erosion, loss of vegetative cover, or other conditions requiring maintenance or repair
- Maintenance or repair of the monitor wells or cover system as necessary

6.2 WHAT WILL BE DONE TO ENSURE THE LONG TERM RELIABILITY AND EFFECTIVENESS OF CAMU REMEDIAL ACTION?

The Post-Closure Care Program described in Section 6.1.2 and groundwater monitoring program described in Section 5.1 will assure the long term reliability and effectiveness of the remediation. In addition, the deed recordation described in Section 6.1.2 will assure that any future owner is aware of the landfilled stabilized wastes, preventing inadvertent disturbance or damage of the cover system.

6.3 WHAT WASTES WILL REMAIN IN PLACE IN THE CAMU AFTER REMEDIATION?

Biotreated and/or stabilized/solidified wastes may remain in place as described in Section 4.1.. They may also be used beneficially within the CAMU.

7.0
PERMITS

7.1 WILL USE OF A CAMU REQUIRE ISSUANCE OF OTHER FEDERAL OR STATE-ISSUED PERMITS?

Since waste will remain in place a Solid Waste Permit could be required, depending on characteristics of the stabilized waste. However, proposed amendments to RCRA published November 8, 1994 would allow an alternative approach. Under these rules, the same substantive requirements as a Post Closure Permit could be placed on the facility using either an enforcement action or a post-closure care plan. Consequently, a Post Closure Permit is not expected to be required.

7.2 IDENTIFY ALL INSTITUTIONAL CONTROLS ASSOCIATED WITH THE CAMU.

The entrance to the north end and the northwest side of the VCC facility, which is the only end of the facility with road access, are restricted by a fence and locking gate. In addition, the closed area will be deed recorded. Post-closure groundwater monitoring and care will be implemented.

8.0
LAND USE

The VCC site is 650 acres. The surrounding land use is commercial, industrial, houses and historic.

8.1 POTENTIAL RECEPTOR POPULATIONS

The receptor populations on and near the site were characterized in order to evaluate the potential for exposure to chemical constituents present at or migrating from the site. The current usage of land adjacent to the facility is primarily rural residential and commercial with properties located on or adjacent to Rifle Range Road, Dabney Drive, Warrenton Road and Highway 61. The facility is located in 1990 Census Tract Number 9508 which has a reported population of 3680. Adjacent 1990 Census Tracts include numbers 9511, 9506, and 9507. The total population of the area is estimated to be 20,456 with the highest density of residents located to the north of the plant. Access to the facility is restricted by difficult terrain, fencing, and security guards. On-site VCC Chemical workers and off-site residents are identified as the receptor populations with the greatest potential for exposure to chemicals at or released from the site.

8.2 EXPOSURE PATHWAYS

An exposure pathway describes a unique mechanism by which a population or individual can be exposed to chemical constituents present at or originating from a site. An exposure pathway consists of four necessary elements: a source and mechanism of chemical release to the environment; an environmental transport medium for the released chemical; a point of potential human contact with the contaminated medium; and a human exposure route at the point of exposure.

All four elements must be present for an exposure pathway to be complete and for exposure to occur. Incomplete exposure pathways do not result in actual human exposure and are not included in the exposure assessment. The following text describes the components of the exposure pathways that have been identified.

8.2.1 Chemical Release Sources and Environmental Transport Media

The chemical constituents identified in the soils, groundwater, surface water, and on the surfaces of the concrete associated with the SWMUs and AOCs have been identified as the chemical release sources for all potential exposure pathways. The exposure media potentially involved in the transport of chemical constituents include groundwater, surface runoff, and air.

8.2.1.1 Groundwater

The potential for movement of constituents in groundwater to the nearest residential area is dependent on the water solubility and soil adsorption properties of the constituents present and the velocity and direction of horizontal groundwater migration. Based on an evaluation of the available hydrogeological data, horizontal groundwater migration may potentially transport chemical constituents from the site to Stouts Bayou, Hatcher Bayou, Hennesseys Bayou and ultimately, to the Mississippi River. The potential for the vertical movement of constituents in groundwater to aquifers potentially utilized for water supply purposes is dependent on the water solubility and soil adsorption properties of the constituents present and the geology and hydrology of the surrounding areas and is believed, based on investigation to date, to be minimal. A work plan for a GWA has been prepared by VCC and submitted to the U.S. EPA.

8.2.1.2 Surface Runoff

Surface runoff can serve as a transport medium for the movement of chemical constituents adsorbed to surface soils and/or present in accumulations of standing water. Migration of constituents by this mechanism may occur via runoff associated with elevated areas of concern, surface drainage areas, ditches, and receiving water bodies which include Hatcher Bayou, Stouts Bayou, Hennesseys Bayou and the Mississippi River. The use of an engineered cover system for the disposed unit within the CAMU will mitigate this potential.

8.2.1.3 Air

Air can serve as a transport medium for the movement of volatile emissions and soil-adsorbed chemical constituents. Chemical constituents present at the site may enter the air under ambient

conditions. This process referred to as volatilization, occurs in accordance with basic chemical phase equilibrium and is influenced by water solubility and soil adsorption properties of the individual chemical constituents. The volatilized chemical phase equilibrates throughout all available soil pores space as well as the soil surface. At the soil-air interface, constituent equilibrium results in the release of volatile constituents to the atmosphere.

Chemical constituents adsorbed onto soil particulates are released into the air as a result of wind erosion of the surface soils. The amount of soil particulate released to the air is dependent on the soil particulate particle size; the amount and kind of ground cover present, if any; the physical properties of the soil; and meteorological conditions, particularly wind speed. The use of an engineered cover system for the disposal unit within the CAMU will mitigate this potential.

8.2.2 Exposure Points

An exposure point is defined as a location of potential contact between a receptor population and a chemical constituent. The objective of determining exposure points is to identify location points. where receptor populations may be potentially exposed to chemical constituents contained within environmental transport media. The VCC Facility, Formaldehyde Plant, and the nearest off-site residential area have been identified as the exposure points for potential exposure to chemical constituents via air and soil. For exposure to groundwater, there are no identified exposure points based on the vertical and horizontal confinement of groundwater constituents and the absence of known water supply wells within one mile of the site. The exposure points identified for potential exposure to chemical constituents via surface runoff are the South Plant Drainage Ditches (SWMU 13) and the off-site water bodies to which they drain.

8.2.3 Exposure Pathways

8.2.3.1 Offsite Residential Receptors

Exposure pathways considered to represent plausible, complete pathways of potential exposure to constituents are summarized below for off-site residential receptors.

Inhalation

- Inhalation of airborne soil particulates originating from the surface soil of the defined areas of concern by off-site residential receptors.

Direct Contact

- Direct contact by off-site residential receptors with soil particulates deposited in the residential area.
- Direct contact by off-site residential receptors with surface runoff.

Ingestion

- Ingestion of soil particulate deposited in the residential area by off-site residential receptors.
- Ingestion of surface runoff by off-site residential receptors.
- Ingestion of groundwater by off-site residential receptors is not considered to be a complete pathway of exposure based on the limited horizontal and vertical extent of constituents in the groundwater and the absence of production wells within a one mile radius of the site.
- Ingestion of aquatic organisms obtained from potentially impacted water bodies (Stouts Bayou, Hatcher Bayou, Hennesseys Bayou, and the Mississippi River) is not considered to be a significant exposure pathway based on the absence of recreational use of these water systems.

8.2.3.2 Onsite VCC Workers

Exposure pathways considered to represent plausible, complete pathways of potential exposure to constituents are summarized below for on-site VCC workers.

Inhalation

- Inhalation of airborne soil particulates originating from the surface soil of the defined areas of concern by on-site receptors.

Direct Contact

- Direct contact with surface soil, surface runoff, standing water, and surface water of the defined areas of concern by on-site receptors is not identified as a significant exposure pathway based on the inactive status of these areas and limited worker contact with these areas.

- Direct contact with concrete surfaces in the defined areas of concern by on-site receptors.

Ingestion

- Ingestion of surface soil, surface runoff, standing water, and surface water of the defined areas of concern by on-site receptors is not identified as a significant exposure pathway based on the inactive status of these areas and limited worker contact with these areas.

- Ingestion of groundwater by on-site workers is not a complete exposure pathway due to the absence of on-site production water wells.

8.3 WILL RISK ASSESSMENTS BE CONDUCTED?

After completion of the RFI and GWA a risk assessment may be conducted.

FIGURES

APPLICATION FOR CORRECTIVE ACTION MANAGEMENT UNIT (CAMU)

VICKSBURG CHEMICAL COMPANY
VICKSBURG, MISSISSIPPI

Prepared for
Vicksburg Chemical Company
Vicksburg, Mississippi

June 1997

WCC File 96B315-6

Woodward-Clyde

Woodward-Clyde Consultants
2822 O'Neal Lane
Baton Rouge, Louisiana 70816

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Figure 1 SWMU Locations, Soil Boring Locations and Site Plan

1.0
INTRODUCTION

Vicksburg Chemical Company (VCC) retained Woodward-Clyde Consultants (WCC) to perform activities associated with a RCRA corrective action program. The corrective action program is in response to a Consent Decree. The Consent Decree requires that a RCRA Facility Investigation (RFI) be conducted at the Vicksburg, Mississippi manufacturing facility.

The purpose of the RFI is to determine the nature and extent of releases of hazardous wastes and/or constituents from regulated units, solid waste management unit (SWMUs), and other areas of concern (AOCs) at the facility to gather all necessary data to support a Corrective Measures Study (CMS).

The RFI constitutes the second phase of the RCRA corrective action program. The program's initial phase consists of the RCRA Facility Assessment (RFA) which is conducted by EPA and precedes the RFI. The RFI itself is divided into five separate tasks which includes the Preliminary Report (submitted as a separate document and resubmitted as the Amended and Restated Preliminary Report and subsequently approved by the U.S. EPA), the RFI Work Plan (submitted in June 1996), the Facility Investigation, and Investigative Analysis and Reports. In addition to these phases, a Groundwater Assessment Work Plan and a Preinvestigation - Evaluation of Corrective Measures Technologies (PECMT) Report (both submitted in June 1996), a Closure Plan for SWMU 1 and SWMU 17 (submitted and subsequently approved by the U.S. EPA) and Annual Groundwater Assessment Reports are required by the Consent Decree.

PECMT report is a listing of technologies that may be utilized as corrective measures for the remediation of SWMUs and AOC. As part of the technology investigation process, VCC conducted laboratory scale tests on biodegradation of the contaminants of concern in soils and other media such as concrete at the VCC site. The results of the tests were sufficiently promising that VCC wished to proceed with pilot scale testing. A Request for Temporary Unit (TU) pursuant to 40 CFR 264.533 was prepared, submitted and subsequently approved by the U.S. EPA.

Subsequently an RFI Expedited Work Plan (January 1997) was executed for the following areas:

- SWMU 16, Former Atrazine Production Area (including warehouse);
- SWMU 1, Container (Drum) Storage Area; and
- SWMU 17, Returned Product Storage Area.

The field work was implemented in February 1997 with additional follow-up in May 1997.

The expedited work was executed because of VCC's plans for construction of a new manufacturing facility in the South Plant and utilize some of the area to be investigated for storage, transportation and manufacturing.

The RFI is intended to obtain information to characterize the nature and extent of releases of hazardous waste or constituents, if any. This information is used to determine whether a CMS is necessary. The purpose of a CMS is to develop and evaluate the corrective action alternatives and to recommend the corrective measure or measures to be taken at the facility. The RFI Report, CMS and a Corrective Measures Implementation Plan (CMIP) are published simultaneously because of VCC's expedited effort.

One of the recommendations of the CMS and CMIP is that a Corrective Action Management Unit (CAMU) be established onsite pursuant to 40 CFR 264.552. CAMUs are established:

"(a) For the purpose of implementing remedies under §264.101 or RCRA Section 3008(h), the Regional Administrator may designate an area at the facility as a corrective action management unit, as defined in §260.10, in accordance with the requirements of this section. One or more CAMUs may be designated at a facility.

(1) Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(2) Consolidation or placement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements."

Further:

"(b)

(1) The Regional Administrator may designate a regulated unit (as defined in §264.90(a)(2) as a CAMU, or may incorporate a regulated unit into a CAMU, if:

(i) The regulated unit is closed or closing, meaning that it has begun the closure process under §264.113 or §265.113; and

(ii) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(2) The subpart F, G, and H requirements and the unit-specific requirements of part 264 or 265 that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU."

This document is an application for designation as a CAMU. VCC does not plan to incorporate a regulated unit within the CAMU. The information required in an application for a CAMU is found in the following sections:

2.0	Implementation
3.0	CAMU Description
4.0	Waste Description
5.0	Monitoring
6.0	Closure and Post Closure Requirements
7.0	Land Use

1.1 DESCRIPTION OF THE PLANT

VCC is located in Warren County, Mississippi along the Mississippi River immediately on the south area of Vicksburg within the city limits. About 70 acres border on the Mississippi River, however, none of the plant production facilities are located along the river. The address is:

Vicksburg Chemical Company
Post Office Box 821003
Rifle Range Road
Vicksburg, Mississippi 39182-1007

The facility is a manufacturer of chemicals. The 650 acre plant site is divided into two separate and distinct operations known as the North Plant and the South Plant. Active operations are conducted or have been conducted on about 130 acres.

In operation since 1961, the North Plant produces potassium nitrate, liquid chlorine, and liquid nitrogen tetroxide. The raw materials for the North Plant include potassium chloride and nitric acid. The potassium nitrate is sold in varying grades as a chemical fertilizer and for industrial uses. The chlorine is sold for various industrial uses. Most nitrogen tetroxide is sold to the government as an oxidizer for rocket fuels (it is used in the Shuttle, Titan, Atlas and Delta programs).

The South Plant, in operation since 1953, formerly manufactured chlorinated pesticides, nitrogen based herbicides, and other agricultural chemicals. The only active operations at the South Plant are a nitric acid unit constructed in 1986 and a potassium carbonate (k-carb) unit constructed in 1994. The manufactured nitric acid is used primarily in the North Plant as a raw material. During various periods prior to 1987, the South Plant produced dinitro butyl phenol (dinoseb or DNBP), monosodium methane arsonate (MSMA), diethyl hexyl phosphoric acid (DEHPA), 1-hydroxy-ethylidene-1,1-diphosphonic acid (UNIHIB), toxaphene, methyl parathion, cyanazine (bladex), and atrazine. Toxaphene and methyl parathion are insecticides, while atrazine, dinoseb, and MSMA are herbicides. Raw materials or solvent for these operating processes included chlorine, camphene, ortho secondary butyl phenol (OSBP), sodium arsenite, sodium hydroxide, methyl chloride, sulfuric acid, sodium paranitrophenolate, phosphorus trichloride, cyanuric chloride, tributylamine, carbon tetrachloride, epichlorohydrin,

ortho-cresol, methanol, triethanolamine, xylene, isopropylamine, mono-ethylamine, toluene, poly glycol, diethanolamine and acetone.

1.2 OWNERSHIP HISTORY OF THE PLANT

Originally, the two plants were completely separate, owned and operated by two different companies. The South Plant was originally constructed by Spencer Chemical in 1953 to produce agricultural chemicals: ammonia, nitric acid, urea, and ammonium nitrate. After purchasing the facility in 1964, Gulf Chemical added a formaldehyde unit in 1966. American Metal Climax Corporation (Amax) constructed the North Plant in 1961 to produce chloride-free potassium nitrate for selected crops in the southeast United States, such as tobacco, tomatoes, and certain vegetables. The main reason the potassium nitrate plant was built at Vicksburg, Mississippi was the availability of nitric acid from the adjacent Gulf Oil installation. The Amax plant was also referred to as the Southwest Potash Division.

Vicksburg Chemical Company was formed in early 1972 and purchased both the Gulf Oil and Amax Chemical facilities except the formaldehyde plant on July 12, 1972. Production, under the new management, began in October of the same year. Vicksburg Chemical then operated the nitric acid, potassium nitrate, and nitrate solutions plants about 2 ½ years. By September, 1974 five more facilities were built for atrazine, methyl parathion, dinoseb, toxaphene, and UDMH (Unsymmetrical Dimethyl Hydrazine) production. The UDMH facility process was experimental and not well defined. Consequently, the UDMH process was eliminated due to production problems and economic reasons.

In 1978, Vicksburg Chemical Company was merged into Vertac, Inc. Effective September 1, 1979 Vertac, Inc. was merged into Vertac Chemical Corporation (Vertac). In February, 1986 Cedar Chemical Corporation acquired the Vicksburg Chemical plant from Vertac Chemical Corporation pursuant to a reorganization agreement among Vertac's shareholders and Fermenta A.B. of Sweden. Nine West Corporation, (a wholly owned subsidiary of Trans Resources, Inc.) acquired Cedar Chemical Corporation from Fermenta A.B. in January, 1988. Effective January 1, 1992 Cedar Chemical Corporation incorporated its Vicksburg, Mississippi facility as Vicksburg Chemical Company, a wholly owned subsidiary of Cedar Chemical Corporation.

A formaldehyde unit owned and operated by Borden Chemical is located inside the boundary of the South Plant. It was previously owned by Gulf and, later, Perkins Company and is referred to in this manner occasionally. The small portion of the South Plant site occupied by the Borden operation is not separated from the rest of the plant. There is no fence or other barrier.

The majority of the SWMUs and AOCs identified in the Consent Decree are located in the South Plant. Production operations associated with the SWMUs and AOCs have been discontinued. The plans for the South Plant are to expand the line of potassium based inorganic chemicals.

2.0 IMPLEMENTATION

2.1 HOW WILL YOUR PROPOSED USE OF CAMU FACILITATE THE IMPLEMENTATION OF RELIABLE, EFFECTIVE, PROTECTIVE AND COST-EFFECTIVE REMEDIES?

The CAMU will allow consolidation of wastes associated with discontinued operations. The wastes considered as candidates for the CAMU are contaminated surface soils resulting from spills and drips from the discontinued operations and debris resulting from the demolition or remediation of the discontinued operation units. These wastes are located in proximity to each other and are very similar in characteristic (soil and/or concrete) but with contamination consisting of one or more of the following:

- Arsenic
- Atrazine or Cyanizine
- Dinoseb
- Toxaphene

As units are remediated or as demolition proceeds a common site within the CAMU is needed to store the wastes noted above. The wastes would be stored temporarily underneath a tarp to prevent leaking of constituents by rainwater. Depending on the level of contamination in the waste, the waste may be stabilized/solidified, biotreated, or otherwise treated prior to final disposition. The final location for disposition of residues within the CAMU has not been decided. Consolidation will allow the treatment then construction of a non-regulated but engineered unit with a cap and cover system; that is, a non-RCRA landfill.

The stabilization/solidification of wastes will reduce the mobility of constituents. Biotreatment will allow destruction of constituents. The construction of sloped (3 to 5 percent) clay cap and topsoil cover systems will mitigate entry of rainwater further reducing potential for release of constituents. These factors will provide effective and reliable disposition which is protective of human health and the environment. The cap system will be designed to minimize erosion, providing long term reliability.

The CAMU will also minimize the amount of offsite transport and disposal of wastes. The site is surrounded by houses, historic places and commercial establishments all served by narrow roadways. The CAMU will reduce the transport of waste along these roads with consequent reduction of risk of accidents/spills during transport.

The economic and cost-effectiveness of the remedies will be a function of the amount of wastes and ultimately found, treated, stored, disposed or otherwise handled within the CAMU. That amount will be better known when the overall RFI for the VCC site is executed. Nonetheless, it can be generalized that alternatives to designation as a CAMU include elements of the following:

- offsite disposal
- offsite treatment and disposal
- multiple treatment and disposal units onsite

All the alternatives carry a significantly higher price tag by a factor of two to five. The problem associated with costs of offsite disposition is that VCC utilizes RCRA facilities in order to be conservative, despite the fact that the wastes are not RCRA hazardous. The conservatism arises from the fact that direct control by VCC is not possible offsite; however, long term liabilities ultimately remain with the generator. Utilization of multiple onsite treatment and disposal units to, for example, serve each SWMU individually would provide a management and operational nightmare of the individual units but more significantly would cause interference with existing operations and likely preclude expansion of existing operations because of land and space constraints.

2.2 PROVIDE A CLEAR STATEMENT OF HOW AND WHEN THE WASTE WILL BE MOVED/STORED/DISPOSED OF WITHIN THE CAMU INCLUDING TIMELINES.

Figure 1 shows the locations of the SWMUs. Figure 1 also shows the location of planned soil borings which will generate small amounts of waste soil cuttings.

The following describes how wastes will be moved/stored/treated and disposed of within the CAMU:

- As remediation debris or contaminated soil is removed for purposes of construction of new facilities from SWMUs 1, 16, 17, 12, 11/15, 8, 9 or 5, it will be temporarily stored on SWMU 7.

- As soil cuttings are generated during field investigation activities at the SWMUs noted above and additionally at SWMUs 2, 5, 7, 14, 20, 18, 13, and 23, it will be temporarily stored on SWMU 7.

- Contaminated soil requiring remediation as delineated from the investigations noted above will be temporarily stored on SWMU 7.

- The wastes within the CAMU will be biotreated, stabilized/solidified or otherwise treat depending on the contamination.

- The residues within the CAMU will be capped with an engineered system as a non-regulated unit.

2.3 LIST ALL TYPES OF MEDIA TO BE PLACED/TREATED IN THE CAMU

The following media from the site are planned to be placed in the CAMU:

- contaminated soil
- contaminated concrete
- soil cuttings from investigations

2.4 HOW WILL USE OF THE CAMU EXPEDITE REMEDIATION OF THE SITE?

The CAMU will allow some of the remediation to proceed under voluntary action as need for land and space in order to construct new facilities is planned. The voluntary action will be

compliant with the Consent Decree. The voluntary action will substantially shorten the overall time required for remediation of the site since the voluntary action has, to date, outpaced the RFI program. As an offshoot the new production facilities will allow the generation of profits to secure the financial viability of the site and continue to fund the remediation of discontinued operations.

3.0
CAMU DESCRIPTION

3.1 DESCRIBE THE CONFIGURATION AND CONSTRUCTION DESIGN OF THE CAMU. DIAGRAMS SHOULD BE INCLUDED. SUBMIT A SITE PLAN WITH THE PROPOSED BOUNDARIES OF THE CAMU OUTLINED.

Figure 1 shows the site plan including the boundaries of the CAMU.

It is planned to continue the use of the Temporary Unit under the CAMU designation. The Temporary Unit is located south of SWMU 8 and adjacent to SWMU 7 and SWMU 20. The structures are open top concrete structures noted in Figure 1. The structures were formerly secondary containment structures for tanks of pesticide intermediates and formulations. The tanks have been removed. Each of the concrete structures is approximately 5 feet by 23.5 feet by 70 feet and contains one inner partition. The wall thickness of the structure is eight (8) inches. Prior to being put in service as a Temporary Unit, cracks and holes within the concrete were patched or caulked. A removable cover constructed of canvas was placed atop the concrete structure in order to prevent rainfall from entering the structure.

Wastes will be stacked within the CAMU atop SWMU 7, the former Dinoseb Production Area. The wastes will be covered with a tarp prior to treatment and disposal.

The disposal of waste residues will occur in a non-RCRA regulated landfill located within the boundaries of the CAMU. The landfill will be engineered with a cap and cover system consisting of two feet of compacted clay and one foot of topsoil that is vegetated. The specific location of the landfill is not yet known.

3.2 WILL UNCONTAMINATED AREAS BE INCLUDED IN THE CAMU?

Surface soil in some portions of the CAMU is not contaminated. Concrete in some portions of the CAMU is not contaminated. VCC has carried out an Expedited RFI for SWMUs 1, 17

and 16; results are found in the Expedited RFI Report, Expedited CMS and Expedited CMIP published concurrently with this application. VCC has submitted a RFI Work Plan and GWA Work Plan for investigation of additional areas to delineate the extent of contamination.

3.3 WILL REGULATED UNIT BE INCLUDED IN THE CAMU? HOW WILL THESE UNIT BE USED?

VCC does not have any RCRA TSD permits or pending applications.

3.4 WILL TEMPORARY UNITS BE USED? IF SO, HOW WILL THEY BE USED?

A Temporary Unit was approved by the U.S. EPA and is being used for biodegradation studies. The Temporary Unit is within the CAMU. It is anticipated that the facilities and area comprising the Temporary Unit will continue to be used but under the CAMU designation.

Wastes will be stacked within the CAMU and covered with a tarp prior to treatment and then disposal.

4.0
WASTE DESCRIPTION

4.1 DESCRIBE THE TYPE AND TOTAL QUANTITY OF WASTE TO BE DEPOSITED/TREATED IN THE CAMU.

The quantity of waste expected is unknown at this time. VCC has carried out an Expedited RFI for SMWUs 1, 17 and 16; results are found in the Expedited RFI Report, Expedited CMS and Expedited CMIP published concurrently with this application. The amount of soil and concrete to be excavated is less than 25 cubic yards. VCC has submitted a RFI Work Plan and GWA Work Plan for investigation of additional areas to delineate the extent of contamination. The type of waste expected is:

- Contaminated soil
- Contaminated concrete
- Cuttings generated as a result of investigation

4.2 WHAT IS THE SOURCE OF THE WASTE? LIST THE SOURCE, LOCATION AND ESTIMATED QUANTITY OF ALL WASTES TO BE DEPOSITED/TREATED IN THE CAMU.

The wastes are associated with discontinued operations. The wastes considered as candidates to be deposited/treated within the CAMU are contaminated surface soils resulting from spills and drips from the discontinued operations and debris resulting from demolition or remediation of the discontinued operation units. These wastes are located in proximity to each other and are very similar in characteristic (soil and/or concrete) but with contamination consisting of one or more of the following:

- Arsenic
- Atrazine or Cyanizine
- Dinoseb
- Toxaphene

As units are remediated or as demolition proceeds a common site within the CAMU is needed to store the wastes noted above. The wastes would be stored temporarily in SWMU 7 underneath a tarp to prevent leaching of constituents by rainwater. Depending on the level of contamination in the waste, the waste may be stabilized/solidified, biotreated, or otherwise treated prior to final disposition.

The following describes the source of the wastes to be moved/stored/treated and disposed of within the CAMU:

- Remediation debris or contaminated soil is removed for purposes of construction of new facilities from SWMUs 1, 16, 17, 12, 11/15, 8, 9 or 5, it will be temporarily stored on SWMU 7.

- Soil cuttings are generated during field investigation activities at the SWMUs noted above and additionally at SWMUs 2, 5, 7, 14, 20, 18, 13, and 23, it will be temporarily stored on SWMU 7.

- Contaminated soil requiring remediation as delineated from the investigations noted above will be temporarily stored on SWMU 7.

4.3 WHAT TYPE OF TREATMENT WILL BE USED IN THE CAMU?

The treatment to be used is biotreatment and/or stabilization/solidification depending on the contaminant and the concentration. Biotreatment utilized will take place in the Temporary Unit under CAMU designation.

4.4 WHAT IS THE ULTIMATE DISPOSITION OF THE WASTE? DESCRIBE THE FINAL DISPOSITION OF THE REMEDIATION WASTE.

The ultimate disposition of the waste is to be covered with a sloped cover system consisting of a clay cap and vegetated topsoil. The exact site has not been selected. The exact site will be selected after the execution of the RFI for the entire VCC site.

5.1 DESCRIBE ANY GROUNDWATER MONITORING WHICH WILL BE USED FOR THE CAMU.

A groundwater monitoring system will be implemented within the CAMU. The RFI and GWA will delineate horizontal and vertical extent of groundwater contamination. The RFI will also evaluate appropriate locations and screening depths for additional wells. The monitoring system may include some or all of the existing monitor wells depending on the findings from the RFI. As a minimum, the monitoring system will include a perimeter detection monitoring or compliance monitoring program including the following:

- At least one monitor well in the selected monitoring zone located upgradient.
- At least three monitor wells completed in the same zone as the upgradient monitor well and located downgradient.
- A specified analyte list such as toxaphene, dinoseb, atrazine and arsenic.
- A specified sampling and analysis frequency such as a semiannual or annual.
- Measurement of groundwater elevation at each monitor well during each sampling event and an evaluation of whether direction of groundwater gradient has changed
- A specification for evaluating and reporting of results including provisions for additional response actions if constituent migration is detected

- A written Sampling and Analysis Plan specifying the above

Additional details on groundwater monitoring are found in the GWA Work Plan and the RFI Work Plan.

5.2 DESCRIBE CONTROLS WHICH WILL BE USED FOR POTENTIAL AIR RELEASES.

At completion the wastes that might release emissions will be covered with a clay cap and vegetated topsoil cover system and the potential for air releases should be minimal.

During remediation, construction or closure the following actions will be used to control air releases:

- Dust control measures such as wetting or use of foams will be implemented as needed

- Foams or canvas covers will be used as needed during waste storage, handling or treatment.

6.1 WHAT TYPES OF CLOSURE AND POST CLOSURE REQUIREMENTS WILL YOU BE USING?

6.1.1 Closure

Requirements include biotreatment and/or solidification/stabilization of all wastes, placement of the wastes and construction of a cap and cover system in accordance with a Construction Quality Assurance (CQA) Plan. The substantive requirements of 40 CFR 264.111 will be used. VCC will file a notation on the deed to the facility property within 60 days of completion of cap and cover systems. The documentation in the deed will include the information set forth in 40 CFR 264.119(b). VCC will provide to the Regional Administrator of EPA a copy of the documentation in deed and certification that it has been recorded pursuant to 40 CFR 264.119(b).

The Construction Quality Assurance (CQA) Plan parallels the guidelines outlined in the EPA Technical Guidance Document "Construction Quality Assurance for Hazardous Waste Land Disposal Facilities". The plan defines a system of construction quality management to verify, with a justifiable degree of certainty, that the construction activity encompassed by the CMIP will meet or exceed the corrective action objectives. This plan will be administered by a third party chosen by VCC to provide the information necessary to certify the closure of the tanks and surface impoundments.

Construction Quality Management comprises both a planned system of inspection and testing activities that are necessary to monitor and control the quality of a construction project and a planned system of overview activities that these activities are being properly performed and documented.

The CQA Plan is comprised of the following elements:

- Responsibility and authority
- CQA personnel qualifications
- Inspection activities
- Sampling requirements
- Certification documentation

This CQA Plan is presented in the Corrective Measures Implementation Plan.

The CQA Plan specifies an inspection and testing program to assure completion of closure in accordance with the project specifications.

6.1.2 Post Closure

The CAMU, as now requested, will not include regulated RCRA units. Post-Closure care will include:

- Groundwater monitoring, evaluation and reporting as discussed in Section 5.1
- Quarterly inspection of the areas for signs of erosion, loss of vegetative cover, or other conditions requiring maintenance or repair
- Maintenance or repair of the monitor wells or cover system as necessary

6.2 WHAT WILL BE DONE TO ENSURE THE LONG TERM RELIABILITY AND EFFECTIVENESS OF CAMU REMEDIAL ACTION?

The Post-Closure Care Program described in Section 6.1.2 and groundwater monitoring program described in Section 5.1 will assure the long term reliability and effectiveness of the remediation. In addition, the deed recordation described in Section 6.1.2 will assure that any

future owner is aware of the landfilled stabilized wastes, preventing inadvertent disturbance or damage of the cover system.

6.3 WHAT WASTES WILL REMAIN IN PLACE IN THE CAMU AFTER REMEDIATION?

Treated and/or stabilized/solidified wastes may remain in place as described in Section 4.1. They may also be used beneficially within the CAMU.

7.0
PERMITS

7.1 WILL USE OF A CAMU REQUIRE ISSUANCE OF OTHER FEDERAL OR STATE-ISSUED PERMITS?

Since waste will remain in place a Solid Waste Permit could be required, depending on characteristics of the stabilized waste. However, proposed amendments to RCRA published November 8, 1994 would allow an alternative approach. Under these rules, the same substantive requirements as a Post Closure Permit could be placed on the facility using either an enforcement action or a post-closure care plan. Consequently, a Post Closure Permit is not expected to be required.

7.2 IDENTIFY ALL INSTITUTIONAL CONTROLS ASSOCIATED WITH THE CAMU.

The entrance to the north end and the northwest side of the VCC facility, which is the only end of the facility with road access, are restricted by a fence and locking gate. In addition, the closed area will be deed recorded. Post-closure groundwater monitoring and care will be implemented.

8.0
LAND USE

The VCC site is 650 acres. The surrounding land use is commercial, industrial, houses and historic.

8.1 POTENTIAL RECEPTOR POPULATIONS

The receptor populations on and near the site were characterized in order to evaluate the potential for exposure to chemical constituents present at or migrating from the site. The current usage of land adjacent to the facility is primarily rural residential and commercial with properties located on or adjacent to Rifle Range Road, Dabney Drive, Warrenton Road and Highway 61. The facility is located in 1990 Census Tract Number 9508 which has a reported population of 3680. Adjacent 1990 Census Tracts include numbers 9511, 9506, and 9507. The total population of the area is estimated to be 20,456 with the highest density of residents located to the north of the plant. Access to the facility is restricted by difficult terrain, fencing, and security guards. On-site VCC Chemical workers and off-site residents are identified as the receptor populations with the greatest potential for exposure to chemicals at or released from the site.

8.2 EXPOSURE PATHWAYS

An exposure pathway describes a unique mechanism by which a population or individual can be exposed to chemical constituents present at or originating from a site. An exposure pathway consists of four necessary elements: a source and mechanism of chemical release to the environment; an environmental transport medium for the released chemical; a point of potential human contact with the contaminated medium; and a human exposure route at the point of exposure.

All four elements must be present for an exposure pathway to be complete and for exposure to occur. Incomplete exposure pathways do not result in actual human exposure and are not included in the exposure assessment. The following text describes the components of the exposure pathways that have been identified.

8.2.1 Chemical Release Sources and Environmental Transport Media

The chemical constituents identified in the soils, groundwater, surface water, and on the surfaces of the concrete associated with the SWMUs and AOCs have been identified as the chemical release sources for all potential exposure pathways. The exposure media potentially involved in the transport of chemical constituents include groundwater, surface runoff, and air.

8.2.1.1 Groundwater

The potential for movement of constituents in groundwater to the nearest residential area is dependent on the water solubility and soil adsorption properties of the constituents present and the velocity and direction of horizontal groundwater migration. Based on an evaluation of the available hydrogeological data, horizontal groundwater migration may potentially transport chemical constituents from the site to Stouts Bayou, Hatcher Bayou, Hennesseys Bayou and ultimately, to the Mississippi River. The potential for the vertical movement of constituents in groundwater to aquifers potentially utilized for water supply purposes is dependent on the water solubility and soil adsorption properties of the constituents present and the geology and hydrology of the surrounding areas and is believed, based on investigation to date, to be minimal. A work plan for a GWA has been prepared by VCC and submitted to the U.S. EPA.

8.2.1.2 Surface Runoff

Surface runoff can serve as a transport medium for the movement of chemical constituents adsorbed to surface soils and/or present in accumulations of standing water. Migration of constituents by this mechanism may occur via runoff associated with elevated areas of concern, surface drainage areas, ditches, and receiving water bodies which include Hatcher Bayou, Stouts Bayou, Hennesseys Bayou and the Mississippi River. The use of an engineered cover system for the disposed unit within the CAMU will mitigate this potential.

8.2.1.3 Air

Air can serve as a transport medium for the movement of volatile emissions and soil-adsorbed chemical constituents. Chemical constituents present at the site may enter the air under ambient conditions. This process referred to as volatilization, occurs in accordance with basic chemical

phase equilibrium and is influenced by water solubility and soil adsorption properties of the individual chemical constituents. The volatilized chemical phase equilibrates throughout all available soil pores space as well as the soil surface. At the soil-air interface, constituent equilibrium results in the release of volatile constituents to the atmosphere.

Chemical constituents adsorbed onto soil particulates are released into the air as a result of wind erosion of the surface soils. The amount of soil particulate released to the air is dependent on the soil particulate particle size; the amount and kind of ground cover present, if any; the physical properties of the soil; and meteorological conditions, particularly wind speed. The use of an engineered cover system for the disposal unit within the CAMU will mitigate this potential.

8.2.2 Exposure Points

An exposure point is defined as a location of potential contact between a receptor population and a chemical constituent. The objective of determining exposure points is to identify location points where receptor populations may be potentially exposed to chemical constituents contained within environmental transport media. The VCC Facility, Formaldehyde Plant, and the nearest off-site residential area have been identified as the exposure points for potential exposure to chemical constituents via air and soil. For exposure to groundwater, there are no identified exposure points based on the vertical and horizontal confinement of groundwater constituents and the absence of known water supply wells within one mile of the site. The exposure points identified for potential exposure to chemical constituents via surface runoff are the South Plant Drainage Ditches (SWMU 13) and the off-site water bodies to which they drain.

8.2.3 Exposure Pathways

8.2.3.1 Offsite Residential Receptors

Exposure pathways considered to represent plausible, complete pathways of potential exposure to constituents are summarized below for off-site residential receptors.

Inhalation

- Inhalation of airborne soil particulates originating from the surface soil of the defined areas of concern by off-site residential receptors.

Direct Contact

- Direct contact by off-site residential receptors with soil particulates deposited in the residential area.

- Direct contact by off-site residential receptors with surface runoff.

Ingestion

- Ingestion of soil particulate deposited in the residential area by off-site residential receptors.

- Ingestion of surface runoff by off-site residential receptors.

- Ingestion of groundwater by off-site residential receptors is not considered to be a complete pathway of exposure based on the limited horizontal and vertical extent of constituents in the groundwater and the absence of production wells within a one mile radius of the site.

- Ingestion of aquatic organisms obtained from potentially impacted water bodies (Stouts Bayou, Hatcher Bayou, Hennesseys Bayou, and the Mississippi River) is not considered to be an significant exposure pathway based on the absence of recreational use of these water systems.

8.2.3.2 Onsite VCC Workers

Exposure pathways considered to represent plausible, complete pathways of potential exposure to constituents are summarized below for on-site VCC workers.

Inhalation

- Inhalation of airborne soil particulates originating from the surface soil of the defined areas of concern by on-site receptors.

Direct Contact

- Direct contact with surface soil, surface runoff, standing water, and surface water of the defined areas of concern by on-site receptors is not identified as a significant exposure pathway based on the inactive status of these areas and limited worker contact with these areas.

- Direct contact with concrete surfaces in the defined areas of concern by on-site receptors.

Ingestion

- Ingestion of surface soil, surface runoff, standing water, and surface water of the defined areas of concern by on-site receptors is not identified as a significant exposure pathway based on the inactive status of these areas and limited worker contact with these areas.

- Ingestion of groundwater by on-site workers is not a complete exposure pathway due to the absence of on-site production water wells.

8.3 WILL RISK ASSESSMENTS BE CONDUCTED?

After completion of the RFI and GWA a risk assessment may be conducted.

FIGURES

CEDAR CHEMICAL CORPORATION

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

REPLY TO: P.O. BOX 3
VICKSBURG, MS 39181
(601) 636-1231

HAND DELIVERED

Mr. Trey Fleming
Environmental Engineer
Mississippi Department of Environmental Quality
Bureau of Pollution Control
2380 Highway 80 West
Jackson, MS 39204

May 15, 1991

Re: Cedar Chemical Corporation, MSD990714081
Proposed Closure Plan for
Hazardous Waste Container Storage Area

Dear Mr. Fleming:

Attached is a revised version of the proposed Closure Plan for Cedar's Hazardous Waste Drum Storage Area and Returned Product Storage Area. The plan has been revised to include the requests for changes made by MSDEQ after the initial review.

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

Sincerely,

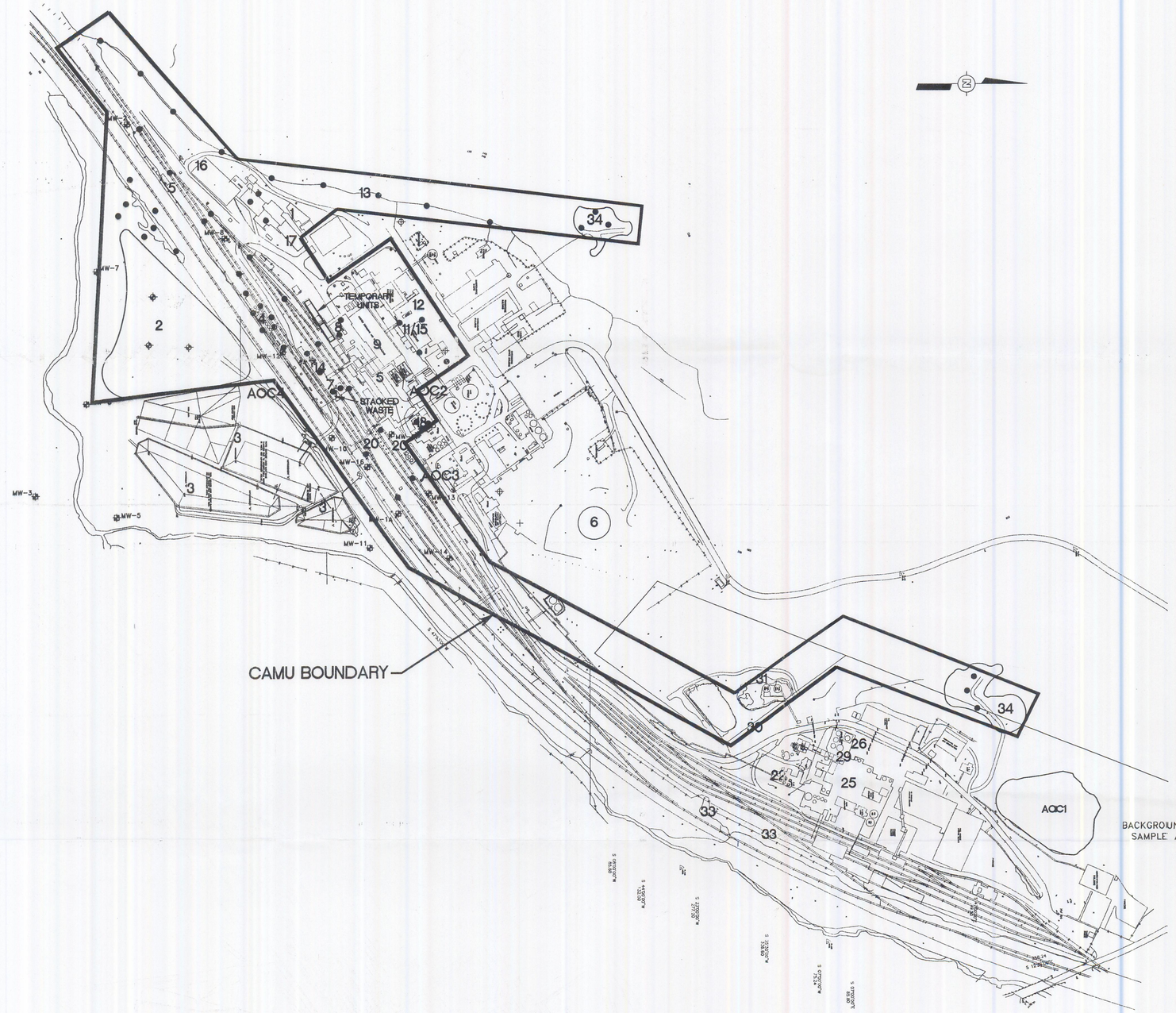
Steven T. Boswell

Steven T. Boswell
Director of Env. Affairs

STB: pc

xc: Mr. Ahlers
Mr. Madsen
Mr. Malone
Mr. Karkkainen

FIGURES



SWMU NUMBER — SOUTH PLANT

1	CONTAINER (DRUM) STORAGE AREA
2	INACTIVE LANDFILL
3	SURFACE IMPOUNDMENT (SOUTH PLANT)
4	ACTIVATED CARBON TREATMENT UNITS
5	SOUTH PLANT DRAINAGE SYSTEMS
6	WASTEWATER STORAGE (HILL) TANKS
7	FORMER DINOSEB PRODUCTION AREA
8	DINOSEB LOADING/UNLOADING AREA
9	DINOSEB DRUMMING AREA
11	FORMER MSMA PRODUCTION AREA
12	FORMER MSMA SALT UNLOADING AREA
13	SOUTH PLANT DRAINAGE DITCHES
14	FORMER TOXAPHENE PRODUCTION AREA
15	FORMER METHYL PARATHION PRODUCTION AREA
16	FORMER ATRAZINE PRODUCTION AREA
17	RETURNED PRODUCT STORAGE AREA
18	FORMER BLUE TANK AREA
20	RAILROAD CAR UNLOADING STATION

NORTH PLANT

22	NORTH PLANT NEUTRALIZATION SYSTEM
23	EQUALIZATION/NEUTRALIZATION POND (NORTH PLANT)
25	NORTH PLANT WASTEWATER PIPES
26	C-10 SCRUBBER
29	OIL COLLECTION UNIT
30	NORTH PLANT WASTE OIL ACCUMULATION AREA
31	NO. 6 FUEL OIL AREA
33	NORTH PLANT DRAINAGE DITCHES

BOTH PLANTS

34	SURPLUS EQUIPMENT STORAGE (JUNKYARD)

AOC NUMBER — AOC NAME

1	FISH POND (NORTH PLANT)
2	DRUM STORAGE AREA
3	NEUTRALIZATION TANKS (SOUTH PLANT)
4	CHEMICAL CRYPT (SEPTIC TANKS)

LEGEND

- DEEP BORINGS
- NEW MONITOR WELL LOCATIONS
- SHALLOW BORINGS
- EXISTING MONITOR WELLS

SCALE
200 0 200 400 FEET

NO.	REVISION	DATE	INITIAL

CAMU BOUNDARY

WOODWARD-CLYDE CONSULTANTS
Consulting Engineers, Geologists and Environmental Scientists
Baton Rouge, Louisiana

VICKSBURG CHEMICAL COMPANY
VICKSBURG, MISSISSIPPI

SCALE:	MADE BY: GT	DATE: 5/7/97	FILE NO.
1"=200'	CHECKED BY:	DATE:	96B315

SWMU LOCATIONS, RFI SOIL AND CONCRETE SAMPLE POINTS, GWA MONITOR WELL LOCATIONS — FIGURE 1

K:\VICKSBUR\96B315\96B315A Wed Jun 04 13:56:25 1997