REMEDIAL CONSTRUCTION RECORD REPORT FOR THE SOIL INTERIM REMEDIAL ACTION AT THE RANDALL TEXTRON SITE GRENADA, MISSISSIPPI APPENDICES A-H

Prepared for:

ROCKWELL INTERNATIONAL CORPORATION
Troy, Michigan

Prepared by:

ECKENFELDER INC.®
227 French Landing Drive
Nashville, Tennessee 37228
(615) 255-2288

August 1995

9519.04

APPENDIX A

CORRESPONDENCE

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

RECEIVED
AUG 1 1994
P. BACKLUND

July 22, 1994

CERTIFIED MAIL NO. P 390 334 778

cc: R. K. Beck/RI/Pitts
John Bozick/RI/Troy
Gary Martin/Eckenfelder
Jerry Muys/Swidler & Ber
8.4.94

Mr. Mark Williams
Randall-Textron
10179 Commerce Park Drive
Cincinnati, Ohio 45246

Dear Mr. Williams:

In order to settle certain environmental issues regarding Rockwell International Corporation and Randall-Textron, located in Grenada, Mississippi, you have agreed to the conditions of Administrative Order No. 2879-94. A copy of the order is enclosed.

If you have any questions in this matter, please contact Mr. Andrew Covington at telephone #601/961-5171.

Sincerely,

Charles H. Chisolm, Head
Office of Pollution Control

CHC:mh

Enclosure

P 390 334 778

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

Closed Order (HW)

Mr. Mark Williams
Randall-Textron
10179 Commerce Park Drive
Cincinnati, OH 45246

Sent to	
Street and No.	
P.O., State and ZIP	
Postage	
Certified Fee	
Special Delivery Fee	
Restricted Delivery	
Return Receipt Show to Whom & Date D	
Return Receipt Show Date, and Address	
TOTAL Postage & Fees	
Postmark or Date	

Form 3800, June 1991

BEFORE THE MISSISSIPPI COMMISSION
ON ENVIRONMENTAL QUALITY

MISSISSIPPI COMMISSION ON
ENVIRONMENTAL QUALITY

COMPLAINANT

VS.

ORDER NO. 2879 94

ROCKWELL INTERNATIONAL, CORP. AND
RANDALL-TEXTRON, INC.

RESPONDENT

AGREED ORDER

COME NOW THE Mississippi Commission on Environmental Quality (Commission), Complainant, and Rockwell International, Corp. and Randall-Textron, Inc., Respondent, in the above captioned cause and agree as follows:

1.

Respondent has recently completed a Remedial Investigation (RI) for the on-site landfill located at the Randall-Textron plant in Grenada, Mississippi. The RI determined that high concentrations of several organic constituents, particularly TCE, were present in the shallow soils in this area.

2.

In lieu of a formal enforcement hearing concerning the contamination listed above, Complainant and Respondent agree to settle this matter as follows:

A. Interim remedial action for the existing non-regulated landfill using the Corrective Action Management Unit (CAMU) Concept (discussed in the Office of Solid Wastes', Use of Corrective Action Management Unit Concept Fact Sheet, August 1992) will be initiated. As part of the CAMU Concept procedure the Respondent will:

1. Submit an approvable plan for interim remedial action to cleanup the surface soils down to groundwater level by ex-situ soil vapor extraction. The plan shall include cleanup levels, a designation of the landfill (CAMU) area, details on the cleanup procedure, estimated timetable, and determinations on the need for surface water and/or air permits.

2. Modify Part A of the application to include the new treatment before the interim remedial action begins.

B. Respondent shall give written monthly updates on the progress of the interim remedial action until its conclusion.

C. Respondent must complete interim remedial action by March 31, 1995.

3.

Respondent understands and acknowledges that it is entitled to an evidentiary hearing before the Commission pursuant to Section 49-17-31 of the Mississippi Code Annotated (Supp. 1993), and that it has made an informed waiver of that right.

ORDERED, this the 22nd day of July, 1994.

MISSISSIPPI COMMISSION ON
ENVIRONMENTAL QUALITY

BY: J. I. Palmer, Jr.
J. I. PALMER, JR.
EXECUTIVE DIRECTOR
MISSISSIPPI DEPARTMENT
OF ENVIRONMENTAL QUALITY

AGREED, this the 15th day of July 1993.

Mark Wilson for Randall-Textron Inc.
RESPONDENT

Philip B[illegible] for Rockwell Int'l
RESPONDENT

Rockwell International Corporation
2135 West Maple Road
Troy, MI 48084-7186
(810) 435-2705

Rockwell Automotive

September 1, 1994

Mr. Andrew S. Covington
Environmental Engineer
Bureau of Pollution Control
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, MS 39289-0385

RE: Interim Soil Remedial Action, Randall Textron Site
Grenada, Mississippi

Dear Andrew:

As required by the Administrative Order No. 2879-94 (Agreed Order), Rockwell is submitting the attached Soil Interim Remedial Action Plan (Plan) for MDEQ review and approval. The package includes:

- Project Specifications for the Soil Interim Remedial Action
- Remedial Design Plans
- Description of Alternate Treatment Method

As you will recall, Rockwell submitted the Phase I - Final Report on the Soil Interim Remedial Action to the MDEQ in October 1993 which was subsequently reviewed and approved by the MDEQ with minor comments. Rockwell then proceeded with Phase II which involved the preparation of plans and specifications (the first two bulleted items above) and solicitation of bids. Bids from remedial contractors have been received and evaluated by Rockwell. Through bid evaluation it has been determined that a slightly different approach than that presented in the bid package to the contractors is more cost-effective. The alternate approach to treatment is presented in the attached *Description of Alternate Treatment Method* (third bulleted item above).

Rockwell stands ready to award the contract and proceed immediately with remedial construction. We would, therefore, like to receive MDEQ review and approval of the attached Plan as soon as possible. We would be glad to meet with you and other MDEQ personnel to expedite the review process if that is necessary.

Please feel free to call us, if there are questions concerning this submittal.

Very truly yours,

ROCKWELL INTERNATIONAL CORPORATION
AUTOMOTIVE

P. Backlund

Phil Backlund
Director, Facilities Administration

PB/js

ATTACHMENT:

DESCRIPTION OF ALTERNATE TREATMENT METHOD FOR THE SOIL INTERIM REMEDIAL ACTION

INTRODUCTION

Previously, Rockwell International submitted a Phase I - Final Report on Soil Interim Remedial Action (Phase I Report) for the On-Site Landfill at the Randall Textron Site located in Grenada, Mississippi. The Phase I Report presented the derivation of interim cleanup levels, the conduct of a focused treatability study, and the engineering concept evaluation. The Phase I Report was reviewed by the Mississippi Department of Environmental Quality (MDEQ) and was accepted by the MDEQ in November 1993 provided that the issues identified in the November 22, 1993 MDEQ correspondence were addressed. The issues identified were subsequently addressed during Phase II, preparation of plans and specifications.

Subsequent to MDEQ approval of Phase I, Rockwell proceeded with the development of plans and specifications in coordination with Randall Textron management. In June 1994 the plans and specifications for the soil interim remedial action at the Randall Textron site were completed. A bid package consisting of the plans and specifications and contract documents was then prepared and issued to remedial contractors for bidding. Contractor bids were received on July 8, 1994 and Rockwell, through bid evaluation, has determined that an alternate (but similar) method of contaminated soil treatment represents the most cost-effective approach to the interim soil remedial action.

In the following section, a description of the alternate treatment method is presented based on information presented by the remedial contractor. Implementation plans and the manner in which the soil interim remedial action addresses items identified in the Agreed Order are also discussed below.

DESCRIPTION OF ALTERNATE TREATMENT METHOD

Conceptually, the Phase I Report and Project Plans and Specifications (P&S) release to potential contractors included contaminated soil excavation, blending of

contaminated soil using a pug mill, and treatment in a soil vapor extraction (SVE) cell, although significant treatment was anticipated to occur during the blending phase, potentially alleviating the need for the SVE cell. As such, the P&S included detailed requirements for the performance of the various aspects of the remedial construction. All remedial contractors, whether bidding on the concept presented by the P&S or an alternate approach, were required to include the requirements of the P&S in their bid.

The key difference between the alternate approach and the approach specified by the P&S is that the alternate proposes the in situ mixing of contaminated soil using a large piece of tilling machinery (a soil stabilizer (SS)) whereas the P&S called for ex situ treatment through the use of a pug mill. Ex situ treatment by pug mill requires contaminated soil excavation, removal to the pug mill blending area, blending, stockpiling, and return to the excavation area. The SS unit, on the other hand, treats contaminated soil in situ and, if the treatment goal of 7.8 ppm TCE is attained, neither contaminated nor treated soil will be moved from the immediate area of the original excavation. Generally speaking, in situ treatment of the contaminated soil will occur in place in 12-inch depths. Once treated, a 12-inch soil depth will be moved by bulldozer out of the contaminated area and the next 12 inches will be treated. As with the original concept presented in the P&S, if it is determined that treatment in situ by the SS does not attain the treatment goal of 7.8 ppm TCE, the contaminated material will be stockpiled for later treatment in a SVE cell.

Similarly, as required by the P&S for the original concept, a full-scale test will be conducted using the SS unit to evaluate performance under site conditions. Since this is an in situ concept, an area of approximately 25 feet by 40 feet will be treated in incremental depths of 12 inches in the area previously identified by the P&S as the source of test material (Excavation B). During the test, the remedial contractor will test the effectiveness of the SS unit at various travel and rotor speeds and a variety of admixtures (e.g., sand, gravel, or lime). Full-scale processing will then be implemented based on the results of the full-scale test.

IMPLEMENTATION

Although there are inherent differences in the two processes, many of the aspects of remedial construction are the same for both the original concept and the alternate concept. The same provisions or specifications and regulatory requirements will, therefore, apply and will be satisfied by the alternate method. From an implementation standpoint, one of the more important considerations for the pug mill approach was the anticipated need for a stable area (the softball field) for equipment setup and material staging/handling/stockpiling. A major benefit of the in situ process is that the remedial contractor does not plan on using the softball field since the SS unit will treat the soil in place. Additionally, the remedial contractor plans to construct the SVE cell, if needed, in the immediate vicinity of the contaminated areas and, therefore, does not plan on using the softball field for SVE operation. The conceptual site plan proposed by the remedial contractor for remedial construction activities (not including ancillary support facilities such as field trailer, parking, etc.) would be similar to the configuration shown in Figure 1.

As required by the Agreed Order, the interim action is scheduled for completion no later than March 1, 1995. As the MDEQ is probably aware, Randall Textron management will not allow use of the softball field (if needed) earlier than September 15, 1994. Should the alternate approach described herein be acceptable to the MDEQ, it is anticipated that contract award would occur immediately and the remedial contractor would mobilize soon thereafter. The remedial contractor anticipates that implementation of the alternate approach could be completed by approximately year end 1994. This should allow an adequate factor of safety for project completion by March 1, 1995.

COMPLIANCE WITH THE AGREED ORDER

The Agreed Order required that the interim remedial action plan address certain technical requirements as described below.

- Submit an approvable plan for interim remedial action to cleanup the surface soils down to groundwater level by ex situ soil vapor extraction. The plan shall include cleanup levels, a designation of the landfill (CAMU)

LIMITS OF EXCAVATION B

MW-10

MW-5

EXCAVATION B STOCKPILE

W/E
175.0

MW-17

MW-2

EXISTING WASTEWATER LAGOON

W/E
183.1

LAGOON OVERFLOW LINE
(APPROXIMATE LOCATION)

APPROXIMATE LIMITS OF ON-SITE LANDFILL

EXCAVATION B TOPSOIL

N 18°27'45" W
250.14'

LIMITS OF EXCAVATION A

MW-6

EXCAVATION A TOPSOIL

TREATMENT CELL
(IF NECESSARY)

175.1

MW-4

EXCAVATION A STOCKPILE

N 16°11'07" W
228.16'

CONSTRUCTION LIMITS
(CAMU AREA)

DECONTAMINATION
FACILITIES

SUPPORT
FACILITIES

N 68°30'00" W
609.66'

MW-16

LEGEND:

- 180 — EXISTING CONTOUR
- PROPERTY LINE
- EXISTING 6' CHAIN LINK FENCE
- EXISTING TREELINE
- EXISTING POWER POLE WITH LIGHT
- PROPERTY PIN
- EXISTING MONITORING WELL
- 170 — EXCAVATION CONTOUR
- CONSTRUCTION LIMITS
- APPROXIMATE LIMITS OF THE ON-SITE LANDFILL
- SOIL TO A DEPTH OF 4 FEET IS NOT ANTICIPATED TO REQUIRE TREATMENT AND SHALL BE REMOVED AND STOCKPILED IN ADJACENT AREA. ENGINEER WILL SAMPLE AND ANALYZE STOCKPILED MATERIAL TO DETERMINE FURTHER HANDLING AND TREATMENT NEEDS

60 0 60 120
SCALE FEET

SOURCE: ORIGINAL TOPOGRAPHIC SURVEY BY ALMON AND ASSOCIATES

FIGURE 1
INTERIM SOIL REMEDIAL ACTION SITE PLAN, ON-SITE LANDFILL
RANDALL TEXTRON SITE
GRENADA, MISSISSIPPI
ROCKWELL INTERNATIONAL CORPORATION

9300.01 8/25/94

ECKENFELDER INC.
Nashville, Tennessee
Mahwah, New Jersey

area, details on the cleanup procedure, estimated timetable, and determinations on the need for surface water and/or air permits.

These requirements (shown below in bold type) have been addressed in the following manner by the Soil Interim Remedial Action Plan submitted to the MDEQ.

- **Approvable Plan.** The Project Specifications, Remedial Design Plans, and Description of Alternative Treatment Method documents constitute the approvable plan.

- **Cleanup Levels.** Section 13100 of the Project Specifications, Soil Processing, sets forth the target concentration limit of 7.8 ppm TCE and states that treated soil meeting that level will be returned to the excavation. Section 13100 states that treated soil not meeting the target concentration limit will receive additional processing or SVE cell treatment.

- **Designation of CAMU Area.** The on site landfill, as discussed in the "Remedial Investigation Report, Randall Textron Plant Site" (ECKENFELDER INC., January 1994), is located west of the existing Randall Textron wastewater treatment plant and sludge lagoon as shown on Figure 2-3 of the RI Report. The general limits of the on site landfill have been superimposed on Figure 1 presented previously in this document. The guidance for a corrective action management unit (CAMU) calls for the designation of a contiguous area for implementing a corrective action. With this in mind, the area encompassed by the boundary identified as the "Construction Limits" on Figure 1 is the proposed CAMU designation. As shown, the CAMU includes the suspected extent of the on site landfill and additional land space required for ancillary remedial construction activities (e.g., stockpiling, SVE cell, etc.) and support (e.g., decontamination, water treatment, etc.).

- **Cleanup Procedure.** The Project Specifications provide the performance requirements which the remedial contractor must adhere to during implementation of the soil interim remedial action.

- **Estimated Timetable.** The remedial contractor to which Rockwell anticipates awarding the contract plans on completing the project by year end 1994, provided the soil stabilizer unit is effective at achieving the treatment goal. The bid package provided to remedial contractors required project completion by March 1, 1995. All contractors, including the contractor providing the alternate treatment method, indicated the project could be completed prior to the specified March date.

- **Surface Water and Air Permitting.** Water generated within the treatment area or as a result of remedial activity (e.g. equipment decontamination) will be collected in aboveground tanks. Depending on the amount collected, this water will be disposed of at an off site facility or treated on site and discharged in conjunction with the Randall Textron facility wastewater treatment plant effluent discharge. In the event that on site treatment and discharge is utilized, it is anticipated that a (minor) modification to the Randall Textron NPDES permit will be required.

  During preparation of the plans and specifications, Mr. Don Watts with the MDEQ Air Quality Division was contacted by ECKENFELDER INC. with regard to potential air permitting requirements. Based on the type of operations, the type of air emissions anticipated, and the planned air emission controls described to Mr. Watts, he stated that no formal air permitting would be required. Mr. Watts stated that the MDEQ RCRA Division would likely review the project specifications to make sure an adequate air emission control is planned.

Automotive
Rockwell International Corporation
2135 West Maple Road
Troy, MI 48084-7186

Rockwell International

September 20, 1994

Andrew Covington
Environmental Engineer
Mississippi Department of Environmental Quality
RCRA Branch
2380 Highway 80 W.
Jackson, MS 39204

RE: Interim Soil Remedial Action Randall Textron Plant,
Grenada Mississippi

Dear Andrew,

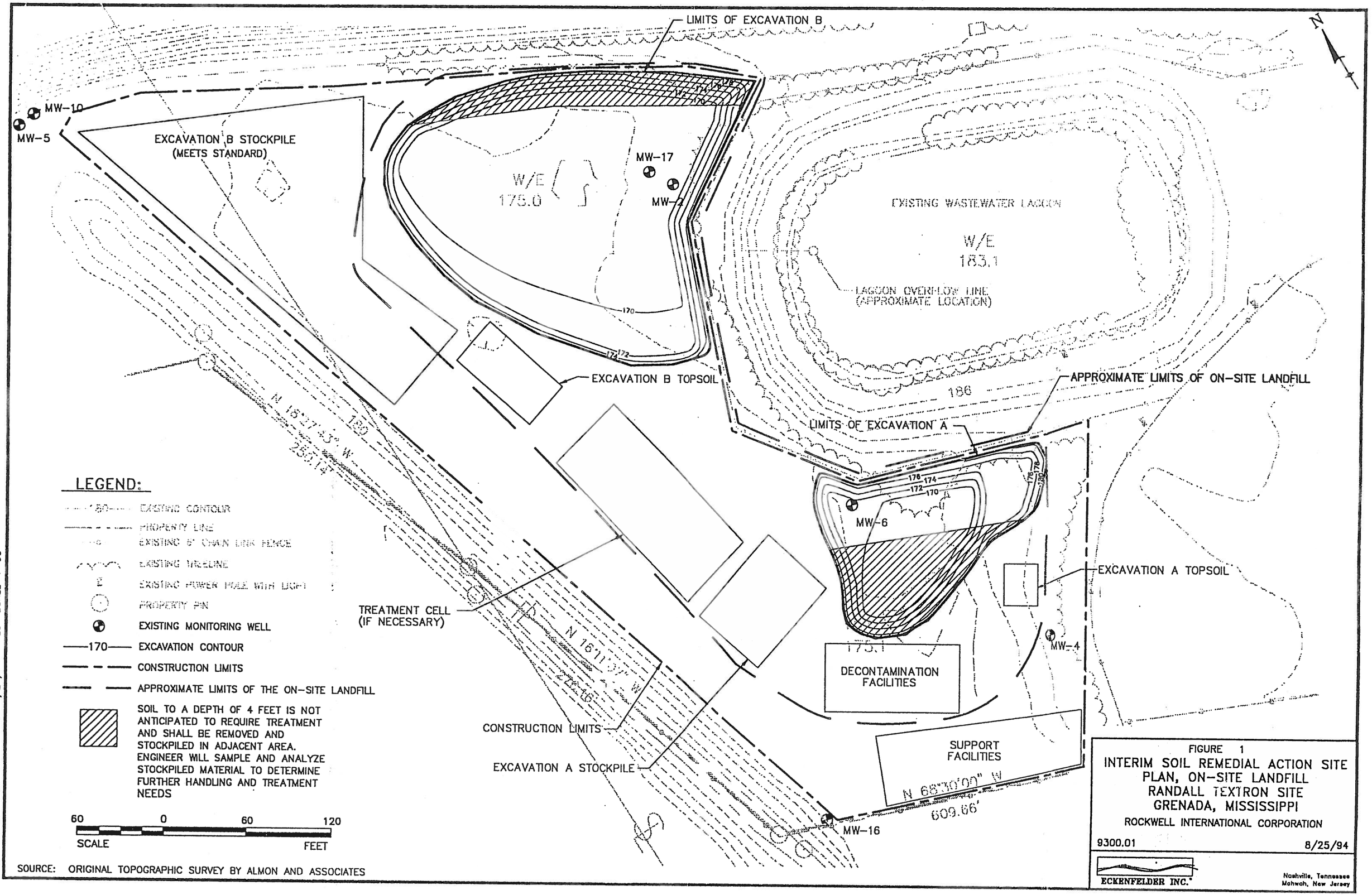
In follow-up to our telephone conversation on 9-19-94, I am forwarding a copy of the revised site layout which shows the landfill limits and stockpile locations for treated soils. Rockwell will take all steps necessary to avoid stockpiling soils which do not meet the treatment standard outside the landfill boundaries.

MSDEQ also asked questions regarding the treatment of VOCs which are removed from the soil during the treatment process. The CAT SS250 Soil Stabilizer will be fitted with a fan and carbon canisters which will filter the air prior to it being discharged. The carbon canisters will be changed as necessary and replaced with new ones to minimize the release of VOCs.

I hope this answers any question you may have. If you have any questions regarding this matter feel free to contact me at (810) 435 7908. Rockwell hopes to have expeditious approval of the project. So please don't hesitate to call.

Sincerely

John Bozick
Env. Eng.
Fac. Admin.


LIMITS OF EXCAVATION B
N
MW-10
MW-5
EXCAVATION B STOCKPILE
(MEETS STANDARD)
W/E
175.0
MW-17
MW-2
EXISTING WASTEWATER LAGOON
W/E
183.1
LAGOON OVERFLOW LINE
(APPROXIMATE LOCATION)
170
172
EXCAVATION B TOPSOIL
APPROXIMATE LIMITS OF ON-SITE LANDFILL
180
LIMITS OF EXCAVATION A
N 16°27'43" W
266.14'
176
174
172
170
MW-6
EXCAVATION A TOPSOIL
TREATMENT CELL
(IF NECESSARY)
N 16°11'37" W
MW-4
DECONTAMINATION
FACILITIES
CONSTRUCTION LIMITS
SUPPORT
FACILITIES
EXCAVATION A STOCKPILE
N 68°30'00" W
609.66'
MW-16
LEGEND:
EXISTING CONTOUR
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EXISTING 6' CHAIN LINK FENCE
EXISTING TREELINE
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60 0 60 120
SCALE FEET
SOURCE: ORIGINAL TOPOGRAPHIC SURVEY BY ALMON AND ASSOCIATES
DRAWING NO.: 9300-005 DATE: 8/26/94 PLOT SCALE 1=60
FIGURE 1
INTERIM SOIL REMEDIAL ACTION SITE PLAN, ON-SITE LANDFILL
RANDALL TEXTRON SITE
GRENADA, MISSISSIPPI
ROCKWELL INTERNATIONAL CORPORATION
9300.01
8/25/94
ECKENFELDER INC.
Nashville, Tennessee
Mahwah, New Jersey

10/12 JLP, DSS, WML
RYI - GM

RECEIVED
1994
P. BACKLUND

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

September 26, 1994

cc: Gary Martin-Eckenfelder,
John Bozick-Rockwell B12
Jerry Muys-Swidler & Ber

Mr. Phil Backlund
Rockwell International Corporation
2135 West Maple Road
Troy, Michigan 48084-7186

Dear Mr. Backlund:

The Office of Pollution Control (OPC) has received and reviewed your September 1, 1994 submittal concerning the interim soil remedial action at the Randall-Textron landfill site in Grenada, Mississippi, and the subsequent letter and map of September 20, 1994 with additional information. This is an acceptable plan and the OPC considers that the requirements of Section 1. of Part A in the July 22, 1994 Agreed Order (Administrative Order No. 2879-94) to have been satisfactorily meet.

If there are any questions or comments, please contact me at (601) 961-5305.

Sincerely,

Andrew S. Covington

Andrew S. Covington
Hazardous Waste Branch

ASC:gd

cc: Mark Williams, Randall-Textron, Inc.
Jason Darby, EPA

Rockwell International Corporation
2135 West Maple Road
Troy, MI 48084-7186

Rockwell Automotive

December 22, 1994

Jerry Beasley
MSDEQ
Water Quality Division
P.O. Box 10385
Jackson, MS 39289

Mr. Beasley,

Rockwell International has begun a soil remediation project at the Randall Textron facility in Grenada Mississippi under MSDEQ Agreed Order Number 2879-94. This project consists of remediating soils contaminated with TCE.

Large volumes of stormwater have been collected while performing this remediation. The total amount of additional stormwater collected will depend on the amount of rainfall that occurs during the project. Rockwell has pursued discharging the collected stormwater to the City of Grenada but has met with little success.

Rockwell is proposing that collected stormwater be stored in 20,000 gallon frac tanks and then treated, prior to discharge, with filters to remove solids and carbon to remove any organic compounds. It is proposed that the water will be discharged at a rate of no more than 20,000 gal/day into the aeration ladder at the tail end of Randall Textron's waste water treatment plant or directly to the outfall ditch, if allowed by MSDEQ.

The combined discharge(from Randall's operations and Rockwell's stormwater) will comply with Randall Textron's NPDES discharge limits. We request your approval to proceed with the method of discharge described.

We would like to know:

- How soon can MSDEQ approve this?

- What sampling and analytical requirements will be required?

- Can the stormwater be discharged directly into the outfall ditch or must it be discharged into the aeration ladder?

- What paperwork will be required from Randall to allow the combined discharge pursuant to Randall's NPDES permit?

Further notification will be provided to MSDEQ when discharge is initiated and when discharge is finally terminated.

If you have any questions regarding this matter feel free to contact me at (810) 435 7908.

Sincerely

John Bozick
Env. Eng.
Fac. Admin.

Rockwell International Corporation
2135 West Maple Road
Troy, MI 48084-7186

Rockwell *Automotive*

January 27, 1995

Jerry Beasley
MSDEQ
Water Quality Division
P.O. Box 10385
Jackson, MS 39289

Mr. Beasley,

Per your request, attached are the following:

- January 27, 1995 analysis of the treated stormwater at the Randall Textron Facility in Grenada Mississippi.

- A process flow diagram of the existing treatment system.

A Randall Textron representative will be mailing you a letter, giving Rockwell permission to discharge to the aeration ladder at the tail-end of their wastewater treatment plant.

Since our last communication, we have modified our treatment system by adding ion exchange cartridges. This will remove any dissolved metals from the wastewater. As the attached analysis show, this system should suffice in treating the stormwater to acceptable levels.

Rockwell intends to use this system until March 31, 1995. Further notification will be provided to MSDEQ when discharge is initiated and when discharge is finally terminated.

If you have any questions regarding this matter feel free to contact me at (810) 435 7908.

Sincerely

John Bozick

John Bozick
Env. Eng.
Fac. Admin.

cc:Mark Williams - Randall

Post-it™ Fax Note 7671	Date 1/26/95	# of pages ▶ 1
To JOHN BOZICK	From JOHN ELLIOTT	
Co./Dept. ROCKWELL	Co. ENSR	
Phone #	Phone #	
Fax # (810) 435-8205	Fax #	

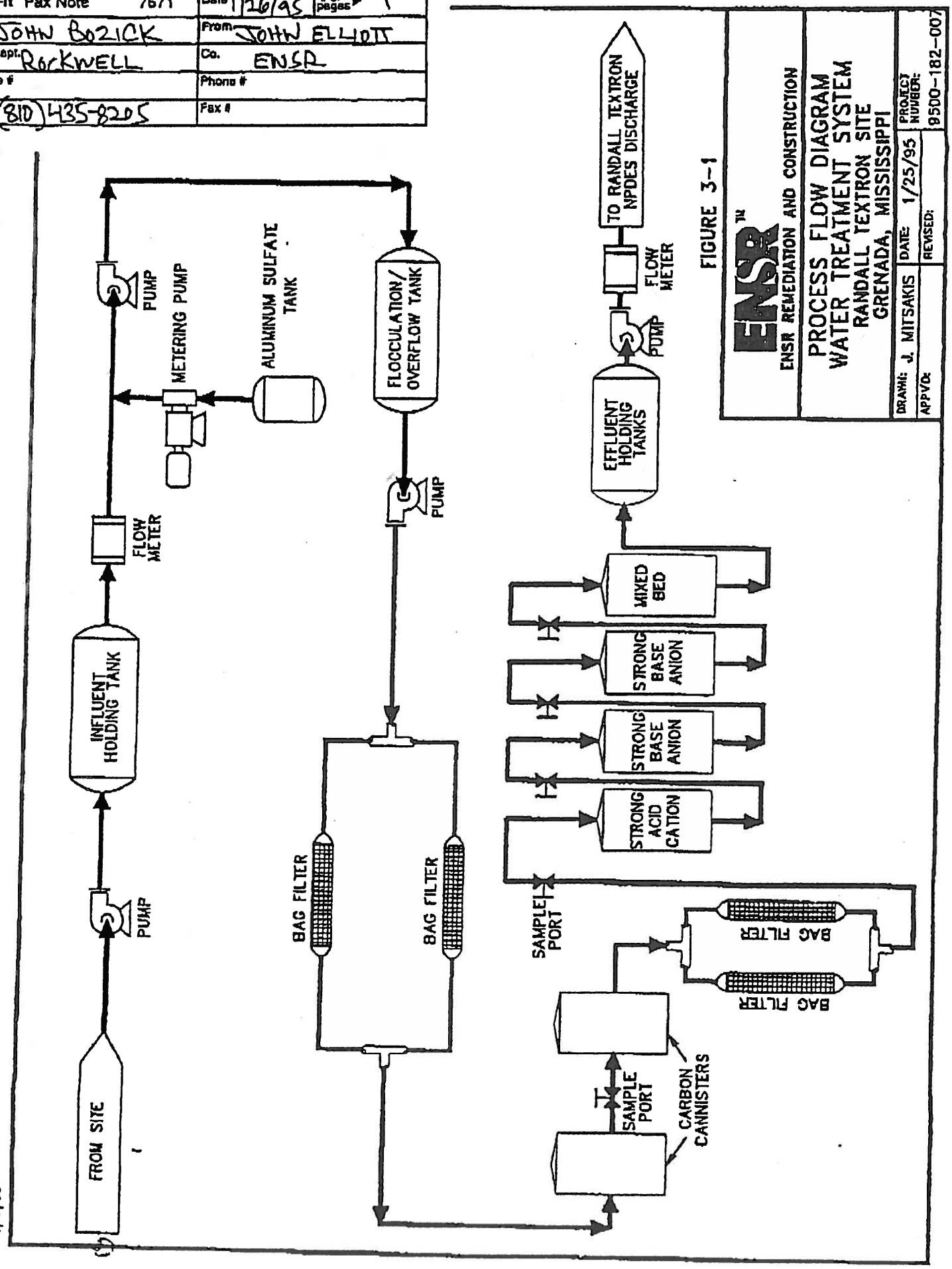

FIGURE 3-1

CE950080
1/8/95

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2758

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

Project # 5475
FID #

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell
Grenada, MS

Date Arrived 01/23/95
ETC Order Number 9501548

ETC Lab ID 9501548-01
Sample ID: 5404

Matrix :AQUEOUS
Sample Date :01/22/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics							8240
Acetone	ND	ug/L	100		01/23/95	DG	
Acrolein	ND	ug/L	50.0				
Acrylonitrile	ND	ug/L	50.0				
Benzene	3.79j	ug/L	5.00				
Bromodichloromethane	ND	ug/L	5.00				
Bromoform	ND	ug/L	5.00				
Bromomethane	ND	ug/L	5.00				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	5.00				
Chlorobenzene	ND	ug/L	5.00				
Chlorodibromomethane	ND	ug/L	5.00				
Chloroethane	ND	ug/L	5.00				
2-Chloroethyl vinyl ether	ND	ug/L	50.0				
Chloroform	ND	ug/L	5.00				
Chloromethane	ND	ug/L	5.00				
Dibromomethane	ND	ug/L	5.00				
1,4-Dichloro-2-butene	ND	ug/L	20.0				
Dichlorofluoromethane	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
1,1-Dichloroethane	ND	ug/L	5.00				
1,2-Dichloroethane	ND	ug/L	5.00				
1,1-Dichloroethene	ND	ug/L	5.00				
trans-1,2-Dichloroethene	ND	ug/L	5.00				
1,2-Dichloropropane	ND	ug/L	5.00				
cis-1,3-Dichloropropene	ND	ug/L	5.00				
trans-1,2-Dichloropropene	ND	ug/L	5.00				
Ethylbenzene	ND	ug/L	5.00				
Ethyl Methacrylate	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
Iodomethane	ND	ug/L	20.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	25.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00				
Tetrachloroethene	ND	ug/L	5.00				
Toluene	2.33j	ug/L	5.00				
1,1,1-Trichloroethane	ND	ug/L	5.00				

ND - Not Detected

[signature]
LABORATORY MANAGER

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2756

ORGANIC ANALYSIS DATA SHEET

Client Name: ENSR Remediation and Const.
Project # 5478
PID #

2000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID: Rockwell
Grenada, MS.

Date Arrived 01/23/95
ETC Order Number 9501548

ETC Lab ID 9501548-01
Sample ID: 5404

Matrix :AQUEOUS
Sample Date :01/22/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHO
Volatile Organics							8260
					01/23/95	DG	
1,1,2-Trichloroethane	ND	ug/L	5.00				
Trichloroethene	ND	ug/L	5.00				
Trichlorofluoromethane	ND	ug/L	5.00				
1,2,3-Trichloropropane	ND	ug/L	5.00				
Vinyl Acetate	ND	ug/L	50.0				
Vinyl Chloride	ND	ug/L	5.00				
Xylenes	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	110	76	114
S2 - Toluene-d8	106	88	110
S3 - 4-Bromofluorobenzene	99	86	115

ND - Not Detected

LABORATORY MANAGER

2524 Walnut Grove Road - Memphis, TN 38111 - (901)327-2788

INORGANIC ANALYSIS DATA SHEET

Client Name: MMSR Remediation and Const.

Project # 5475

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID: Rockwell
Grenada, MS

Date Arrived 01/23/95
ETC Order Number 9501548

ETC Lab ID 9501548-01
Sample ID: 5404 - Grab

Matrix : AQUEOUS
Sample Date : 01/22/95 16:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Cyanide	<0.005	mg/L	0.005	0900	01/24/95	MK	335.2
Chromium - Hexavalent	<0.004	mg/L	0.004	1045	01/24/95	PM	3500-D
Oil and Grease	<5	mg/L	5	1450	01/23/95	AE	413.1
Total Suspended Solids	<2	mg/L	2	0945	01/24/95	LK	160.2
Silver	<0.001	mg/L	0.001	1040	01/24/95	SH	272.2
Cadmium	<0.0010	mg/L	0.0010	1002	01/24/95	SH	213.2
Chromium	<0.007	mg/L	0.007	1041	01/24/95	AA	200.7
Copper	<0.006	mg/L	0.006	1041	01/24/95	AA	200.7
Nickel	<0.015	mg/L	0.015	1041	01/24/95	AA	200.7
Lead	<0.001	mg/L	0.001	0921	01/24/95	SH	239.2
Zinc	<0.002	mg/L	0.002	1041	01/24/95	AA	200.7

LABORATORY MANAGER

2524 Walnut Grove Road - Memphis, TN 38111 - (901)327-2758

INORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const. Project # 5475

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell
Grenada, MS

Date Arrived 01/24/95
ETC Order Number 9501584

ETC Lab ID 9501584-01
Sample ID: 5404 - Grab

Matrix :AQUEOUS
Sample Date :01/24/95 09:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYSED	DATE ANALYSED	BY	METHOD
Field Dissolved Oxygen	10.8	mg/L	0.50	0930	01/24/95	ECK	360.1
Field Reported pH	7.8	SU		0930	01/24/95	ECK	150.1

LABORATORY MANAGER

Draft

RECEIVED
JAN 27 1995
J.F. BOZICK

January 27, 1995

Jerome C. Muys, Jr.
Swidler & Berlin, Chartered
3000 K Street, N.W.
Washington, D.C. 20007

Re: Agreement for Randall Textron Facility in Grenada, Mississippi

Dear Jerry:

By Agreed Administrative Order No. 2879-94, dated July 22, 1994 (the "Agreed Order"), issued by the Mississippi Commission on Environmental Quality (the "MCEQ") and agreed to by the Randall Division of Textron Inc. ("Randall") and Rockwell International Corporation ("Rockwell"), the MCEQ has ordered the two companies to perform certain interim remedial action for the on-site landfill located at the Randall Textron facility in Grenada, Mississippi. Prior to the MCEQ's issuance of the Agreed Order, by letter dated June 28, 1994, from me to you, and signed and assented to by representatives of Randall and Rockwell, the two companies entered into an agreement describing each company's responsibilities with respect to performance of the Agreed Order.

Recently, in connection with work it is performing pursuant to the Agreed Order and the letter agreement with Randall, Rockwell requested Randall's permission to use Randall's existing NPDES discharge permit for Rockwell's discharge of storm water that is generated and then treated during Rockwell's construction of the interim remedial action for the on-site landfill. Rockwell has informed Randall that (1) Rockwell is unable to obtain its own NPDES discharge permit for this discharge in a timely manner, (2) the MCEQ or its agent, the Mississippi Department of Environmental Quality (the "MDEQ"), is unwilling to allow Rockwell to discharge the treated storm water through a separate outfall to be covered by Randall's NPDES permit, and (3) a representative of the MCEQ or the MDEQ has requested written confirmation of Randall's agreement to allow Rockwell to discharge the treated storm water through Randall's outfall pursuant to Randall's NPDES discharge permit. Because

Randall and Rockwell wish to continue to cooperate with each other, they have agreed as follows:

1. Randall agrees to allow Rockwell to use its NPDES discharge permit for Rockwell's discharge of landfill storm water that is generated and then treated during Rockwell's construction of the interim remedial action, subject to the following conditions:

a. Rockwell will collect, treat and sample the storm water prior to discharge (i) in accordance with all applicable legal requirements, (ii) in accordance with all requirements established by the MCEQ or the MDEQ, and (iii) to the extent not otherwise required, Rockwell will sample the storm water for all analytical parameters (except any BOD, COD and biomonitoring provisions) covered by Randall's NPDES permit.

b. Rockwell will collect, treat and sample the storm water in discrete batches prior to batch discharge. Rockwell will provide Randall reasonable advance notice and an opportunity to take duplicate or split samples of each batch, and will provide Randall copies of all analytical sampling results as soon as they are available.

c. Rockwell will introduce its treated storm water at the foot of the aeration ladder located at the end of Randall's wastewater treatment system, so that the treated storm water does not come into contact with Randall's wastewater prior to the end of the system.

d. The parties have been advised by the MCEQ or the MDEQ that Randall will not be required to seek or to obtain any modification to its NPDES permit.

e. Rockwell will take whatever action Randall requests, including the temporary cessation of discharges into Randall's wastewater treatment system, to avoid any effect on Randall's biomonitoring efforts pursuant to

Randall's NPDES permit during approximately one week in March 1995.

f. Randall agrees to allow the use of its NPDES permit consistent with the terms and conditions of this letter agreement until March 31, 1995, or until such later date as the MCEQ or the MDEQ allows for the completion of the interim remedial action pursuant to the Agreed Order.

g. The MCEQ or the MDEQ will provide prior, written approval of Rockwell's storm water discharge, consistent with the terms and conditions of this letter agreement.

2. Rockwell will provide Randall a copy of any draft or final submission submitted to the MCEQ or the MDEQ, or any other correspondence to the MCEQ or the MDEQ in connection with the interim remedial action for the on-site landfill, at the same time as Rockwell provides it to the MCEQ or the MDEQ.

3. Rockwell agrees to release, indemnify and hold Randall harmless from any and all claims, liabilities, damages and costs (including attorneys' fees) of any kind whatsoever, including but not limited to any additional costs that Randall would not otherwise have incurred, arising from Rockwell's collection, treatment or sampling of landfill storm water, its discharge of treated storm water, or its use of Randall's NPDES permit. If, however, Randall incurs any such costs independent of any claim by a third party, Randall will seek prior approval from Rockwell, which approval shall not be denied unreasonably.

4. Randall and Rockwell agree that nothing herein shall be construed to supersede or to modify the letter agreement dated June 28, 1994, except as expressly stated herein. In addition, Randall and Rockwell agree that nothing herein shall be construed as a waiver of any cause of action, claim, demand or defense the parties may have under statutory law, common law or otherwise against each other or against any third party.

5. The undersigned representative of Textron or Rockwell certifies that he or she is fully authorized to enter into and to bind such party to the terms and conditions of this agreement.

Please arrange for a representative of Rockwell to execute two originals of this agreement and to send both to Mark Williams for signature by Randall.

Sincerely,

Daniel H. Squire

Signed and assented to this ____ day of _____, 1995.

TEKTRON INC.

By: _____

Name:
Title: _____

Signed and assented to this 27 day of Jan, 1995.

ROCKWELL INTERNATIONAL CORPORATION

By: Philip Backlund

Name: Philip Backlund
Title: Director, Facilities Adm.

cc: Phil Backlund
Mark Williams

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

February 1, 1995

Mr. John Bozick
Rockwell International Corporation
2135 West Maple Road
Troy, Michigan 48084-7186

Dear Mr. Bozick:

Our office has reviewed the information submitted to us concerning the discharge of treated storm water from the soil remediation project at the Randall Textron facility in Grenada, Mississippi. We have no objections with this discharge as long as the parameters listed in Textron's NPDES permit are sampled for once per week along with 1,1,1-Trichloroethane. Also, Textron will be responsible for maintaining the water quality standards listed in their NPDES permit during this discharge.

If you have any questions, please advise.

Respectfully,

Jerry Beasley
Industrial Wastewater Control Branch

JB:ap
cc: Mr. Andrew Covington, MSDEQ/OPC
Mr. Frank Logan, Randall Division of Textron, Inc.

OFFICE OF POLLUTION CONTROL, P. O. BOX 10385, JACKSON, MS 39289-0385, (601) 961-5171

Automotive
Rockwell International Corporation
2135 West Maple Road
Troy, MI 48084-7186
(810) 435-7908

Rockwell International

March 17, 1995

Mr. Jerry Beasley
Mississippi Department of Environmental Quality
Water Quality Division
P.O. Box 10385
Jackson, MS 39289

RE: Soil Remediation Project at the Randall Textron Facility in Grenada, Mississippi, Agreed Order Number 2879-94

Dear Mr. Beasley:

We are writing on behalf of Rockwell International Corporation regarding the discharge limits applicable to stormwater collected in connection with the interim soil remediation project at the Randall Textron facility in Grenada. As you know, MDEQ has approved the discharge of the treated stormwater through the facility's existing NPDES outfall, provided the discharge meets the facility's NPDES permit limits. However, a *potential problem* has arisen which requires your guidance.

Although the facility's permit does not contain limitations for organic constituents, we have been treating the stormwater prior to discharge to levels that are below the analytical method detection limit (USEPA Method 8240) for volatile organic compounds. In a number of instances, this has made it necessary to retreat the stormwater with fresh carbon to get the level of organics to below the detection limit. This has resulted in significant delays in getting the collected stormwater treated, thus hindering the ability of the contractors to keep up with stormwater that is continuing to collect on site and meet the March 31, 1995 deadline for completing the interim action.

We propose the following approach for future treatment of the collected stormwater. Rockwell will continue to replace the carbon when organics are determined to be present in the treated stormwater at levels above the method detection limit. However, batches of treated stormwater that are determined to contain organic levels above the method detection limit but below the applicable water quality criteria by a factor of 100 or greater will be discharged without additional treatment. The attached table presents the volatile organic compounds that have been detected in the collected stormwater, and the applicable analytical method detection limits, surface water quality criteria, and proposed discharge limits for the collected stormwater.

PROPOSED MAXIMUM DISCHARGE LIMIT FOR ORGANIC CONSTITUENTS

SOIL REMEDIATION PROJECT RANDALL TEXTRON FACILITY IN GRENADA, MISSISSIPPI

Constituent	Method Detection Limit[a] (μg/L)	Lowest Acute or Chronic CWA Ambient Water Quality Criteria[b] (μg/L)	Proposed Maximum Discharge Limit[c] (μg/L)
1,2 - Dichloroethene (total)	5	11,600[d]	116
Ethylbenzene	5	32,000	320
Toluene	5	17,000	170
Trichloroethene	5	21,900	219
Vinyl chloride	5	--[e]	5
Xylene	5	--	5

[a]Method detection limit for EPA method 8240 in accordance with standard methods 17th/18th Edition; the Solid Waste Manual SW-846.

[b]Clean Water Act (CWA) ambient water quality criteria (freshwater). No Mississippi water quality criteria was available for any of the constituents.

[c]Proposed maximum discharge limit is a factor of 100 less than the lowest acute or chronic surface water quality criteria. If a surface water quality criteria is not presented then the method detection limit is used for the proposed discharge limit.

[d]Value is for dichloroethylene.

[e]Dashes (--) indicate that no value was available for that constituent.

Because of the amount of rainfall, significant delays in our project have occurred. Therefore, we would like to request a time extension of 90 days for our temporary permit. This will bring our water treatment deadline to June 30, 1995. This will assure proper restoration of the site after the project has been completed.

Please let me know as soon as possible if the foregoing is acceptable. Thank you for your cooperation.

Sincerely,

AUTOMOTIVE
ROCKWELL INTERNATIONAL CORPORATION

John Bozick

John Bozick
Environmental Engineer

JB/ng

cc: J. Muys

M. Williams

Automotive
Rockwell International Corporation
2135 West Maple Road
Troy, MI 48084-7186
(810) 435-7908

Rockwell International

March 27, 1995

Mr. Andrew Covington
Mississippi Department of Environmental Quality
RCRA Section
P.O. Box 20325
Jackson, MS 39289-1325

RE: Interim Soil Remediation Project at the Randall Textron Facility, Grenada, Mississippi

Dear Andrew:

Rockwell International is performing an ex-situ soil vapor extraction interim action at the Randall Textron facility in Grenada, Mississippi. Under Agreed Order 2879-94, our original deadline of March 31, 1995 has been changed to April 30, 1995 because of difficulties in treating discharging the collected stormwater.

Over the last three months the site has received approximately 21 inches of rain (see attached). This rainwater must be collected and treated prior to discharge. The excessive amount of rain causes standing water on our site. Our equipment has a tendency to get stuck in the mud when there has been standing water on the site. These issues have caused delays, causing the project to be more lengthy than originally planned.

We are requesting a 90 day extension to our agreed order. This will set our new deadline at 7-31-95.

We ask that you confirm in writing that the extension is approved. If you have any questions regarding this matter feel free to contact me at (810) 435-7908.

Sincerely,

Automotive
Rockwell International Corporation

John Bozick
Environmental Engineer

JB/ng

c:/doc/John/JBCovin2

ECKENFELDER INC.

PROJECT Grenada, MS Soil Interim Action
SUBJECT Rain Fall Data
BY DSS DATE 4-25-95 PAGE 1 OF 1

un-official Rain Fall Data
From U.S. Corps of Engineers at
Grenada Lake Dam

Dates over 0.5 inches and amounts		Monthly Totals (Inches)
1-7-95	1.01	January = 3.74
1-19-95	1.55	
2-16-95	3.25	February = 8.18
2-17-95	2.50	
2-18-95	0.50	
2-27-95	0.84	
2-28-95	0.90	
3-5-95	0.80	March = 5.94
3-7-95	1.40	
3-8-95	1.90	
3-16-95	1.00	
4-11-95	1.00	April to date = 7.00 (as of April 25)
4-20-95	1.00	
4-21-95	3.30	
4-23-95	1.40	

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES L. PALMER, JR.
EXECUTIVE DIRECTOR

RECEIVED
APR -6 1995
J.F. BOZICK

March 31, 1995

Mr. John Bozick
Rockwell International Corporation
2135 West Maple Road
Troy, Michigan 48084-7186

Dear Mr. Bozick:

Re: Soil Remediation Project at Randall Textron in Grenada, Mississippi

Our office has reviewed your proposed discharge limits for collected stormwater at the referenced site. The following criteria shall be used to discharge this stormwater:

Parameter	Maximum
Total BTEX	0.75 mg/L
1,2-Dichloroethene	0.005 mg/L (Detection Limit)
Trichloroethene	0.081 mg/L
Vinyl Chloride	0.525 mg/L

BTEX shall be measured as the sum of benzene, toluene, ethylbenzene, and xylene concentrations. BTEX limitations are taken from "EPA Model NPDES Permit for Discharges Resulting from the Cleanup of Gasoline Released from Underground Storage Tanks", June, 1989. Limitations for 1,2-Dichloroethene, Trichloroethene, and Vinyl Chloride are taken from the Human Health Criteria for Organism Consumption from the EPA Region IV 304(a) Criteria "Toxic Substance Spreadsheet", January, 1995.

We have also reviewed your request to extend the deadline for discharging this stormwater from March 31, 1995, to June 30, 1995. We have no objections with the request as long as Textron and the MSDEQ Hazardous Waste Division also have no objections. If you have any questions, please advise.

Respectfully,

Jerry Beasley
Industrial Wastewater Control Branch

JB:ap
cc: Mr. Andrew Covington, MSDEQ/OPC
Mr. Frank Logan, Randall Division of Textron, Inc.

OFFICE OF POLLUTION CONTROL, P. O. BOX 10385, JACKSON, MS 39289-0385, (601) 961-5171

ck Stewart
orthern District Commissioner

y O. Burkes
ntral District Commissioner

n e Shows
u ern District Commissioner

MDOT

Dr. Robert L. Robinson
Executive Director

James D. Quin
Deputy Executive Director/
Chief Engineer

Mississippi Department of Transportation / P.O. Box 1850 / Jackson, MS 39215-1850 / FAX (601) 359-2233

MDOT - Grenada Maintenance
1517 Jackson Ave.
Grenada, MS 38901
July 12, 1995

ENSR Remediation Const.
630 Hwy. 332
Grenada, MS 38901

Dear Sir:

Consider this letter permission to grant permanent status to the drive at Rockwell, International.

Very truly yours,

James P. Tartt, Supervisor

APPENDIX B

WEEKLY PROGRESS REPORTS

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: Saturday 11/26/94

Week 1 and 2 **OF CONSTRUCTION**

Weekly Weather: Clear to Cloudy, No Rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 50 percent
Full-Scale Test: 0 percent
Full-Scale Processing: 0 percent
Backfill/Compaction/Grading: 0 percent
Seed and Mulch: 0 percent
Erosion Control: ~~99~~ 95 percent
Sampling: 0 soil samples, 2 water samples
Other: Cut Water Collection Ditches

MATERIAL TRACKING:

- ☐ Carbon (air) _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Carbon (water) _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Lime _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Aggregate _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. _____ Accum. _____
- ☐ Water Treated
  Gallons _____ Accum. _____

VISITORS:

DESCRIPTION OF WORK:

Site preparation phase. Field trailer installed. The site is very wet, the dozer, trackhoe, and hydroaxe all have been stuck several times. Deep drainage ditches (approximately 8 feet deep) have been cut to help drain the perched groundwater and the water standing on the surface. A ditch has been cut along the dike to the west of the excavations and south of the excavations. This ditch is termed the "Main Ditch". The Main Ditch has accumulated approximately 1 foot to 3 feet of water throughout the ditch. A culvert is installed on the north end of the ditch. The water is currently below the culvert entrance and the culvert is blocked to prevent water from leaving the site until verified clean with analytical results. Several shallower lateral ditches extend east from the Main Ditch. A deep (approximately 8 feet) ditch is cut between Excavation A and B running southwest by northeast. This ditch is not connected to the main ditch. Water from the

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☑ Other Analytical Results

Dan Sauve 11-26-94
Signature of Preparer Date

Form: wpr1126.XLS

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project : Rockwell, Soil Interim Remedial Action
Project Number: 9519
Location: Grenada, Mississippi

DATE: 11/26/94

DESCRIPTION OF WORK (Continued):

main ditch (sample MD-1) and from the lateral ditch between Excavation A and B (Sample LD-1) were sampled. Analysis conducted include VOCs and total chrome. The analytical results indicate high levels of total chromium, trichloroethene, vinyl chloride, and cis-1,2-Dichloroethene. Based on these results, it appears that all water within the construction limits should be collected and treated.

Dan Sauré 11-26-94

Signature of Preparer Date

Form: wpr1126b.XLS

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: Saturday 11/26/94

Week 1 and 2 **OF CONSTRUCTION**

Weekly Weather: Clear to Cloudy, No Rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 50 percent
Full-Scale Test: 0 percent
Full-Scale Processing: 0 percent
Backfill/Compaction/Grading: 0 percent
Seed and Mulch: 0 percent
Erosion Control: ~~99~~ 95 percent
Sampling: 0 soil samples, 2 water samples
Other: Cut Water Collection Ditches

MATERIAL TRACKING:

- ☐ Carbon (air) _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Carbon (water) _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Lime _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Aggregate _____ Accum. _____
  Accum. Total Delivered to Site _____
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. _____ Accum. _____
- ☐ Water Treated
  Gallons _____ Accum. _____

VISITORS:

DESCRIPTION OF WORK:

Site preparation phase. Field trailer installed. The site is very wet, the dozer, trackhoe, and hydroaxe all have been stuck several times. Deep drainage ditches (approximately 8 feet deep) have been cut to help drain the perched groundwater and the water standing on the surface. A ditch has been cut along the dike to the west of the excavations and south of the excavations. This ditch is termed the "Main Ditch". The Main Ditch has accumulated approximately 1 foot to 3 feet of water throughout the ditch. A culvert is installed on the north end of the ditch. The water is currently below the culvert entrance and the culvert is blocked to prevent water from leaving the site until verified clean with analytical results. Several shallower lateral ditches extend east from the Main Ditch. A deep (approximately 8 feet) ditch is cut between Excavation A and B running southwest by northeast. This ditch is not connected to the main ditch. Water from the

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☑ Other Analytical Results

Dan Sauve 11-26-94
Signature of Preparer Date

Form: wpr1126.XLS

ECKENFELDER INC.®

CLIENT: ROCKWELL #9519
DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94
DATE REPORTED: 11/28/94

ECKENFELDER SAMPLE NUMBER			8780	8781
CLIENT SAMPLE DESCRIPTION			MD-1	LD-1
METALS	DETECTION LIMITS	USEPA METHOD	CONC	CONC
Chromium	4.0	200.7/6010	31	10

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

ECKENFELDER INC.

D. Rick Davis

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

227 French Landing Drive
Nashville, Tennessee 37228
615.255.2288
FAX 615.256.8332

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: December 3, 1994

Week 3 of Construction

Weekly Weather: Rainy

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: percent

Full-Scale Processing: percent

Backfill/Compaction/Grading: percent

Seed and Mulch: percent

Erosion Control: 95 percent

Sampling: 13 soil samples, 2 water samples

Other: _____

MATERIAL TRACKING:

- ☐ Carbon (air) Accum.
  Accum. Total Delivered to Site
- ☐ Carbon (water) Accum.
  Accum. Total Delivered to Site
- ☐ Lime Accum.:
  Accum. Total Delivered to Site
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum.
- ☐ Water Treated
  Gallons Accum.

VISITORS Sayles Martin and D. Haylman of Randall Textron.

DESCRIPTION OF WORK:

A heavy rain over the weekend has saturated the soil and prevented equipment from moving around the site to finish clear and grubbing operations. The main ditch and the lateral ditches all are filled with water. There is standing water in the excavation areas. A detention pond was excavated to the west of Excavation B to hold water pumped from the main ditch in order to allow the rest of the site to drain into the main ditch while waiting for approval to treat and discharge water. The water treatment system is not yet on site. While digging the detention pond ENSR encountered significant levels of VOCs as evident by the air monitoring conducted using a photo ionization detector. The excavated material was stockpiled next to the pond adjacent to excavation B. The soil at the bottom and approximately 6 feet up from the bottom of the detention pond are clay. The pond was left empty for 48 hours and no water seeped into the pond. Water was pumped from the main ditch into the detention pond on Thursday. Water was pumped to the top elevation of the clay in the pond. One of the two frac tanks delivered to the site this week was filled with water from excavation B. The other tank will be used for storage of treated water prior to discharge. A berm along the east side of the excavation was constructed to divert stormwater run-on. A haul road was constructed using a stabilizing fabric and road base gravel. The haul road runs from the site entrance to the eastern edge of excavation B. Soil in the test soil location and the soil excavated from the detention pond were sampled.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☒ Equipment/Personnel Checklist
- ☐ Other _____

Dan Sauve — Signature of Preparer

12/3/94 — Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: December 10, 1994

Week 4 **of Construction**

Weekly Weather: Overcast to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: percent

Full-Scale Processing: percent

Backfill/Compaction/Grading: percent

Seed and Mulch: percent

Erosion Control: 95 percent

Sampling: 13 soil samples, 3 water samples

Other: _____

MATERIAL TRACKING:

- ☐ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600
- ☐ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840
- ☐ Lime Accum.:
  Accum. Total Delivered to Site
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum.
- ☐ Water Treated
  Gallons 33,660 Accum. 33660

VISITORS Salyes Martin, Mark Williams, Rhonda York, D. Haylman

DESCRIPTION OF WORK:

A progress meeting was held at the site on Tuesday between Rockwell, ENSR, and ECKENFELDER. A small amount of water was seeping along the bottom edge of the plugged culvert installed west of excavation B. The culvert was removed and a clay plug backfilled. No water has leaked since. The leak must have occurred over the weekend and was fixed on Tuesday upon discovery. Split spoon soil samples results from the test excavation area were lower than expected (below 30 ppm TCE). Because of this head space analysis was conducted from split spoon samples in other suspect hot areas. Based on the head space analysis the test excavation area was relocated towards the center of the excavation. The analytical results from the composite sample collected from the stockpile generated from the detention pond excavation indicates that the soil is above the 7.8 ppm TCE cleanup limit (analytical results were 75 ppm TCE). ENSR started treating water this week. The water treatment system consists of 1 influent frac tank, 2 bag filters in parallel, two 1000 lb granular activated carbon canisters, three effluent holding frac tanks. ENSR started scrapping topsoil/mud off of excavation B. Approximately 1 foot deep is being removed.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☐ Other _____

Dan Sauve 12/15/94

Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: December 17, 1994

Week 5 **of Construction**

Weekly Weather: Partly Cloudy to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 3 water samples

Other: _____

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600
- ☒ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840
- ☐ Lime Accum.:
  Accum. Total Delivered to Site
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum.
- ☒ Water Treated
  Gallons 17,280 Accum. 50,940

VISITORS Mark Milner of ChemLime

DESCRIPTION OF WORK:

Water is no longer leaking from the location where the culvert was removed last week west of Excavation B. All water remains contained on-site. ENSR treated water to the maximum holding capacity of the three effluent holding frac tanks on-site. One frac tank is damaged 2/3 up from the bottom and could not be fully filled. The topsoil/mud was pulled back on approximately 1/2 of Excavation B. The soil/mud is stockpiled in the limits of Excavation B. The depth of soil/mud pulled back was approximately 1 to 2 feet to the harder clay beneath. In some cases the trackhoe operater over excavated and went deeper because no clay was present. After discover by ECKENFELDER, ENSR was told not to excavate any deeper, just to pull the soil/mud off of the top one foot as previously agreed. Once stockpiled, it appears that the mud is drying out. As of Friday, the soil stabilizer machine is still at a local machine/welding shop being modified to incorporate the air emission control equipment. This is the first time ENSR has ever used the stabilizer unit with air emission control equipment. ENSR is in process of modifying the site entrance to allow access to trucks. An 18 inch corrugated HDPE pipe was connect to the existing concrete pipe and backfilled. This is a temporary entrance and will be removed at the end of the project unless otherwise directed. All excavation activities were discontinued on Tuesday due to apparent high vinyl chloride drager tube readings obtained during excavation activities. ENSR verbally stated that a change order was necessary prior to work continues in Level B PPE.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☐ Other _____

Dan Sauve 1/4/95 ~~01/17/95~~

Signature of Preparer Date

ECKENFELDER INC.

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Date: December17, 1994

DESCRIPTION OF WORK:

Due to interference by other site constituents with vinyl chloride drager tubes and soil laboratory results were below the detection limit on vinyl chloride, ENSR was asked to prove the presence of vinyl chloride in the air prior to ECKENFELDER INC. approving any change order to upgrade to Level B.

On Thursday, ENSR collect carbon tube air samples to be analyze at a laboratory for vinyl chloride and TCE. The tubes were taped to the trackhoe and the trackhoe started excavating and stirring soil where high reading were observed previously using the HNU and drager tubes. Analytical results are anticipated to be receive on Monday.

A letter was sent to the MDEQ on Tuesday requesting discharge of treated water to the sanitary sewer system connected to the Grenada WWTP. Attached to the letter was the analytical results for the influent and effluent water. On Thursday the MDEQ stated that a pretreatment permit would be necessary since the site is not classified as a Superfund site, otherwise they would have approved of the discharge without a permit. The permitting process can be completed in 2 months, but normally takes 6 months. A 30 day public comment period is required.

ENSR was verbally told that the TSS limits on the treated water did not meet the criteria of 30 mg/L on Monday and were also told on Wednesday that they did not meet the lead limit to discharge to Randall Textron's discharge point. ENSR started re-filtering treated water using a 5 micron filter rather than the previously used 25 micron filter. The water is currently being pumped from a frac tank, filtered with the smaller micron filter and pumped back to the same frac tank. ENSR plans on sampling the water from each of the refiltered frac tanks for lead and TSS to verify that the water meets those limits. As appropriate, ECKENFELDER INC. will resample the water in the frac tanks. ENSR has been informed that the treatment system must be modified to meet the discharge limits imposed on Randall Textron. Once ENSR feels that they meet the discharge limits then ECKENFELDER INC. will sample to verify and use the results to apply for discharge.

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: December 24, 1994

Week 6 **of Construction**

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 3 water samples

Other: _____

MATERIAL TRACKING:

☒ Carbon (air) Accum.
Accum. Total Delivered to Site 1600

☒ Carbon (water) Accum.
Accum. Total Delivered to Site 1840

☒ Lime Accum.:
Accum. Total Delivered to Site 6 tons

☐ Aggregate Accum.
Accum. Total Delivered to Site

☐ Estimate of Soil Processed (to foot layer)
C.Y. Accum.

☒ Water Treated
Gallons 0 Accum. 50,940

VISITORS _____

DESCRIPTION OF WORK:

All water remains contained on-site. ENSR is still unable to meet the discharge limits and continues to work on modifying their treatment system. ENSR is conducting treatability tests on collected storm water. ENSR received the analytical results on the vinyl chloride and TCE carbon tube air sampling conducted on December 15. The air sampling results were provided to ECKENFELDER on December 20. Vinyl chloride was reported at below the detection limit. No other work is planned until after January 1, 1995.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Equipment/Personnel Checklist
☐ Other _____

Dan Sauve 1/3/95
Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: none

Week Ending: December 31, 1994

Week 7 of Construction

Weekly Weather: Reportly clear to light rain, less than a 0.10 inches of rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 3 water samples

Other:

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600
- ☒ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840
- ☒ Lime Accum.:
  Accum. Total Delivered to Site 6 tons
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum.
- ☒ Water Treated
  Gallons 0 Accum. 50,940

VISITORS

DESCRIPTION OF WORK:

No work was conducted this week. Two local ENSR employees were responsible for checking on the site throughout the week. The other ENSR employees returned to Texas for the holidays. No work is planned until after January 1, 1995.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☐ Other

Dan Sacré — Signature of Preparer

1/4/95 ~~07/17/95~~ — Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: none

Week Ending: January 7, 1995

Week 8 **of Construction**

Weekly Weather: _____

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 3 water samples

Other: _____

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600
- ☒ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840
- ☒ Lime Accum.:
  Accum. Total Delivered to Site 6 tons
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum.
- ☒ Water Treated
  Gallons 0 Accum. 50,940

VISITORS _____

DESCRIPTION OF WORK:

No work conducted this week. Several ENSR employees remain on-site for security and any miscellaneous work throughout the week. ENSR is conducting a water treatability study to figure out how to meet the TSS and lead discharge limits. All other work is delayed due to standing water on site.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☐ Other _____

Don Sauri 1-10-95 ~~07/17/95~~

Signature of Preparer Date

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ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: none

Week Ending: January 14, 1995

Week 9 of Construction

Weekly Weather: _____

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 3 water samples

Other: _____

MATERIAL TRACKING:

☒ Carbon (air) Accum.
Accum. Total Delivered to Site 1600

☒ Carbon (water) Accum.
Accum. Total Delivered to Site 1840

☒ Lime Accum.:
Accum. Total Delivered to Site 6 tons

☐ Aggregate Accum.
Accum. Total Delivered to Site

☐ Estimate of Soil Processed (to foot layer)
C.Y. Accum.

☒ Water Treated
Gallons 0 Accum. 50,940

VISITORS _____

DESCRIPTION OF WORK:

No work was conducted this week. Several ENSR employees remain on-site for security and any miscellaneous work throughout the week. ENSR is conducting a water treatability study to figure out how to meet the TSS and lead discharge limits. ENSR stated that they have not yet found a water treatment method to remove the lead. They are continuing with the treatability study. All other work is delayed due to standing water on site.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Equipment/Personnel Checklist
☐ Other _____

Dan Sami
Signature of Preparer

1-21-95
~~07/17/95~~
Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: None

Week Ending: January 21, 1995

Week 10 **of Construction**

Weekly Weather:

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 4 water samples

Other:

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600 lbs
- ☒ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840 lbs
- ☒ Lime Accum.:
  Accum. Total Delivered to Site 6 tons
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site 0 cy
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum. 0
- ☒ Water Treated (GAC)
  Gallons 12,600 gal Accum. 63,000 gal
- ☐ Water Treated (GAC and Ion Exchange)
  Gallons 0 Accum. 0
- ☒ Water Hauled Off-Site
  Gallons 18,000 gal Accum. 18,000 gal

VISITORS: none

DESCRIPTION OF WORK:

Essentially, no work was conducted this week, except some water treatment and loading of trucks for off-site disposal of the GAC treated water. Several ENSR employees remain on-site to accomplish this work.
The water being disposed of off-site is being classified as non-hazardous. It is first being processed by filtration and GAC treatment on-site. The water is then transported to Environmental Enterprises in Cincinnati, Ohio where it is further treated and disposed.

ENSR conducted a water treatability study. The treatability study was inconclusive. Rockwell suggested to ENSR that they contact Mobile Process Technology and consider ion exchange to treat the low levels of dissolved lead that ENSR stated is in the water. Mobile Process Technology rents ion exchange units and regenerate resins at their facility in Memphis. A sample of the water was delivered to Water Processing Technologies, where a treatability study was conducted with promising results. ENSR then rented an ion exchange system and the system was delivered to the site on January 21, 1995.

All other work is delayed due to standing water on site.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☐ Other

Signature of Preparer

1-26-95 ~~07/17/95~~
Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: None

Week Ending: January 28, 1995

Week 11 **of Construction**

Weekly Weather: _____

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 4 water samples

Other: _____

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600 lbs
- ☒ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840 lbs
- ☒ Lime Accum.:
  Accum. Total Delivered to Site 6 tons
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site 0 cy
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum. 0
- ☒ Water Treated (GAC)
  Gallons 25,000 gal Accum. 98,000 gal
- ☒ Water Treated (GAC and Ion Exchange)
  Gallons 20,000 gal Accum. 20,000 gal
- ☒ Water Hauled Off-Site
  Gallons 70,000 gal Accum. 88,000 gal

VISITORS: none

DESCRIPTION OF WORK:

Essentially, no work was conducted this week, except for some water treatment and loading of trucks for off-site disposal of the GAC treated water. Several ENSR employees remain on-site to accomplish this work.

ENSR installed an alum (aluminum sulfate) addition system to coagulate and flocculate the clay particles and an ion exchange system to treat the low levels of dissolved metals (specifically lead). The treatment train now consists of coagulation/flocculation, 1 micron bag filter, GAC columns, 1 micron bag filter, and ion exchange (1-cation, 2-anion, and 1-mixed bed resin columns). ENSR treated approximately 3,000 gallons on Sunday and collected a sample. The sample was analyzed at ETC in Memphis for VOCs and Textron's NPDES parameters. Analytical results were received by ECKENFELDER late on Tuesday, January 24. The analytical results were forward to Rockwell on Wednesday morning. The results indicate that the treatment system will achieve the discharge limits. Rockwell and Textron wrote letters to the MDEQ, attaching the analytical results to request discharge of the water under Textron's NPDES permit. The letters were transmitted by fax on Friday.
All other work is delayed due to standing water on site.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☐ Other _____

[signature] 1-28-95

Signature of Preparer Date

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ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: February 4, 1995

Week 12 of Construction

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 5 water samples

Other: _____

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600 lbs
- ☒ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840 lbs
- ☒ Lime Accum.:
  Accum. Total Delivered to Site 6 tons
- ☐ Aggregate Accum.
  Accum. Total Delivered to Site 0 cy
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum. 0
- ☒ Water Treated (GAC)
  Gallons Accum. 98,000 gal
- ☒ Water Treated (GAC and Ion Exchange)
  Gallons 40,000 gal Accum. 60,000 gal
- ☒ Water Hauled Off-Site
  Gallons 10,000 gal Accum. 98,000 gal
- ☒ Ion exchange resin change out: 1

VISITORS: Andrew Covington, MDEQ

DESCRIPTION OF WORK:

ENSR treated 60,000 gallons of water using alum, GAC, and ion exchange. ECKENFELDER collected effluent verification sample ET-4. The sample met the discharge limits except for pH. The pH was on the low side, apparently resulting from the alum addition and ion exchange. The pH was adjusted to within the range by adding lime and the water discharged.

The only work completed this week was water treatment. All other work is delayed due to standing water on site.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Equipment/Personnel Checklist
- ☐ Other _____

Dan Sauve 2-6-95

Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: February 11, 1995

Week 13 of Construction

Weekly Weather: Cloudy to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 10 water samples

Other: _____

MATERIAL TRACKING:

☒ Carbon (air) Accum.
Accum. Total Delivered to Site 1600 lbs

☒ Carbon (water) Accum.
Accum. Total Delivered to Site 1840 lbs

☒ Lime Accum.:
Accum. Total Delivered to Site 6 tons

☒ Aggregate Accum.
Accum. Total Delivered to Site 0 cy

☐ Estimate of Soil Processed (to foot layer)
C.Y. Accum. 0

☒ Water Treated (GAC)
Gallons Accum. 98,000 gal

☒ Water Treated (GAC and Ion Exchange)
Gallons 121,800 gal Accum. 181,800 gal

☒ Water Hauled Off-Site
Gallons Accum. 98,000 gal

☒ Ion exchange resin change out: 2

VISITORS: _____

DESCRIPTION OF WORK:

To date three batches of water have been successfully treated and verifications samples collected by ECKENFELDER. All three batched have been discharged under Randall Textrons NPDES permit. Randall Tetron is being supplied with the analytical results from each batch. At change out 0 ppm conductivity was observed on the mixed bed resin; however, the second anion resin bed had 50 to 100 ppm conductivity, indicating that the resin was spent. Results from influent sample W-1, alum and filter treated water W-2, and carbon treated water W-3 indicated that dissolved lead is below 1 ug/l and total lead was 9 ug/l in the influent and that the alum coagulation/flocculation is removing the total lead down to 2 ug/l. The lead discharge limit is 3 ug/l, thus it appears that the lead discharge limit is met before carbon treatment. The analysis of the sample collected after carbon treatment shows dissolved lead to be 37 ug/l and total lead to be 88 ug/l. These results indicate that the carbon is having an inverse effect on the lead level in the water. The ion exchange system may not be necessary. This should be further evaluated to reduce water treatment costs.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other _____

Dan Sauve
Signature of Preparer

2-17-95
~~07/18/95~~
Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: February 18, 1995

Week 14 of Construction

Weekly Weather: Cloudy to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 17 soil samples, 12 water samples

Other: _____

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600 lbs
- ☒ Carbon (water) Accum.
  Accum. Total Delivered to Site 1840 lbs
- ☒ Lime Accum.:
  Accum. Total Delivered to Site 6 tons
- ☒ Aggregate Accum.
  Accum. Total Delivered to Site 0 cy
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum. 0
- ☒ Water Treated (GAC)
  Gallons Accum. 98,000 gal
- ☒ Water Treated (GAC and Ion Exchange)
  Gallons 61,600 gal Accum. 243,400 gal
- ☒ Water Hauled Off-Site
  Gallons Accum. 98,000 gal
- ☒ Ion exchange resin change out: 3

VISITORS: _____

DESCRIPTION OF WORK:

Another batch of water has been successfully treated and verified by analysis (sample ET-7). The verification sample collected on Friday, ET-8, shows that the water is unacceptable for discharge, failing on VOCs (specificatly TCE), TSS, Cu, Pb, and Zn. ENSR has started 24 hour water treatment starting on Thurday. At the time that ENSR was informed of the results of the water analysis, they already had another 60,000 gallon batch treated, therefore, 120,000 gallons of water is unacceptable for discharge and they need to correct the operational problems with the system and retreat all of the water, unless proven otherwise by ENSR that the water in the other tanks meet the limits.

At approximately 12 A.M. (midnight) February 17, 1995 a small portion of the earthen berm failed and approximately 200,000 to 370,000 gallons of contained stormwater from the site was released to the swampy area to the south of the site.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Other _____

Dan Sauve 3-8-95

Signature of Preparer Date

ECKENFELDER INC.

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Date: February 18, 1995

DESCRIPTION OF WORK:

The direction where the stormwater was released is the same direction that water normally flowed from the site prior to the start of this project. With ECKENFELDER's assistance, ENSR collected water and sediment samples immediately down stream and further down stream of the release. Samples were also collected for background comparison. ENSR is writting a spill report to be submitted as a regular submittal. The report will be provided to the MDEQ within a week.

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: February 25, 1995

Week 15 of Construction

Weekly Weather: Clear all week

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 0 percent

Full-Scale Processing: 20 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 36 soil samples, 12 water samples

Other: _____

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600 lbs
- ☒ Carbon (water) 1840 Accum. 1840 lbs
  Accum. Total Delivered to Site 3680 lbs
- ☒ Lime 2 Accum.: 2 tons
  Accum. Total Delivered to Site 6 tons
- ☒ Aggregate 12 g, 2 s Accum. 12 g, 2 s
  Accum. Total Delivered to Site 12.73 g, 14.66 s
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum. 0
- ☒ Water Treated (GAC)
  Gallons Accum. 98,000 gal
- ☒ Water Treated (GAC and Ion Exchange)
  Gallons 0 gal Accum. 243,400 gal
- ☒ Water Hauled Off-Site
  Gallons Accum. 98,000 gal
- ☒ Ion exchange resin change out: 4

VISITORS: _____

DESCRIPTION OF WORK:

The water treatment system has not been operational due to spent carbon. It took ENSR a week to obtain new carbon. The berm along the ball field to the east of excavation A was modified to keep more stormwater off of the site. The modification consisted of laying a small amount of soil down for a berm next to Randall Textron's lagoon dike and extending the berm to connect with the existing berm. Diverted storm water discharges from the site property in the exact location as it did prior to the start of the project. Approval for the modification was provided by Rockwell and Randall Textron. The soil test program was modified to accommodate the site conditions. The change is simply to process soil in a larger cell, but conduct fewer tests so that the same amount of test soil is processed. 97/3/0 and 100/0/0 test were completed this week. During the test it was observed that the vapor extraction system is not pulling the specified air volume of 2 volume change overs per minute (approximately 300 cfm). ENSR agreed that it was not meeting the specifications and is looking for a blower that will meet the specifications. Approximately 10 gallons of diesel spilled into the secondary containment of the diesel storage tank. The diesel and some water was contained and pumped to a 55 gallon drum. ENSR will identify the disposal method and location for approval prior to disposal.

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☐ Other _____

Dan Sauve 2-27-95

Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: March 18, 1995

Week 18 of Construction

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 20 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 40 soil samples, 18 water samples

Other: _____

MATERIAL TRACKING:

- ☒ Carbon (air) Accum.
  Accum. Total Delivered to Site 1600 lbs
- ☒ Carbon (water) 1000 Accum. 2840 lbs
  Accum. Total Delivered to Site 3680 lbs
- ☒ Lime Accum.: 2 tons
  Accum. Total Delivered to Site 6 tons
- ☒ Aggregate Accum. 12 g, 2 s
  Accum. Total Delivered to Site 12.73 g, 14.66 s
- ☐ Estimate of Soil Processed (to foot layer)
  C.Y. Accum. 0
- ☒ Water Treated (GAC)
  Gallons Accum. 98,000
- ☒ Water Treated (GAC and Ion Exchange)
  Gallons 0 Accum. 493,900
- ☒ Water Hauled Off-Site
  Gallons Accum. 98,000
- ☒ Ion exchange resin change out: 5

VISITORS: _____

DESCRIPTION OF WORK:

A project meeting was held between Rockwell, ENSR and ECKENFELDER (see attached meeting minutes).

The carbon was spent. This resulted in the water treatment system being down for 6 days. Jerry Beasley of the MDEQ was contacted by ECKENFELDER about discharging a batch of water that has TCE levels slightly above the detection limit. Approval was given to discharge the water (see attached). ECKENFELDER also asked the MDEQ about discharging treated water with organic levels higher than the detection limits, but less than the surface water quality criteria by a factor of 100 to prevent having to retreat water after break through on the carbon. Once analysis shows that break through has occurred the carbon would be replaced. Mr. Beasley indicated that the MDEQ would likely accept that approach. ECKENFELDER wrote a letter and provided it to Rockwell for them to submit to the MDEQ. Rockwell submitted the letter on March 17 (see attached).

ATTACHMENTS:

- ☐ Description of Work (Continued)
- ☒ Other Meeting minutes, Corrispondance with MDEQ, and Letter to MDEQ

Dan Sauve 3-24-95

Signature of Preparer Date

Page 1

TO: John Bozick, John Elliott, and Gary Hoffeld

cc: JLP
GM

FROM: Dan Sauve

DATE: 3/22/95 PROJECT: Grenada, MS JOB NO: 9519

SUBJECT: ~~February~~ March 16, 1995 Project Meeting Minutes

The following is a brief summary of the project meeting held at Randall Textron on ~~February~~ March 16, 1995. Present for the meeting were John Bozick of Rockwell International, John Elliott and Gary Hoffeld of ENSR Remediation, and Dan Sauve of ECKENFELDER INC.

A discussion was held concerning the possible use of an area north of Excavation B or the ball field for processing the soil. Both of these areas are outside of the designated CAMU area. The July 22, 1994 Administrative Order No. 2879-94 (Agreed Order) states that the CAMU area shall be identified in a plan. A plan consistent with ENSR's alternate treatment method was submitted as part of the September 1, 1994 letter from Rockwell to the Mississippi Department of Environmental Quality (MDEQ).

Presenting a request to the MDEQ to expand the CAMU area would cause a delay in the project and may not even be approved. ENSR stated that they could process the soil in the limits of the excavations if they had a stabile area where the soil could be placed and mixed. It was agreed that the soil in an area in each excavation limits could be stabilize with a maximum of 5 percent lime. After the stabilization, ECKENFELDER will collect several soil samples to check the pH of the soil. If the pH of the soil is elevated above 12.5 SU, the soil will be mixed with other site soils to lower the pH.

ENSR stated that the new project completion date is April 25, 1995 as long as everything goes well. Rockwell will present a time extension to the MDEQ and to Randall Textron. The time extension presented will likely be for a June 1995 completion date.

Randall Textron has been allowing people to use the ball field. ECKENFELDER has discussed this issue with Randall Textron. Randall Textron would like to receive a letter from Rockwell requesting that the ball field not be used. The plan submitted to the MDEQ as required by the Agreed Order states that the ball field will not be used; therefore, Randall Textron should not be allowing anyone to use the ball field. ECKENFELDER will remind Randall Textron of the plan. If Randall Textron still refuses, then Rockwell will write a letter.

A discussion concerning stormwater management was held. As conditions allow, ENSR would like to install berms in the location where they originally planned

along the approximate limits of landfill. The reason for this is to limit the size of the area that will require stormwater collection and treatment. It was agreed that ENSR will install the berms; however, the outer berms must remain in place until all water is pumped out of the area, the ditches previously excavated backfilled, and water collected after a storm event is sampled. A discussion will then be held to establish a plan to return the area to the natural drainage patterns.

ENSR will present a plan to address the trees that were not mulched by the hydroax in the Full-Scale Soil Processing Work Plan.

ENSR will label the drum that contains the spilled diesel fuel. Rockwell agrees that ENSR can dispose of the drum at one of the Rockwell approved facilities. ENSR plans to check into the possible use of the diesel to start a fire to burn the clear and grub debris. If it is allowed, ENSR will provide a letter from the appropriate agency that states that it is acceptable to use the diesel in such a manor and that it is acceptable to burn the clear and grub debris at this location.

The spent carbon will be labeled by ENSR as soon as a waste characterization is determined.

ENSR is going to try and meet the air flow rate on the vapor recovery system by using shop vacuums. ECKENFELDER stated that modifications should be complete as soon as possible so that the system can be tested and verified that the flow rate meets the specifications prior to completing any more soil tests. Additionally, ECKENFELDER expressed a concern that the shop vacuums may burn out rapidly under continuous use. ENSR agreed that several backup vacuums will be available on-site.

The operation of the water treatment system was discussed. ENSR will obtain larger carbon vessels and will have extra vessel(s) on-site to prevent down time due to spent carbon. The requirement to continue the use of the ion-exchange system is being evaluated by ENSR. If it looks like it is not necessary, use of the ion-exchange system will be discontinued. However, the ion-exchange system will remain on-site in case it becomes necessary again. Unit costs for the water treated to date and for future water treatment will be presented.

The draft letter written by ECKENFELDER requesting discharge limitations on organic parameters not listed in Randall Textron's NPDES discharge permit will be revised by Rockwell and submitted to the MDEQ under Rockwell's letter head.

ECKENFELDER INC.®

TELECOMMUNICATION

Job No.: 9519

Date: 3-13-95

From: Dan Sauvé

Subject: Water discharge at Randall Textron Facility

Total Number of Pages Including This Sheet: 1

Please deliver the following to:

Name: Jerry Beasley	Name:
Company: MDEQ	Company:
Fax No.: (601) 961-5703	Fax No.:
Name:	Name:
Company:	Company:
Fax No.:	Fax No.:

Comments:

As we discussed, we have a batch (60,000 gallons) of treated surface water from the soil remedial action project at the Randall Textron facility in Grenada MS. The analytical results are slightly above the method detection limit (EPA Method 8240) for trichloroethene. The method detection limit is 5.0 ug/L and the analysis shows 5.99 ug/L. We request your approval to discharge this water. All other organics are below the detection limit and all Randall Textron's parameters are met.

The document being telecopied will also ☐ will not ☑ (sender check one) be transmitted to the telecopy recipient by conventional delivery (i.e., mail, delivery service). If you do not receive all pages of this fax, please call ~~(615) 255-2288~~ (601) 226-0366.

Operator: DSS

Date and Time Sent: 3:50 3-13-95

227 French Landing Drive, Nashville, TN 37228

Fax No. ~~(615) 256-8332~~ (601) 226-0370

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Pollution Control
P. O. Box 10385
Jackson, Mississippi 39289-0385

FAX TRANSMITTAL SHEET

Please deliver the following 1 pages including transmittal sheet to:

Name: Dan Sauvé Phone: 226-0366

Location: ENSR Grenada

FROM

Name: Jerry Beasley Phone: 961-5087

Location: MSDEQ/OPC

FAX Date: 3/14/95 FAX Number: (601)961-5703

☐ Routine ☐ Priority

Message: We have no objections with the discharge of the 60,000 gallon batch of treated surface water from the soil remediation project at Randall Textron. If you have any questions, please advise.

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

March 10, 1995

Mr. Dan Sauve
Eckenfelder, Inc.
227 French Landing Drive
Nashville, TN 37228

Ref: Analytical Testing
ETC Order # 9503259
Project Description Rockwell-Grenada, MS

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136. Some analyses may have been sub-contracted to an outside testing laboratory. The results are shown on the attached analysis sheet(s).

Within the attached report, some analyte data may be reported as "Qualified" data indicated by a "Data Flag" next to the result. The following summarizes the possible "Data Flags" that may be associated with this data :

- Q - Surrogate recovery outside QC Limits.
- j - Estimated Value. Presence of the compound was confirmed but less than the sample quanititation limit but greater than zero.
- E - Concentration exceeds the established method calibration range but is within the working range of the instrument.
- B - Analyte detected in blank.
- S - Associated Surrogate Recovery outside QC Limits
- N - Non-Compliance Report associated with this sample or project indicating standard protocol was not followed. Please refer to attached report.

Please do not hesitate to contact our office if you have any questions.

Sincerely,

Randall H. Thomas
Vice-President
General Manager

rt

Attachment

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: April 15, 1995

Week 22 of Construction

Weekly Weather: Clear to light rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 0 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 157 soil samples, 31 water samples

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 0 Accum.
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 3840 lbs
Accum. Total Delivered to Site 8,600 lbs

☒ Lime 0 Accum.: 9.3 tons
Accum. Total Delivered to Site 28 tons

☒ Aggregate 0 g, 0 s Accum. 42 g, 12 s
Accum. Total Delivered to Site 57.10 g, 45.53s

☐ Estimate of Soil Processed
C.Y. 0 Accum. 0

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 126,200 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 62,800 Accum. 62,800

☒ Ion exchange resin change out: 7

VISITORS: _____

DESCRIPTION OF WORK:

The percent TCE reduction on the additional soil processing tests conducted last week were approximately the same as the previously conducted tests. The initial TCE concentration in the soil from the additional processing tests were low. After processing, the TCE levels were BMDL to 1.6 mg/kg.

A blend of 65/5/30 (soil/lime/aggregate) was selected for the full-scale processing. A blend of 95/5/0 appears to give approximately the same TCE reduction during mixing as 65/5/30; however, the addition of the aggregate increases the porosity of the soil which will be a benefit if the soil requires additional treatment by vapor extraction.

Phil Backlund of Rockwell called Dan Sauve this week to discuss the use of the ball field. See attached memo.

Received a draft of the Full-Scale Processing Work Plan by fax on Wednesday night. On Thursday afternoon a conference call between John Bozick, John Elliott, Dan Sauve, and Bob Norris was held. Changes to the draft Work Plan were discussed during the conference call and ENSR was given approval to start on the full-scale processing while changes to the Work Plan were being finalized.

ATTACHMENTS:

☐ Description of Work (Continued)
☒ Other memo

Dan Sauve 4-17-95
Signature of Preparer Date

TO: Project File

cc: RND
John Elliott

FROM: DSS

DATE: 4/21/95 **PROJECT:** Soil Interim Action
Grenada, MS **JOB NO:** 9519

SUBJECT: Use of Ball Field

On April 12, 1995 Phil Backlund of Rockwell called me to inform me that we could not prevent Randall Textron from allowing people to use the ball field. He then instructed me to remove the locks on the gates to the ball field. We also discussed conducting air monitoring along the perimeter of the ball field during mixing operations. It is ENSR's responsibility to conduct air monitoring and their H&S plan states that air monitoring will be conducted along the perimeter of the site. It is now more critical that ENSR conduct perimeter air monitoring and that measurements of air quality along the ball field fence and on the lagoon dike be collected during mixings. Air monitoring shall also be conducted along the ball field fence and lagoon dike while the ball field is in use.

Immediately after being instructed to do so by Phil Backlund the locks were removed on all the ball field gates with the exception of the out field fence gate which leads to project site.

I summarized for John Bozick of Rockwell on April 13, 1995, the conversation that I had with Phil yesterday. John agreed with the plan of action directed by Phil.

Dan Sané
4-21-95

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: April 22, 1995

Week 23 of Construction

Weekly Weather: Partly cloudy to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 3 percent

Backfill/Compaction/Grading: 0 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 159 soil samples, 33 water samples

Rain Delays in Full-Scale Processing: 3 days (accum.)

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 0 Accum.
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 3840 lbs
Accum. Total Delivered to Site 8,600 lbs

☒ Lime 12.7 Accum.: 22 tons
Accum. Total Delivered to Site 75 tons

☒ Aggregate 30 g, 62 s Accum. 72 g, 74 s
Accum. Total Delivered to Site 99 g, 130 s

☐ Estimate of Soil Processed
C.Y. 226 Accum. 276

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 0 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 126,000 Accum. 188,800

☒ Ion exchange resin change out: 7

VISITORS: _____

DESCRIPTION OF WORK:

Full-scale processing started this week. Two batches approximately 113 cubic yards each were processed in-situ then pushed into stockpiles for verifications sampling. The processed soil stockpiles had some clumps of un-processed soil. It was decided that processing the soil ex-situ per the Work Plan will better assure that un-processed soil is not mixed with processed soil. Processing ex-situ will also likely increase productivity by placing the soil over a stable surface where the equipment would sink less and provide a longer strip of soil to work on. Both batches of soil processed this week met the cleanup level and were staged for subsequent backfilling.

Three batches of water have been treated without using the ion exchange system. All three batches of water have met the discharge limits and were discharge.

It rained approximately 4.6 inches from Thursday through Saturday, which also prevented soil processing during that time. Water from Excavation B was pumped to the detention pond and to the middle portion of the site to keep the excavation dry, so that soil processing could continue once the rain stops.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other

Dan Sauve 4-26-95
Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: April 29, 1995

Week 24 of Construction

Weekly Weather: Clear to light rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 10 percent

Backfill/Compaction/Grading: 8 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 167 soil samples, 37 water samples

Rain Delays Full-Scale Processing: 3.25 days (accum.)

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 0 Accum.
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 3840 lbs
Accum. Total Delivered to Site 8,600 lbs

☒ Lime 42 Accum.: 64 tons
Accum. Total Delivered to Site 100 tons

☒ Aggregate 74 g, 152 s Accum. 146 g, 197 s
Accum. Total Delivered to Site 192 g, 314 s

☒ Estimate of Soil Processed
C.Y. 474 Accum. 750

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 0 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 187,900 Accum. 376,700

☒ Ion exchange resin change out: 7

VISITORS: _____

DESCRIPTION OF WORK:

A processing pad approximately 180 feet long by 30 feet wide was stabilized using lime. The pad is in the location presented in the Work Plan.

Four composite samples were collected along the West and South excavation limit of Excavation B. All samples were collected at approximately the 172 foot elevation. The analytical result from the West excavation limit composite (S,230-285,165-130) was BMDL for TCE. The analytical results from the South excavation limit composites (S,170-230,210-180 and S,120-170,230-210) were 11 mg/kg and 14 mg/kg for TCE. A composite (S,100-200,210-170) was also collected on the bottom of Excavation B where the soil was only excavated to 172 foot elevation. The analytical results from S,100-200,210-170 composite was 7.9 mg/kg for TCE which is nearly identical to the clean-up level of 7.8 mg/kg. Additional composite samples will be collected approximately 10 feet beyond the excavation limit.

Approximately 750 cubic yards of soil was treated and placed back into Excavation B. The analytical results for the soil was BMDL for TCE with a detection limit of 0.5 mg/kg. The soil was placed in Zone 3 of Excavation B and compacted in one foot lifts using the caterpillar 939 dozer to compact the soil. Some treated water was used to add moisture for better compaction.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other

Dan Sauve 4-29-95
Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Dan Sauve

Week Ending: May 6, 1995

Week 25 of Construction

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 28 percent

Backfill/Compaction/Grading: 20 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 176 soil samples, 40 water samples

Rain Delays Full-Scale Processing: 4 days (accum.)

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 0 Accum.
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 4840 lbs
Accum. Total Delivered to Site 8,840 lbs

☒ Lime 78 Accum.: 142 tons
Accum. Total Delivered to Site 152 tons

☒ Aggregate 107 g, 240 s Accum. 253 g, 437 s
Accum. Total Delivered to Site 260 g, 471 s

☒ Estimate of Soil Processed
C.Y. 1230 Accum. 1980

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 0 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 208,700 Accum. 585,400

☒ Ion exchange resin change out: 8, 105 days rent

VISITORS: _____

DESCRIPTION OF WORK:

Started collecting composite samples of soil being processed after 6 passes with the stabilizing unit. The reason for collecting the samples is to evaluate reducing the number of passes. The samples will be placed on hold until analytical results for three or four stockpile samples are BMDL.

Approximately 1630 cubic yards of soil have been treated and backfilled. The soil was treated by processing only. All verification sample analytical results on the treated soil were BMDL. So far windrow construction has not been necessary.

The primary water treatment carbon vessel was spent and the carbon removed. The primary vessel was replaced with the larger 2000 pound secondary carbon vessel and a new 2000 pound secondary carbon vessel put in line. The two smaller 1000 pound carbon vessels that were on site were demobilized.

The ion-exchange system was demobilized from the site this week. The surge tank and one bag filter system were also demobilized. The ion-exchange system was on site 105 days and 8 ion-exchange resin change outs occurred. To date approximately 585,000 gallons of water have been successfully treated without the use of the ion-exchange system.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other

Dan Sauve 5-10-95
Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Gary Alford

Week Ending: May 13, 1995

Week 26 of Construction

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 43 percent

Backfill/Compaction/Grading: 20 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 188 soil samples, 42 water samples

Rain Delays Full-Scale Processing: 4 days (accum.)

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 400 Accum. 400
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 4840 lbs
Accum. Total Delivered to Site 8,840 lbs

☒ Lime 55 Accum.: 197 tons
Accum. Total Delivered to Site 234 tons

☒ Aggregate 64 g, 144 s Accum. 364 g, 581 s
Accum. Total Delivered to Site 349 g, 690 s

☒ Estimate of Soil Processed
C.Y. 1060 Accum. 3030

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 0 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 147,870 Accum. 733,270

☒ Ion exchange resin change out: 8, 105 days rent

VISITORS: _____

DESCRIPTION OF WORK:

Continued collecting composite samples of soil being processed after 6 passes. Two such samples have been analyzed, one was BMDL and one was 1.1 mg/kg.

No additional soil has been backfilled because the survey results have not been received. The clean soil waiting to be backfilled is stockpiled on top of the clean soil already backfilled in Excavation B. The soil was treated by processing only. All verification sample analytical results on the treated soil were BMDL. No windrow construct has yet been necessary.

Excavation of the top 4 feet of soil in Excavation A was completed on 5/12/95 (soil not anticipated to require treatment). A composite sample was collected in 4 locations by digging approximately 4 feet into the pile at each location. The composite sample was collected 5/12/95. The analyical result on the composite sample was 43 mg/kg of TCE.

Five composite samples were collected along the south, west, and north excavation limit of Excavation A. All samples were collected at approximately 172 foot elevation. The analytical results will be available next week.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other

[illegible] for Gary Alford 6-19-95
Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Gary Alford

Week Ending: May 20, 1995

Week 27 of Construction

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 55 percent

Backfill/Compaction/Grading: 51 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 195 soil samples, 44 water samples

Rain Delays Full-Scale Processing: 4.5 days (accum.)

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 0 Accum. 400
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 4840 lbs
Accum. Total Delivered to Site 8,840 lbs

☒ Lime 57 Accum.: 254 tons
Accum. Total Delivered to Site 312 tons

☒ Aggregate 75 g, 151 s Accum. 463 g, 732 s
Accum. Total Delivered to Site 447 g, 826 s

☒ Estimate of Soil Processed
C.Y. 842 Accum. 3876

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 0 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 125,840 Accum. 859,110

☒ Ion exchange resin change out: 8, 105 days rent

VISITORS: _____

DESCRIPTION OF WORK:

Discontinued collecting composite samples of soil being processed after 6 passes. Two such samples have been analyzed, one was BMDL and one was 1.1 mg/kg. Based on ENSR's judgement, some soil may be treated with only six passes. However, if the analytical results of this soil show TCE levels above clean-up levels, the soil will be treated with an additional two passes at ENSR's cost.

Approximately 3600 cubic yards of treated soil have been backfilled in a surveyed area of the excavation. Additional treated soil is staged for backfilling and will be backfilled after more of the excavation is surveyed. The soil was treated by processing only. No windrow construction has yet been necessary.

Received analytical results on five composite samples collected along the south, west, and north excavation limit of Excavation A. All samples were collected at an approximate elevation of 172 feet. Soil sample S,150-220,70-45 measured 830 mg/kg TCE and soil sample S,150-190,195-200 measured 96 mg/kg TCE. Therefore, the excavation limits at these locations will be extended laterally 10 feet and down to an elevation of 170 feet. This will result in an additional 509 cubic yards of soil to be treated.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other

Dan Gavin for Gary Alford 6-19-95
Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Gary Alford
Doug Petroff

Week Ending: May 27, 1995

Week 28 of Construction

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 66 percent

Backfill/Compaction/Grading: 51 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 202 soil samples, 44 water samples

Rain Delays Full-Scale Processing: 5.0 days (accum.)

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 400 Accum. 800
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 4840 lbs
Accum. Total Delivered to Site 8,840 lbs

☒ Lime 53 Accum.: 307 tons
Accum. Total Delivered to Site 356 tons

☒ Aggregate 70 g, 141 s Accum. 461 g, 873 s
Accum. Total Delivered to Site 463 g, 853 s

☒ Estimate of Soil Processed
C.Y. 784 Accum. 4660

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 0 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 0 Accum. 859,110

☒ Ion exchange resin change out: 8, 105 days rent

VISITORS: _____

DESCRIPTION OF WORK:

A second composite sample was collected from the top four feet of soil excavated from Excavation A (soil not anticipated to require treatment). The analytical result of this sample was 12 mg/kg TCE. The analytical result of the previous composite sample of this soil collected on 5/12/95 was 43 mg/kg TCE.

Based on the results of Excavation A wall verification samples received last week, an additional 10 feet of soil was excavated from the east wall of Excavation A down to an elevation of 170 feet. Following excavation, a composite sample (S,150-220,60-35) was again collected from the east wall of Excavation A at an elevation of 170 feet. The draft analytical result of the S,150-220,60-35 sample was 830 mg/kg TCE. Based on this result, the excavation of an additional ten feet past the eastern excavation limit is planned.

One primary canister of carbon from the vapor recovery system on the stabilizer unit was replaced following break through of TCE in the secondary canister.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other

Doug Petroff 6-19-95
Signature of Preparer Date

ECKENFELDER INC.

WEEKLY PROGRESS REPORT

Project: Rockwell, Soil Interim Action
Project Number: 9519
Location: Grenada, Mississippi

Observers: Doug Petroff
Dan Sauve

Week Ending: June 3, 1995

Week 29 of Construction

Weekly Weather: Clear to rain

WORK COMPLETION STATUS:

Clearing, Grubbing, and Topsoil Removal: 80 percent

Full-Scale Test: 100 percent

Full-Scale Processing: 72 percent

Backfill/Compaction/Grading: 51 percent

Seed and Mulch: 0 percent

Erosion Control: 95 percent

Sampling: 205 soil samples, 46 water samples

Rain Delays Full-Scale Processing: 7.0 days (accum.)

Other: _____

MATERIAL TRACKING:

☒ Water Hauled Off-Site

Gallons 0 Accum. 98,000

MATERIAL TRACKING:

☒ Carbon (air) 0 Accum. 800
Accum. Total Delivered to Site 3,600 lbs

☒ Carbon (water) 0 Accum. 4840 lbs
Accum. Total Delivered to Site 8,840 lbs

☒ Lime 28 Accum.: 335 tons
Accum. Total Delivered to Site 383 tons

☒ Aggregate 23 g, 55 s Accum. 484 g, 928 s
Accum. Total Delivered to Site 528 g, 985 s

☒ Estimate of Soil Processed
C.Y. 417 Accum. 5,077

☒ Water Treated (GAC)
Gallons Accum. 98,000

☒ Water Treated (GAC and Ion Exchange)
Gallons 0 Accum. 1,048,100

☒ Water Treated (GAC, Ion Exchange off-Line)
Gallons 84,340 Accum. 943,450

☒ Ion exchange resin change out: 8, 105 days rent

VISITORS: _____

DESCRIPTION OF WORK:

Soil processing was hampered by heavy rains early in the week. A considerable amount of effort went into pumping water from the site (especially the Excavation A area) in order to access the areas for soil removal. Two rain delay days were charged. The contractor agreed to the number of rain delay days charged even though some additional delays were caused due to contractor planning and equipment problems.

Based on the analytical result for the east wall of Excavation A received last week (850 mg/kg TCE), an additional ten feet of soil was excavated from the east wall. Following the additional excavation, two composite samples were collected in the east wall at an elevation of approximately 170 feet. One composite sample was collected from the northern portion of the east wall (S,180-220, 19-25) and the other composite sample was collected from the southern portion of the east wall (S,140-180,75-19). The draft analytical results for these samples were 87 mg/kg TCE for S,180-220,19-25 and 51 mg/kg TCE for S,140-180,75-19.

As discussed in a previous weekly progress report, the analytical results for the northern end of the west wall of Excavatioin A showed elevated TCE levels. Therefore, ten additional feet of soil past the original excavation limit were removed.

ATTACHMENTS:

☐ Description of Work (Continued)
☐ Other

Signature of Preparer — Date: 6-18-95

Photo 15.

Vapor recovery system: four 5 hp shop vacuums piped into 4 carbon drums (2 sets of 2 drums in series).

3/23/95

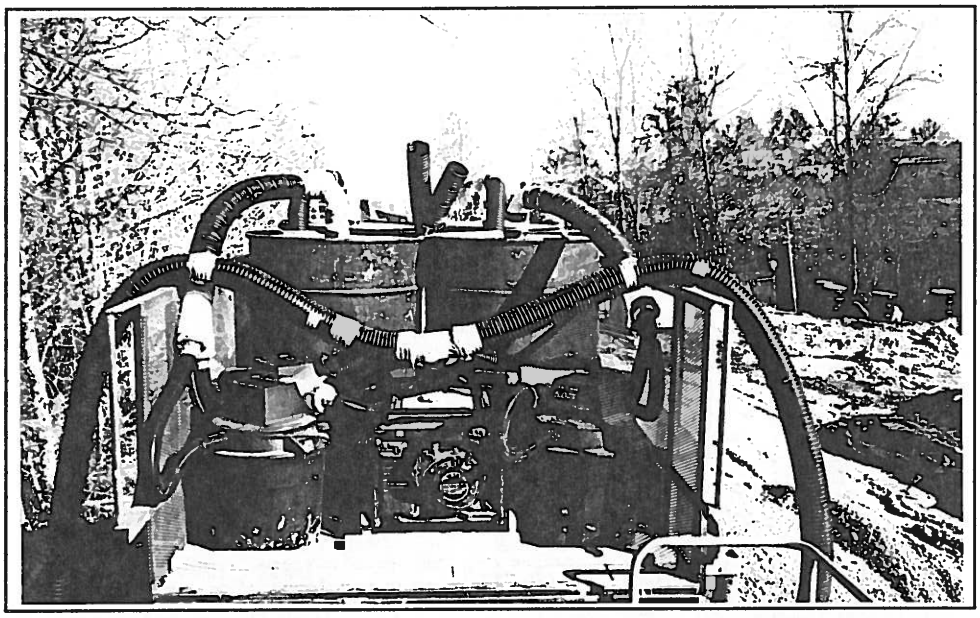


Photo 16.

Test soil blend after being treated with 8 passes of the stabilizer.

3/24/95

Photo 17.

Modified water treatment system: alum addition system, floc tank, weir tank, 2 sock filters, one 1000 lb and two 2000 lb GAC columns, and ion-exchange system.

4/5/95

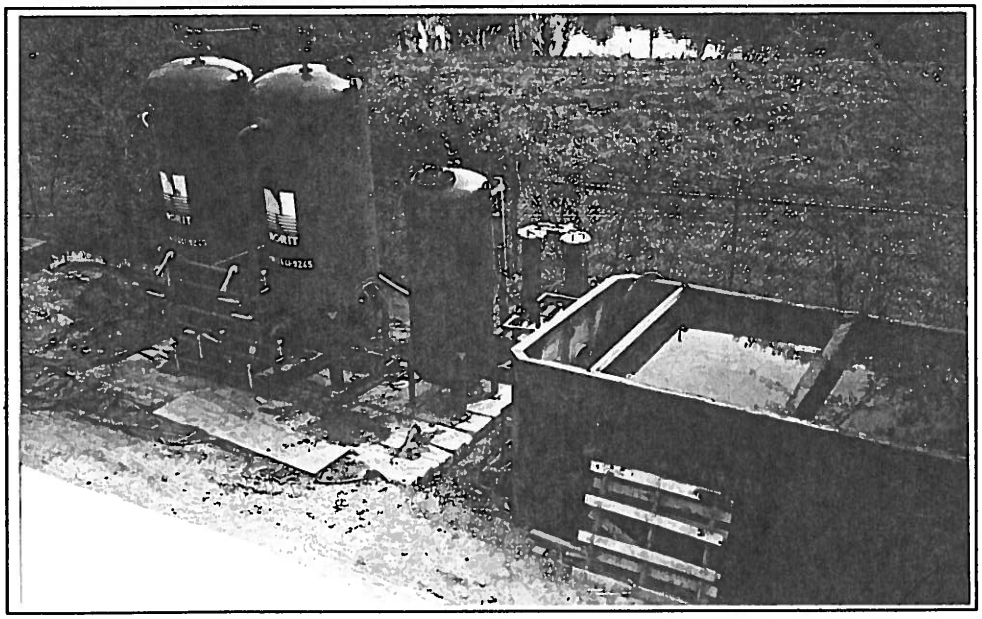


Photo 18.

Modified water treatment system: alum addition system, floc tank, weir tank, 2 sock filters, one 1000 lb and two 2000 lb GAC columns, and ion-exchange system.

4/5/95

Photo 19.

Excavation B, view point from lagoon dike.

4/6/95

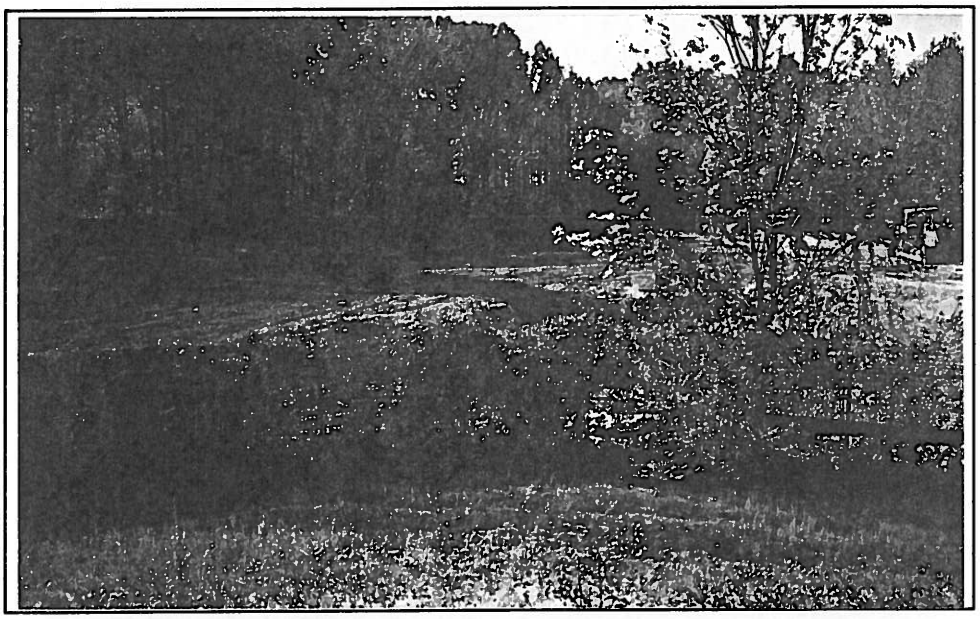


Photo 20.

Excavation A, view point from lagoon dike.

4/6/95

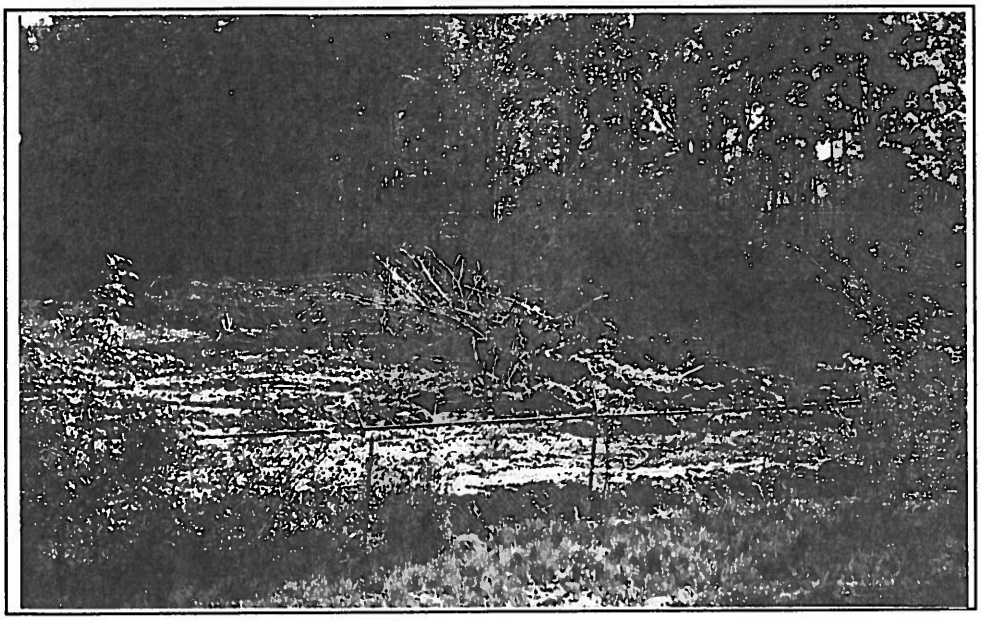


Photo 21.

Batch of soil being treated during full-scale processing.

4/28/95

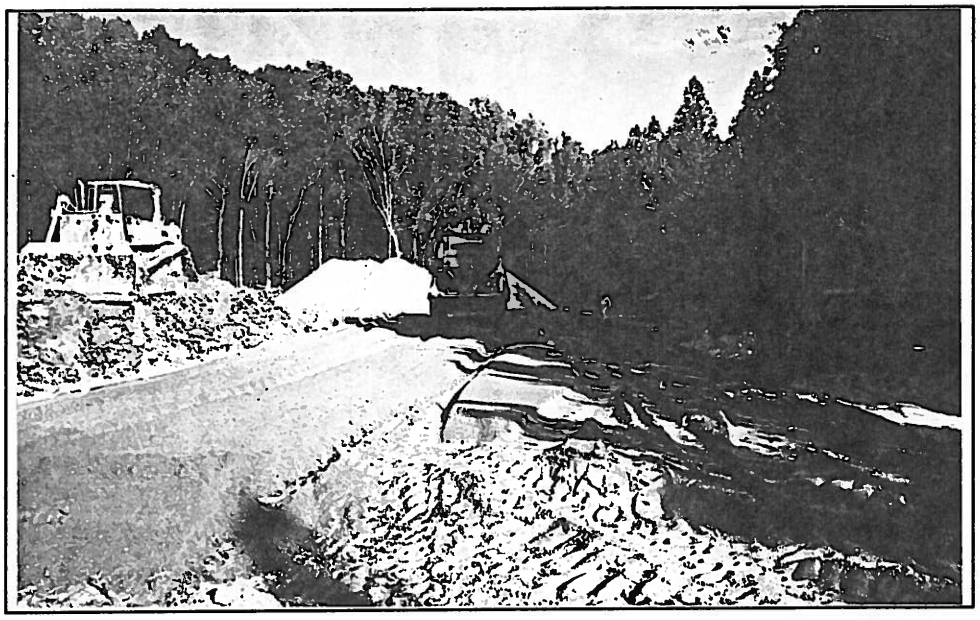


Photo 22.

Excavation B bottom elevation on south end.

4/28/95

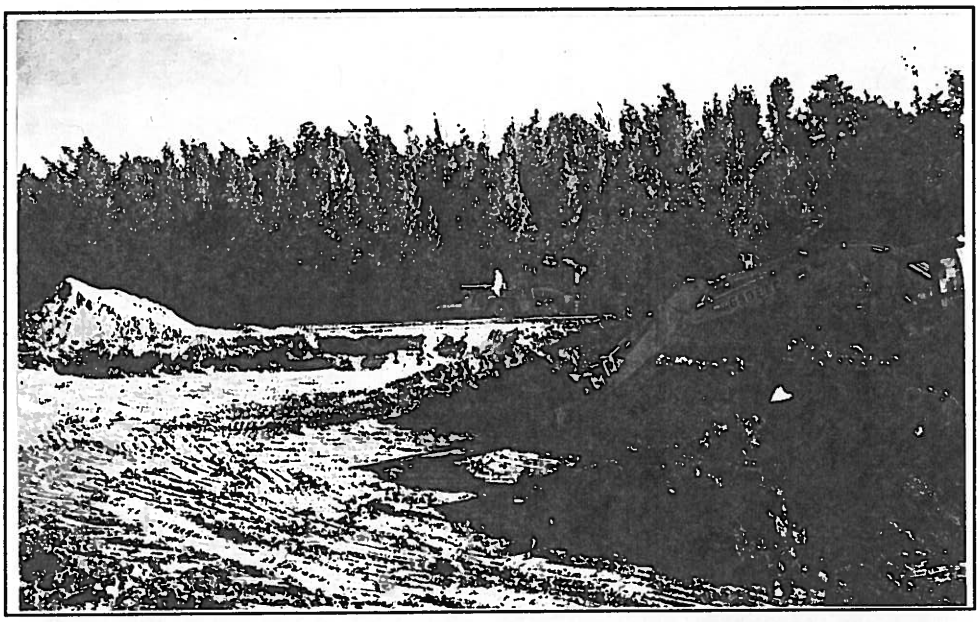


Photo 23.

Backfilling Excavation B with treated soil. Soil placed in one foot lifts and compacted with dozer.

4/29/95

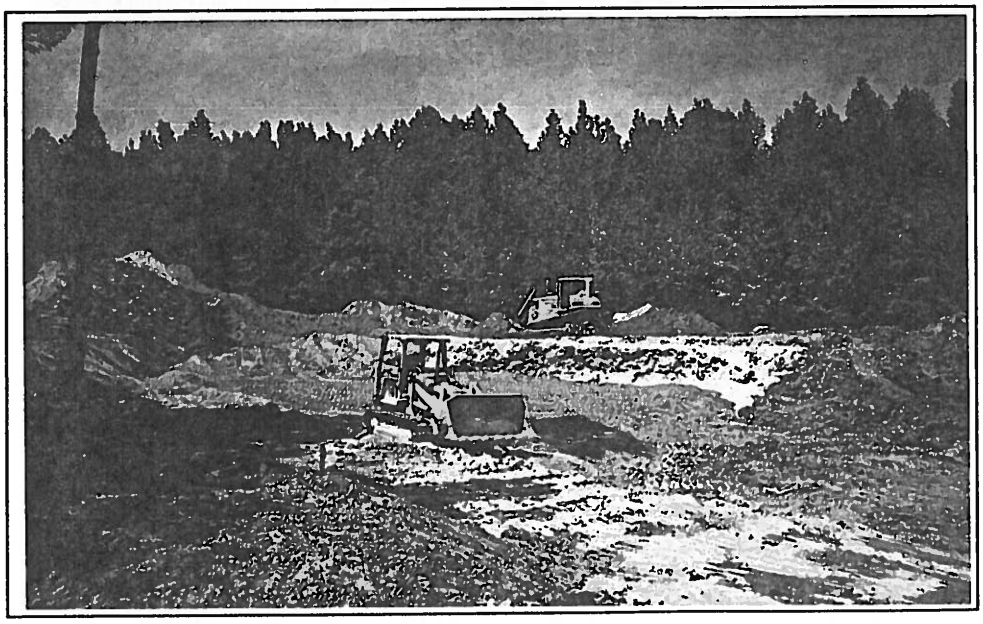


Photo 24.

Processing soil on treatment pad in Excavation B.

5/5/95

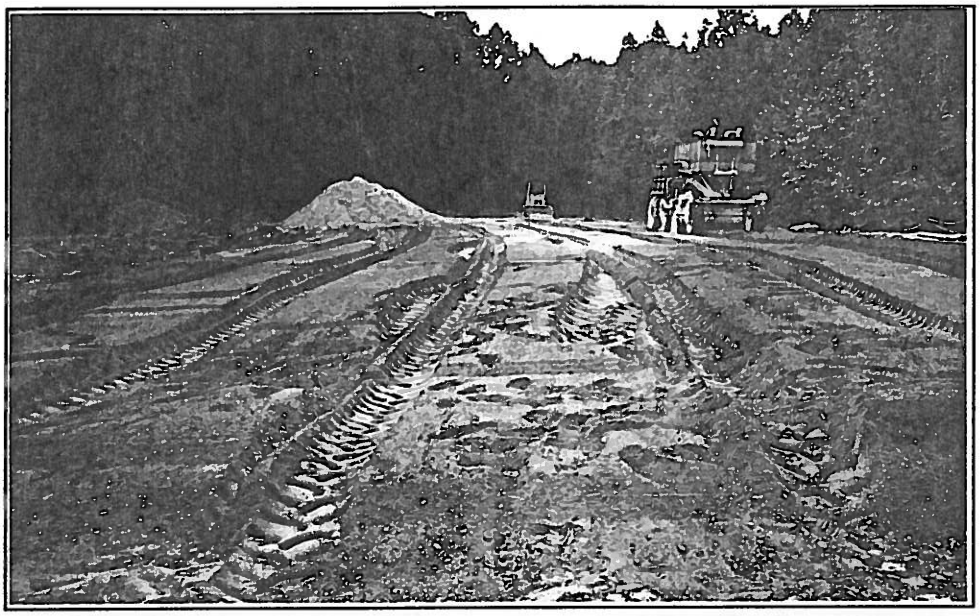


Photo 25.

Spreading lime on treatment pad in Excavation B. Soil staged to the left will be spread over lime.

5/7/95

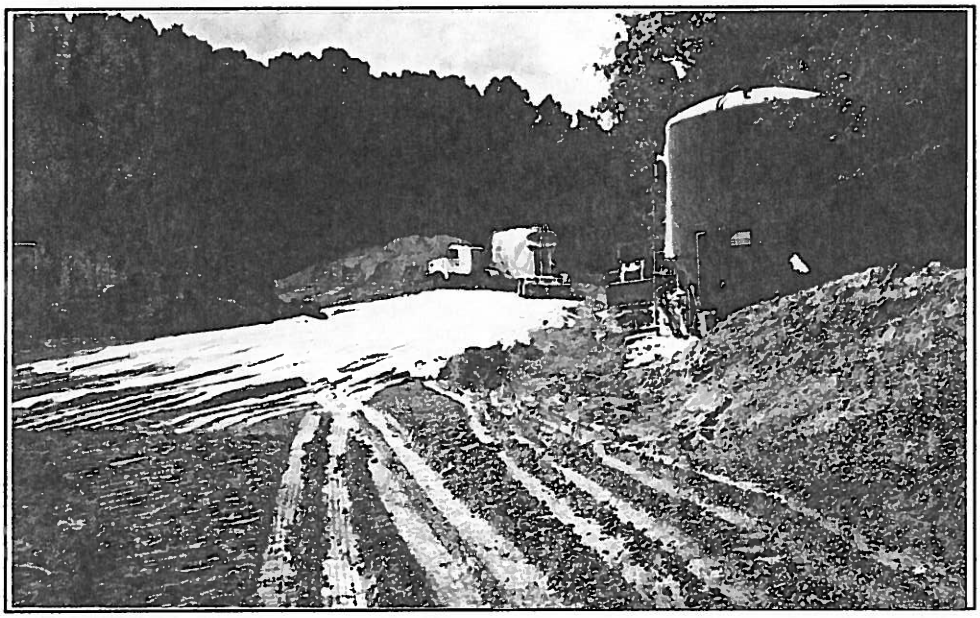


Photo 26.

Backfilling of Excavation B with treated soil.

5/22/95

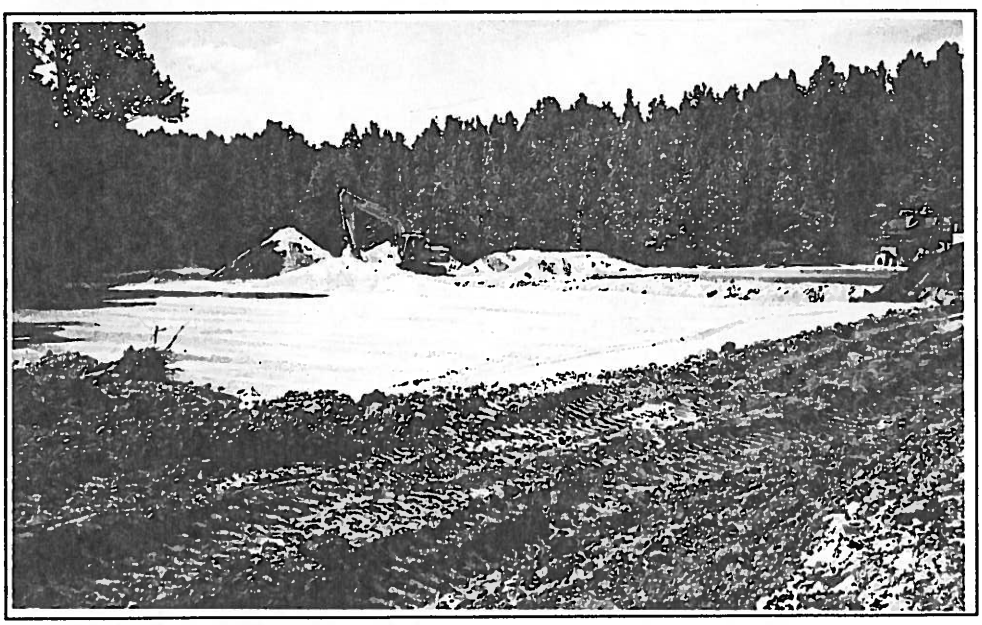


Photo 27.

Final excavation limits of Excavation A.

6/13/95

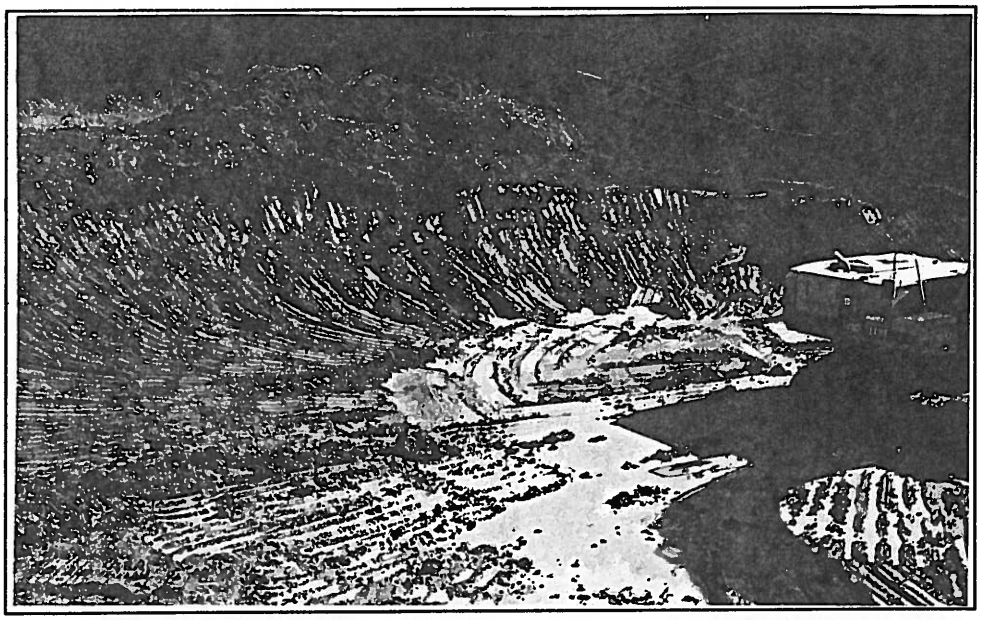


Photo 28.

Backfilling of Excavation A with treated soil.

6/14/95

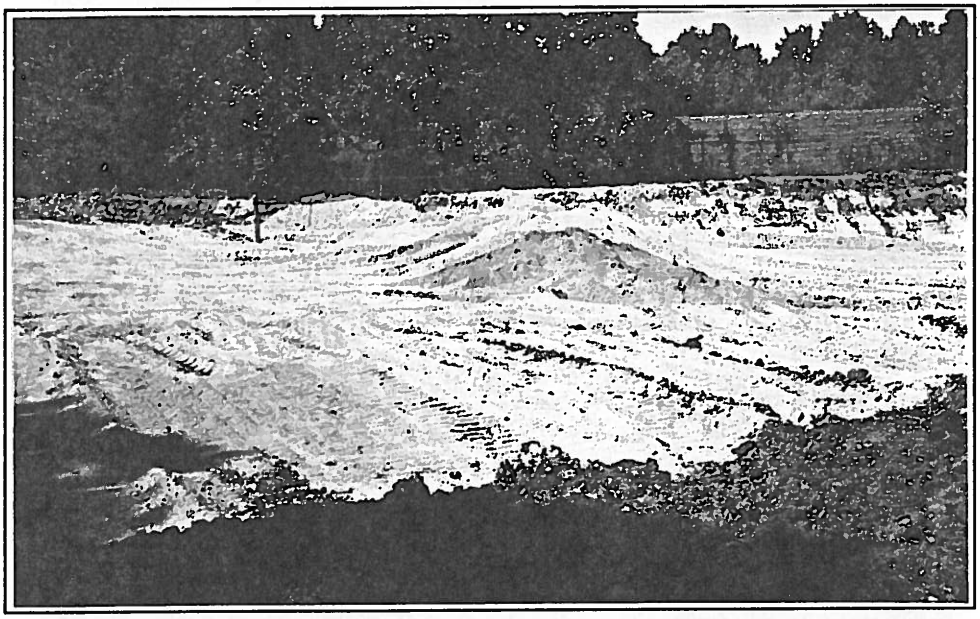


Photo 29.

Completed excavation on east side of Excavation B.

6/19/95

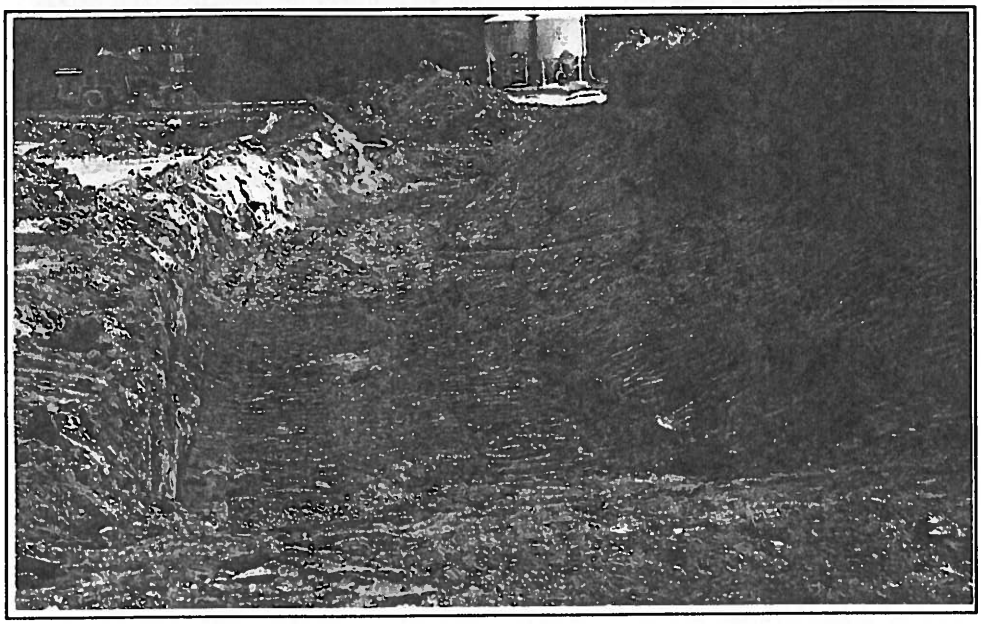


Photo 30.

Treatment of soil beneath the treatment pad in Excavation B.

7/3/95

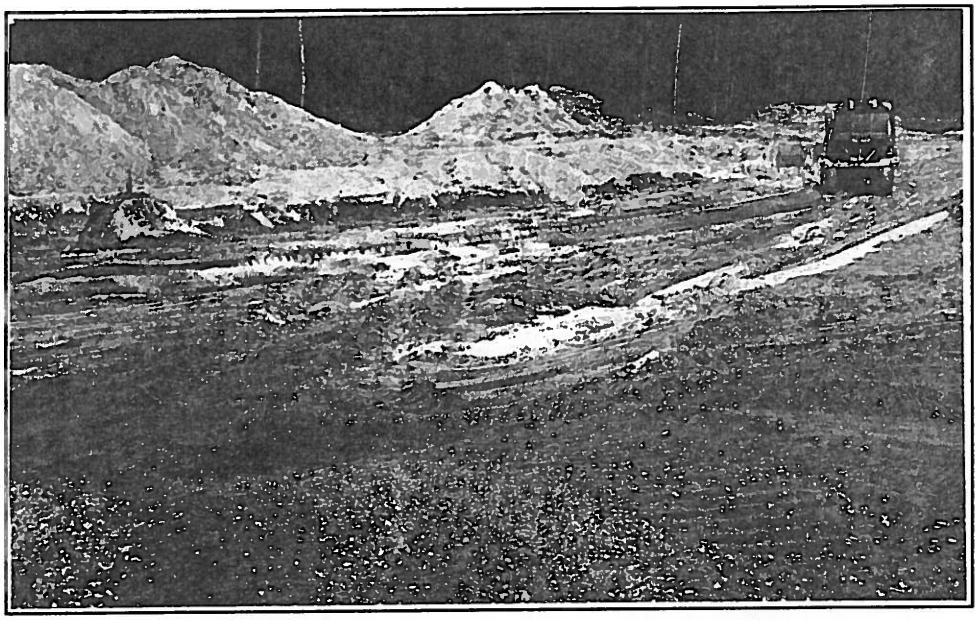
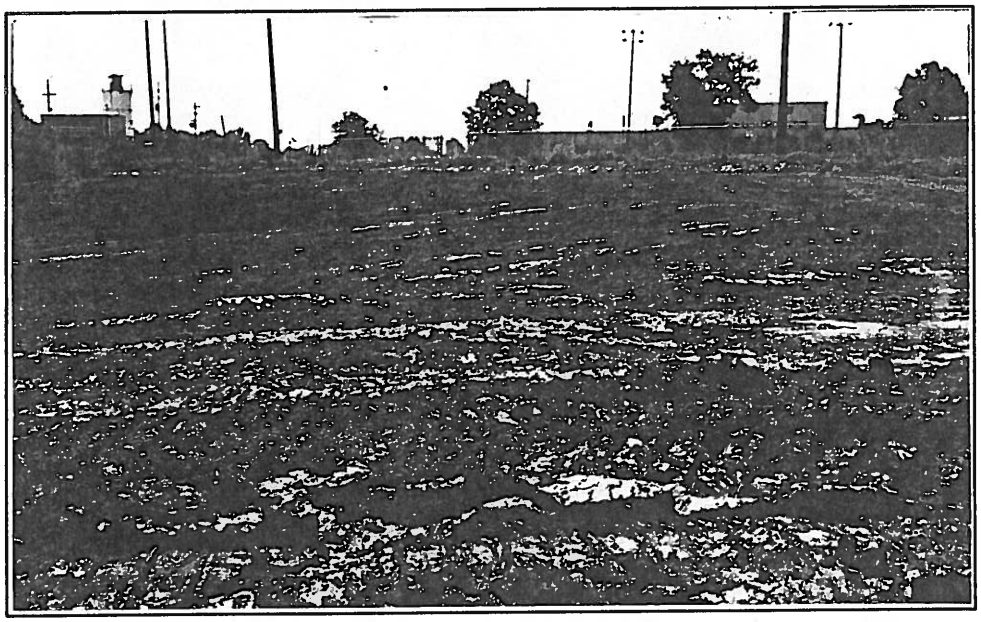


Photo 31.

Excavation A after placement of one foot of cover soil.

7/3/95



APPENDIX D

SOIL EROSION AND SEDIMENT CONTROL PLAN

Rockwell International Corporation

Troy, Michigan

Soil Erosion and Sediment Control Plan Prepared for Rockwell's Randall Textron Facility Located in Grenada, MS

ENSR Remediation and Construction

December 8, 1994

Document Number 5475

TABLE OF CONTENTS

Section		Page
1.0	PROJECT OVERVIEW	1
2.0	EROSION CONTROL MEASURES	1
3.0	FILTER FABRIC SILT FENCE	3
3.1	Materials	3
3.2	Installation	4
4.0	DUST CONTROL	5

ATTACHMENT A: Silt Fence Literature

SOIL EROSION AND SEDIMENT CONTROL PLAN

1.0 Project Overview

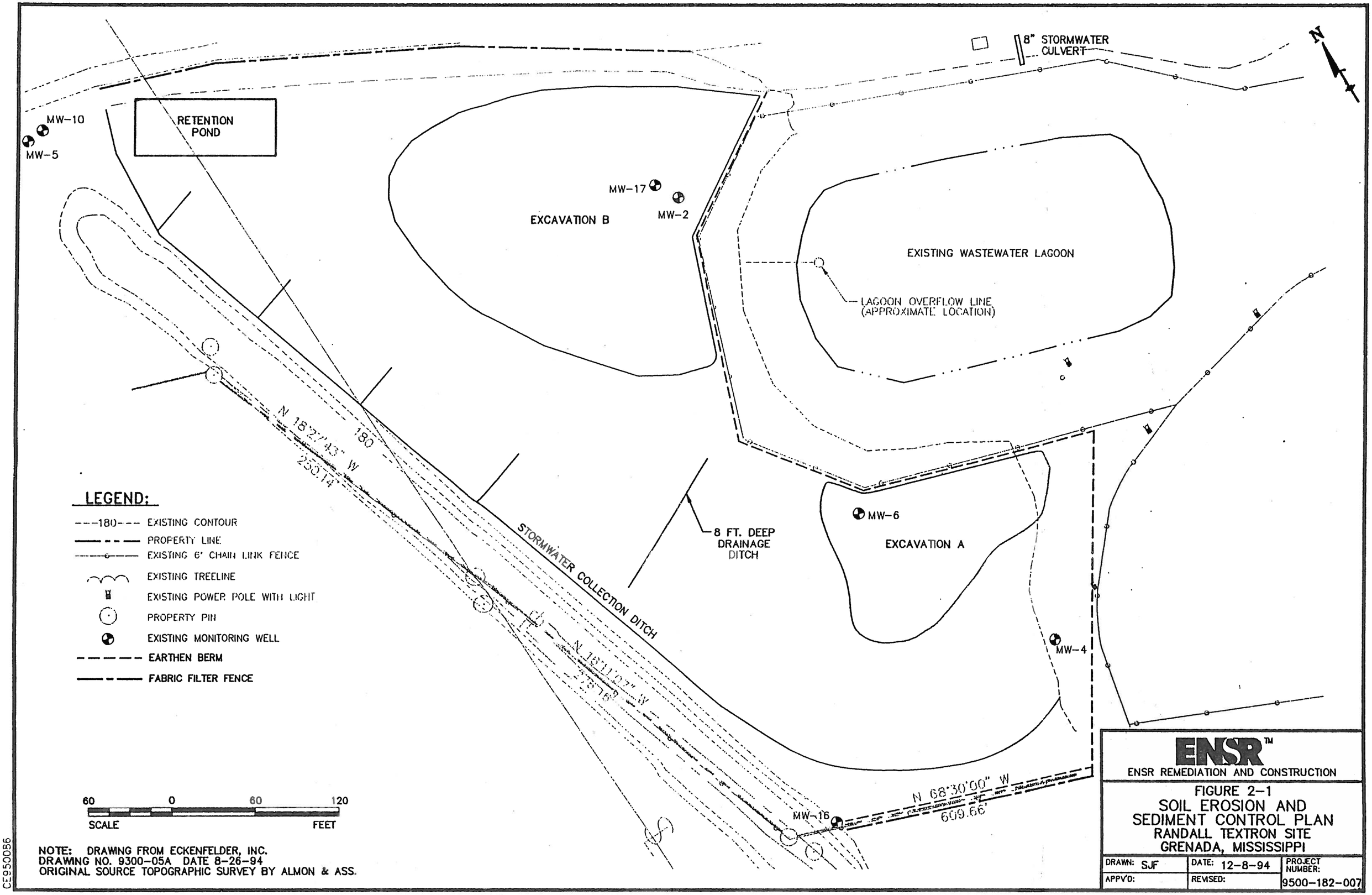
The purpose of this Soil Erosion and Sediment Control Plan is to delineate procedures necessary to prevent sediment run-off during remediation activities for Rockwell International Corporation at the Randall Textron Facility, Highway 332 East, Grenada, Mississippi 38901. The remediation activities include, but are not limited to, soil excavation, soil stockpiling, soil mixing, replacement of treated soils into the original excavation, and site restoration. The work will be in accordance with the October 1994 project specifications prepared by Eckenfelder Inc., 227 French Landing Drive, Nashville, Tennessee 37228.

2.0 Erosion Control Measures

This Soil Erosion and Sediment Control Plan addresses the Best Management Practices (BMPs) deemed appropriate to comply with the provisions of the Clean Water Act and the Mississippi Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972) for each of the areas on site to be disturbed. ENSR Remediation and Construction (ENSR) will implement erosion control measures around all project areas prior to disturbing the ground.

It is anticipated that less than 5 acres will be distributed during project activities. If it appears at any time during the work that more than 5 acres will be disturbed, work will be stopped until the Soil Erosion and Sediment Control Plan is revised, submitted to the Mississippi Department of Environmental Quality, and a permit received.

Sufficient precautions will be implemented to minimize the run-off of polluting substances such as silt, clay, wastes, fuels, oils and bitumens into the water supplies and surface waters of the State. Stormwater run-on/run-off berms and silt fences will be maintained in the locations shown in Figure 2-1.


8" STORMWATER CULVERT
N
RETENTION POND
MW-10
MW-5
MW-17
MW-2
EXCAVATION B
EXISTING WASTEWATER LAGOON
LAGOON OVERFLOW LINE (APPROXIMATE LOCATION)
N 18°27'43" W
180
230.14'
STORMWATER COLLECTION DITCH
8 FT. DEEP DRAINAGE DITCH
MW-6
EXCAVATION A
MW-4
MW-16
N 68°30'00" W
609.66'
LEGEND:
180 EXISTING CONTOUR
PROPERTY LINE
EXISTING 6' CHAIN LINK FENCE
EXISTING TREELINE
EXISTING POWER POLE WITH LIGHT
PROPERTY PIN
EXISTING MONITORING WELL
EARTHEN BERM
FABRIC FILTER FENCE
60 0 60 120
SCALE FEET
NOTE: DRAWING FROM ECKENFELDER, INC.
DRAWING NO. 9300-05A DATE 8-26-94
ORIGINAL SOURCE TOPOGRAPHIC SURVEY BY ALMON & ASS.
ENSR™
ENSR REMEDIATION AND CONSTRUCTION
FIGURE 2-1
SOIL EROSION AND SEDIMENT CONTROL PLAN
RANDALL TEXTRON SITE
GRENADA, MISSISSIPPI
DRAWN: SJF
DATE: 12-8-94
PROJECT NUMBER: 9500-182-007
APPV'D:
REVISED:
CE950086

An 8-foot deep drainage trench will be excavated to convey/collect surface and perched water. A diversion ditch with laterals and a retention pond will also be installed as depicted in Figure 2-1. Any stormwater that collects will be managed in accordance with Section 13400 of the project specifications. All excavated/treated material will be staged until laboratory results verify that the material is less than the established clean-up criteria. As the excavated/treated materials are being stockpiled they will be compacted to prevent erosion due to rainfall. The staged material will also be covered with polyethylene sheeting during inclement weather. The earthen berms fence will be maintained until backfilling operations are complete.

Approved silt fencing will be provided at points where drainage leaves the work site, to reduce the sediment content of the water. Sufficient silt fence will be provided such that all flow will filter through the geotextile fabric. Silt fence will be installed prior to commencement of any clearing and grubbing operations. Filter fence will be installed in all areas where a berm does not prevent sediment run-off. The filter fence will be maintained until vegetation has been reestablished. Inspections of all erosion control measures will be performed on a daily basis.

3.0 Filter Fabric Silt Fence

3.1 Materials

All filter fabric materials used for soil erosion and sediment control will conform with the following:

- Silt fence fabric will be woven.
- Woven fabric will consist of monofilaments of polypropylene treated with ultraviolet light stabilizers and will weigh a minimum of 3.5 oz/sq yd.
- Silt fence fabric will be inert to chemicals commonly found in soils.
- Silt fence fabric will be resistant to mildew, rot, insects, and rodent attack.

- Silt fence fabric will be resistant to mildew, rot, insects, and rodent attack.

- Silt fence posts will be constructed of wood and 2 inches square. Silt fence fabric will conform to the following test criteria:

Geotextile Properties

Property	Test Method	Average Value
Grab Tensile, lbs.	ASTM-D-4632	110 x 90
Grab Elongation, %	ASTM-D-4632	15
Mullen Burst, psi	ASTM 3786	275
Puncture, lbs.	ASTM 3787 (modified)	30
Trapezoidal Tear, lbs.	ASTM-D-4533	50
U.V. Resistance, % (Strength Retained)	ASTM-D-4355	70
E.O.S.	CW02215	20/30
Permittivity, (1/sec) gal/min/sq. ft.	ASTM-4491	.2 15

ENSR will utilize Mirafi®, pre-fabricated silt fence with posts. The silt fence will have a fabric width of three feet, a post length of four feet and a post spacing of 8.3 feet.

Manufacturers information on geotextile fabric is contained in Appendix A.

3.2 Installation

Silt fences will be installed in accordance with the manufacturer's guidelines at locations shown in Figure 2-1. Silt fence material will be embedded at least six inches beneath ground surface and will extend upward at least two feet above the disturbed area ground surface. The top edge of the fabric will be reinforced or will have a one-inch tuck.

Accumulated silt and debris will be removed from behind the face of the silt fence as needed to provide proper silt fence operation. Clogged or damaged fabric will be immediately replaced.

4.0 Dust Control

ENSR will implement dust control procedures (watering) to maintain site conditions such that no visible dust exists.

The ENSR Site Safety Officer (SSO) will use a real time dust monitor to measure dust levels in the restricted areas. Dust control techniques will be implemented to maintain dust levels within the restricted areas below the action level of 1.0 mg/m^3.

Dust is likely to be generated during the following activities:

- Clearing and Grubbing
- Off - Loading of Lime Dust
- Soil Treatment
- Backfilling

Dust will be controlled with the use of water as appropriate. Work practices may be altered to achieve adequate dust control. The EPA baseline standard for dust control is "No Visible Emissions." For the purposes of this project, this shall principally be construed to apply to dust releases of potentially contaminated material. Exclusion Zone perimeters may be altered to achieve adequately low dust levels in ambient air. As each piece of equipment is being demobilized and removed, it will be decontamainted (i.e. by pressure or hose washing) to control dust releases.

Total dust readings will be taken in the established restricted areas at least three times per day. The readings will be taken at the locations within the restricted area, and during the time periods, which are likely to represent worst case conditions. This determination of worst case will be made by the ENSR SSO and will be dependent upon such variables as the type of work being performed and number of employees or level of activity into the zone.

ATTACHMENT A

MIRAFI® SILT FENCE

Prefabricated Silt Fence Structures for Sedimentation Control

PRODUCT DESCRIPTION

Mirafi Silt Fence structures, composed of specially developed fabrics on supporting posts, are designed for efficient control of sediment run-off from construction sites. This sediment, left unchecked, can clog and pollute native waterways and damage natural areas. Controlling the run-off (an increasing environmental concern) is advantageous to owners, contractors and engineers who face the economic costs associated with site sediment loss. Installed correctly in the field, the sedimentation control fabric in silt fence structures functions as a filter and a run-off flow velocity check. Fine-grained sediment is trapped by the fabric while storm water run-off may pass through the fabric at a moderate rate.

FEATURES

Mirafi Prefabricated Silt Fence with Posts

The prefabricated silt fence with posts is pre-assembled, and is ready for immediate installation upon delivery to your site. The prefabricated system has a number of unique features and advantages:

- Complete prefabricated system
- Posts are 2" square hardwood
- Available in a variety of fabric types to meet specifications for adherence to governmental agencies' regulations
- Available in varying fabric widths
- Standard reinforced top edge with high-strength industrial tensioning belt for added reinforcement
- Available in a selection of post heights and post spacings

Mirafi Envirofence

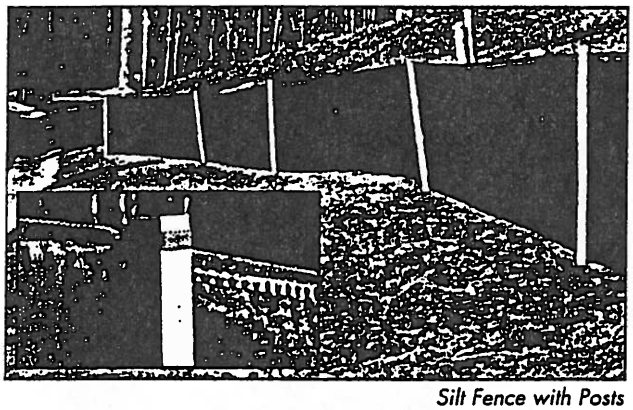
Envirofence is a pre-assembled silt fence which features a net backing for support. The prefabricated system offers the following features:

- Complete prefabricated system
- Additional support provided by net backing
- Posts are 1-1/2" square hardwood
- Tensioning belt
- Optional pockets for posts

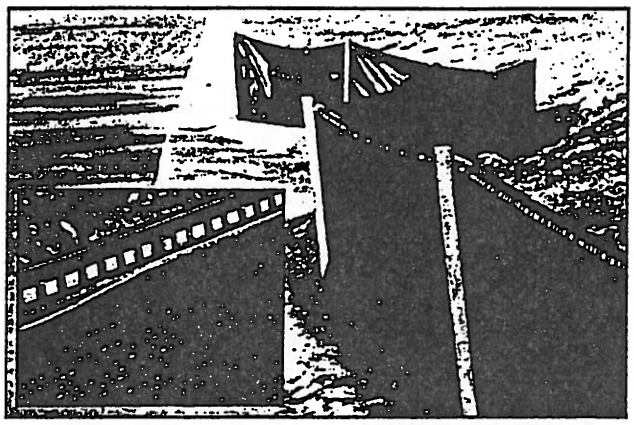
Mirafi Silt Fence with Pockets

The silt fence with pockets features a 3/4"-wide high-strength industrial belt laced through a heavily reinforced top edge. The practicality and flexibility of this silt fence takes several forms:

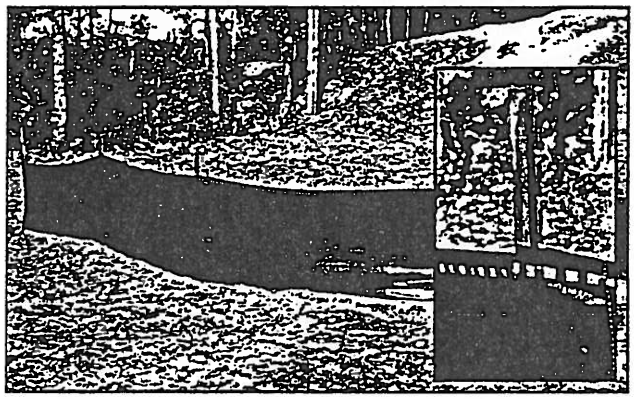
- Equipped with dual-duty belt for both tensioning and variable post spacing
- Pockets at each end of fabric roll for joining rolls
- Tensioning belt conveniently secures fabric to post
- Can be used with metal or wooden posts
- Offers greater variety in post spacing to conform to on-site terrain and conditions



Silt Fence with Posts



Mirafi Envirofence



Silt Fence with Pockets

Mirafi Silt Fence Fabric

Mirafi also provides you with an assortment of UV protected, nonfabricated sedimentation control fabrics in a choice of widths and lengths. Each fabric is designed to meet the specifications and regulations for sedimentation control required by local governmental agencies.

NICOLON MIRAFI GROUP

1-800-234-0484

SEDIMENTATION CONTROL

Mirafi® Silt Fence Technical Data

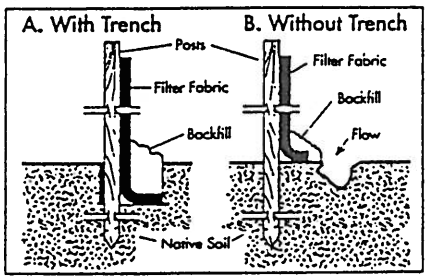
PROPERTY	TEST METHOD	UNIT	MINIMUM AVERAGE VALUES
Grab Tensile Strength (machine direction)	ASTM D 4632	lbs	120
Grab Tensile Strength (cross-machine direction)	ASTM D 4632	lbs	100
Grab Tensile Elongation	ASTM D 4632	%	10
Mullen Burst Strength	ASTM D 3786	psi	300
Trapezoid Tear Strength	ASTM D 4533	lbs	60
Permittivity	ASTM D 4491	sec^{-1}	0.2
Water Flow Rate	ASTM D 4491	$gal/min/ft^2$	20
Ultraviolet Stability	ASTM D 4355	%	70

Mirafi® Silt Fence Packaging

SILT FENCE TYPE	OVERALL LENGTH	FABRIC WIDTH	POST LENGTH	POST OR POCKET SPACING	SHIPPING WEIGHTS
Prefab with Posts	100'	2'	36"	8.3'	40 lbs
	100'	3'	48"	8.3'	50 lbs
With Pockets	102'	3'	—	6'	12 lbs
Envirofence	100'	3'	48"	7.7"	55 lbs
Fabric Only	330'	3'	—	—	26 lbs
	900'	3'	—	—	70 lbs

Mirafi® Silt Fence Installation Guidelines

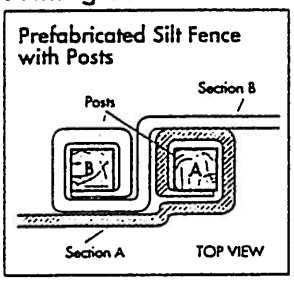
Toe-In Methods



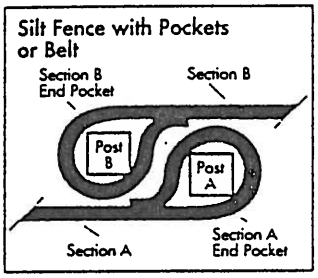
A. With Trench
- Excavate a 6" x 6" trench along lower perimeter of site.
- Unroll silt fence one section at a time. Posts should be positioned on downstream side of fence.
- Drive post into ground and lay the toe-in fabric flap in bottom of trench. Backfill trench, and tamp ground as shown in diagram above.

B. Without Trench
- Toe-in can also be accomplished by laying the fabric flap on untrenched ground and piling and tamping soil over the flap at the base of the structure.

Joining Sections of Silt Fences

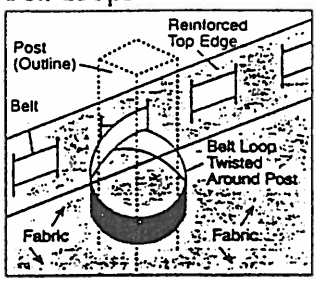


- Position posts to overlap as shown above, making certain that fabric folds around each post one full turn.
- Drive posts tightly together and secure tops of posts by tying off with cord or wire to prevent flow-through of built-up sediment at joint.



- Overlap posts as shown in previous section to prevent flow-through.
- Drive posts firmly together and tie off tops of posts to prevent separation.

Belt Loops at Post



- Belt should be secured at roll end to prevent roll-out.
- Joining of sections should be accomplished in basically the same manner as the fence with pockets. Do not use belt to secure adjoining tops of posts. Use rope or wire as in previous type fences.
- To simply secure posts to belted fabric at a given point along length of fabric, pull belt out from reinforced top, twist to form a loop, and slip post up through loop before driving post into place.

DISCLAIMER

The information presented herein will not apply to every installation. Applicability of products will vary as a result of site conditions and installation procedures. Final determination of the suitability of any information or material for the use contemplated, of its manner of use, and whether the use infringes any patents, is the sole responsibility of the user.

Mirafi® is a registered trademark of Nicolon Corporation.

Hartmann
Building Specialties, Inc.
(409) 866-0103
9610 Walden Road, Beaumont, TX 77707

NICOLON MIRAFI GROUP
3500 Parkway Lane, Suite 500
Norcross, Georgia 30092
404-447-6272, Fax 404-448-5124
1-800-234-0484

APPENDIX E

FEBRUARY 17, 1995 STORMWATER RELEASE REPORT

ENSR An American NuKEM Company

ENSR Remediation & Construction
3000 Richmond Avenue
Suite 200
Houston, Texas 77098
713-520-9030
Fax: 713-520-5952

February 24, 1995

Mr. John F. Bozick
Environmental Engineer
Rockwell International Corporation
2135 West Maple Road
Troy, MI 48084-7186

RE: Soil Interim Remedial Action - Grenada, MS
ENSR Project No. 5475

Dear Mr. Bozick:

The following information is provided to document the February 17, 1995 discharge of approximately 370,000 gallons of stormwater from the referenced project site.

Due to high amounts of rainfall over the past few months, approximately 800,000 gallons of stormwater runoff was contained within the earthen berm encompassing the referenced project site. About half of this water was attributed to 5.2 inches of rainfall on February 15 and 16, 1995.

Upon arrival at the job site at 6:45 am on Friday, February 17, 1995, ENSR personnel observed a significant decrease in the amount of on-site water. Further investigation revealed that the south perimeter berm had collapsed 95 feet southeast of monitoring well number 16. It is estimated that 370,000 gallons of stormwater runoff was released through the collapsed berm. The general flow of stormwater from this area is 700 feet southeast to the western drainage ditch of Highway 332 which flows southwest to Highway 51. Historically stormwater from the entire site ran off in the same drainage. The berms were constructed at the start of the project to contain stormwater from within the excavation area.

Dan Sauvé, Rockwell's On-site Representative, was immediately notified of the discharge. Mr. Sauvé informed me that Eckenfelder would be collecting one sample of the water remaining within the bermed area and two samples downgradient of the bermed area. Mr. Sauvé directed ENSR to collect sediment samples at the same locations that Eckenfelder collected downgradient water samples and to collect background sediment and water samples east of the culvert under Highway 332. ENSR collected an additional background sediment and water sample approximately 200 feet to the south of monitoring well Number 10. Figure 1 depicts the sediment and water sample locations.

Samples were analyzed for inorganic and organic Randall Textron discharge parameters that had previously been detected in the untreated stormwater.

The following table is a summary of the analytical results.

Sample ID.	Sample NO	Description	Matrix	Cr	Cu	Ni	Pb	Zn	Toluene	TCE
A	-	Excavation	water	44	22	30	19	91	3.72	716
B	-	20' South	water	53	28	56	27	107	ND	192
C	-	950' South	water	<7	8	<15	7	27	ND	29.4
F	5411	Background-East of HWY 332	water	<7	<6	<15	<1	9	ND	13.9
G	5412	Background-200' South of MW-10	water	<7	<6	<15	<1	13	ND	13.4
D	5409	20' South	sediment	83,400	15,700	52,600	14,700	55,500	26.6	22.4
E	5410	950' South	sediment	13,800	15,700	8,220	48,800	34,400	ND	ND
F	5411	Background-East of HWY 332	sediment	11,600	11,900	9,450	31,700	52,000	ND	ND
G	5412	Background-200' South of MW-10	sediment	10,900	8,960	9,550	9,170	38,600	ND	ND

All results are in parts per billion (ppb)

ND = Not Detected
TCE - Trichloroethene

Completed analytical reports for the above samples are attached for your review.

It is believed that the water sample collected 20 feet south of the collapsed berm is the most representative of the water released (Sample B). Based on the analysis of Sample B, the following table compares released quantities in pounds with reportable quantities as listed in Title 40, Part 302, Section 4 of the Code of Federal Regulations (40 CFR 302.4). Based on the analysis and calculations described here, CERCLA reportable quantities were not exceeded.

Analyte	ug/L (ppb)	Amount Released (lb.)	Reportable Quantity (lb.)
Chromium	53	0.164	5000
Copper	28	0.087	5000
Nickel	56	0.173	100
Lead	27	0.083	10
Zinc	107	0.331	1000
Trichloroethene	192	0.593	100

Amount Released (lb.) = ug/L/1000 x 370,000 gallons x 3.785L/gallon x 1g/1000 mg x 1 lb/453.59 g

Amount Released (lb.) = ug/L x 0.00309

ENSR has repaired, widened, heightened, and strengthened the damaged berm and installed a run-on diversion ditch to the east of the project site. The berm reconstruction and diversion ditch in addition to the operable water treatment system should ensure that future stormwater runoff will not be released from the site.

Please contact me at (713) 520-9030 if you have any questions or require additional information.

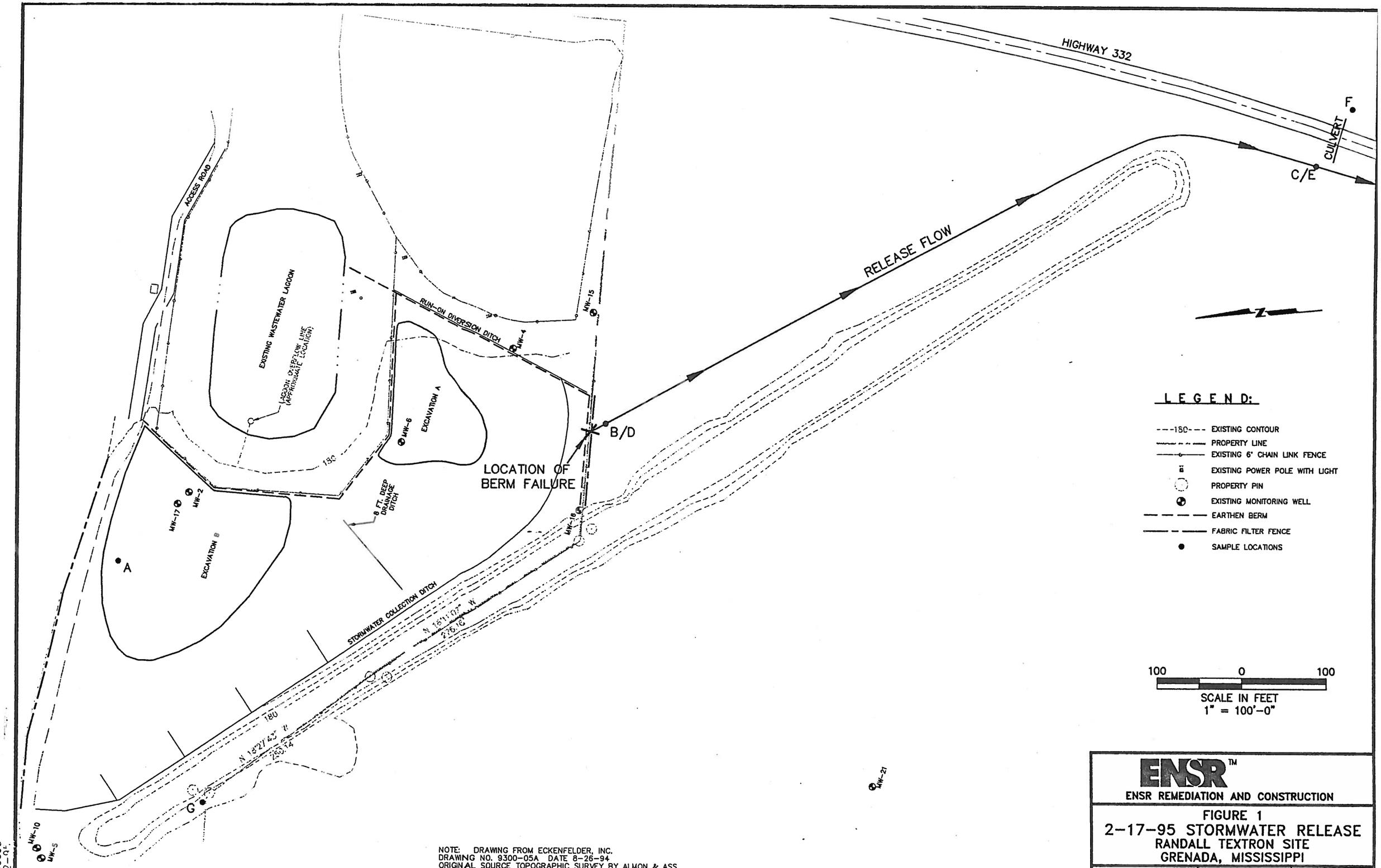
Respectfully,

John C. Elliott
Project Manager

JCE/fae

Attachments

cc: Dan Sauvé



NOTE: DRAWING FROM ECKENFELDER, INC.
DRAWING NO. 9300-05A DATE 8-26-94
ORIGINAL SOURCE TOPOGRAPHIC SURVEY BY ALMON & ASS.

ENSR™
ENSR REMEDIATION AND CONSTRUCTION

FIGURE 1
2-17-95 STORMWATER RELEASE
RANDALL TEXTRON SITE
GRENADA, MISSISSIPPI

DRAWN: SJF	DATE: 2-24-95	PROJECT NUMBER:	
APPV'D:	REVISED:	9500-182	

CE950093
2-22-95

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

INORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const. Project # 9519

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Date Arrived 02/17/95
ETC Order Number 9502459

ETC Lab ID 9502459-01
Sample ID: EXCAV

Matrix :AQUEOUS
Sample Date :02/17/95 11:50:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	0.044	mg/L	0.007	1052	02/18/95	SH	200.7
Copper	0.022	mg/L	0.006	1052	02/18/95	SH	200.7
Nickel	0.030	mg/L	0.015	1052	02/18/95	SH	200.7
Lead	0.019	mg/L	0.001	1215	02/18/95	SH	239.2
Zinc	0.091	mg/L	0.002	1052	02/18/95	SH	200.7

ETC Lab ID 9502459-02
Sample ID: 20' South

Matrix :AQUEOUS
Sample Date :02/17/95 12:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	0.053	mg/L	0.007	1052	02/18/95	SH	200.7
Copper	0.028	mg/L	0.006	1052	02/18/95	SH	200.7
Nickel	0.056	mg/L	0.015	1052	02/18/95	SH	200.7
Lead	0.027	mg/L	0.001	1215	02/18/95	SH	239.2
Zinc	0.107	mg/L	0.002	1052	02/18/95	SH	200.7

ETC Lab ID 9502459-03
Sample ID: 950' South

Matrix :AQUEOUS
Sample Date :02/17/95 12:10:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	<0.007	mg/L	0.007	1052	02/18/95	SH	200.7
Copper	0.008	mg/L	0.006	1052	02/18/95	SH	200.7
Nickel	<0.015	mg/L	0.015	1052	02/18/95	SH	200.7
Lead	0.007	mg/L	0.001	1215	02/18/95	SH	239.2
Zinc	0.027	mg/L	0.002	1052	02/18/95	SH	200.7

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 9519
FID #

Date Arrived 02/17/95
ETC Order Number 9502459

ETC Lab ID 9502459-01
Sample ID: EXCAV

Matrix :AQUEOUS
Sample Date :02/17/95 11:50:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/17/95	LS	8240
Acetone	ND	ug/L	100				
Acrolein	ND	ug/L	50.0				
Acrylonitrile	ND	ug/L	50.0				
Benzene	ND	ug/L	5.00				
Bromodichloromethane	ND	ug/L	5.00				
Bromoform	ND	ug/L	5.00				
Bromomethane	ND	ug/L	5.00				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	5.00				
Chlorobenzene	ND	ug/L	5.00				
Chlorodibromomethane	ND	ug/L	5.00				
Chloroethane	ND	ug/L	5.00				
2-Chloroethyl vinyl ether	ND	ug/L	50.0				
Chloroform	ND	ug/L	5.00				
Chloromethane	ND	ug/L	5.00				
Dibromomethane	ND	ug/L	5.00				
1,4-Dichloro-2-butene	ND	ug/L	20.0				
Dichlorofluoromethane	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
1,1-Dichloroethane	ND	ug/L	5.00				
1,2-Dichloroethane	ND	ug/L	5.00				
1,1-Dichloroethene	ND	ug/L	5.00				
trans-1,2-Dichloroethene	ND	ug/L	5.00				
1,2-Dichloropropane	ND	ug/L	5.00				
cis-1,3-Dichloropropene	ND	ug/L	5.00				
trans-1,3-Dichloropropene	ND	ug/L	5.00				
Ethylbenzene	ND	ug/L	5.00				
Ethyl Methacrylate	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
Iodomethane	ND	ug/L	20.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	25.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00				
Tetrachloroethene	ND	ug/L	5.00				
Toluene	3.72	ug/L	5.00				
1,1,1-Trichloroethane	ND	ug/L	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 9519
FID #

Date Arrived 02/17/95
ETC Order Number 9502459

ETC Lab ID 9502459-01
Sample ID: EXCAV

Matrix :AQUEOUS
Sample Date :02/17/95 11:50:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/17/95	LS	8240
1,1,2-Trichloroethane	ND	ug/L	5.00				
Trichloroethene	716	ug/L	5.00				
Trichlorofluoromethane	ND	ug/L	5.00				
1,2,3-Trichloropropane	ND	ug/L	5.00				
Vinyl Acetate	ND	ug/L	50.0				
Vinyl Chloride	ND	ug/L	5.00				
Xylenes	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	111	76	114
S2 - Toluene-d8	103	88	110
S3 - 4-Bromofluorobenzene	96	86	115

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 9519
FID #

Date Arrived 02/17/95
ETC Order Number 9502459

ETC Lab ID 9502459-02
Sample ID: 20' South

Matrix :AQUEOUS
Sample Date :02/17/95 12:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/17/95	LS	8240
Acetone	ND	ug/L	100				
Acrolein	ND	ug/L	50.0				
Acrylonitrile	ND	ug/L	50.0				
Benzene	ND	ug/L	5.00				
Bromodichloromethane	ND	ug/L	5.00				
Bromoform	ND	ug/L	5.00				
Bromomethane	ND	ug/L	5.00				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	5.00				
Chlorobenzene	ND	ug/L	5.00				
Chlorodibromomethane	ND	ug/L	5.00				
Chloroethane	ND	ug/L	5.00				
2-Chloroethyl vinyl ether	ND	ug/L	50.0				
Chloroform	ND	ug/L	5.00				
Chloromethane	ND	ug/L	5.00				
Dibromomethane	ND	ug/L	5.00				
1,4-Dichloro-2-butene	ND	ug/L	20.0				
Dichlorofluoromethane	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
1,1-Dichloroethane	ND	ug/L	5.00				
1,2-Dichloroethane	ND	ug/L	5.00				
1,1-Dichloroethene	ND	ug/L	5.00				
trans-1,2-Dichloroethene	ND	ug/L	5.00				
1,2-Dichloropropane	ND	ug/L	5.00				
cis-1,3-Dichloropropene	ND	ug/L	5.00				
trans-1,3-Dichloropropene	ND	ug/L	5.00				
Ethylbenzene	ND	ug/L	5.00				
Ethyl Methacrylate	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
Iodomethane	ND	ug/L	20.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	25.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00				
Tetrachloroethene	ND	ug/L	5.00				
Toluene	ND	ug/L	5.00				
1,1,1-Trichloroethane	ND	ug/L	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 9519
FID #

Date Arrived 02/17/95
ETC Order Number 9502459

ETC Lab ID 9502459-02
Sample ID: 20' South

Matrix :AQUEOUS
Sample Date :02/17/95 12:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/17/95	LS	8240
1,1,2-Trichloroethane	ND	ug/L	5.00				
Trichloroethene	192	ug/L	5.00				
Trichlorofluoromethane	ND	ug/L	5.00				
1,2,3-Trichloropropane	ND	ug/L	5.00				
Vinyl Acetate	ND	ug/L	50.0				
Vinyl Chloride	ND	ug/L	5.00				
Xylenes	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	106	76	114
S2 - Toluene-d8	104	88	110
S3 - 4-Bromofluorobenzene	97	86	115

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

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ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 9519
FID #

Date Arrived 02/17/95
ETC Order Number 9502459

ETC Lab ID 9502459-03
Sample ID: 950' South

Matrix :AQUEOUS
Sample Date :02/17/95 12:10:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/17/95	LS	8240
Acetone	ND	ug/L	100				
Acrolein	ND	ug/L	50.0				
Acrylonitrile	ND	ug/L	50.0				
Benzene	ND	ug/L	5.00				
Bromodichloromethane	ND	ug/L	5.00				
Bromoform	ND	ug/L	5.00				
Bromomethane	ND	ug/L	5.00				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	5.00				
Chlorobenzene	ND	ug/L	5.00				
Chlorodibromomethane	ND	ug/L	5.00				
Chloroethane	ND	ug/L	5.00				
2-Chloroethyl vinyl ether	ND	ug/L	50.0				
Chloroform	ND	ug/L	5.00				
Chloromethane	ND	ug/L	5.00				
Dibromomethane	ND	ug/L	5.00				
1,4-Dichloro-2-butene	ND	ug/L	20.0				
Dichlorofluoromethane	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
1,1-Dichloroethane	ND	ug/L	5.00				
1,2-Dichloroethane	ND	ug/L	5.00				
1,1-Dichloroethene	ND	ug/L	5.00				
trans-1,2-Dichloroethene	ND	ug/L	5.00				
1,2-Dichloropropane	ND	ug/L	5.00				
cis-1,3-Dichloropropene	ND	ug/L	5.00				
trans-1,3-Dichloropropene	ND	ug/L	5.00				
Ethylbenzene	ND	ug/L	5.00				
Ethyl Methacrylate	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
Iodomethane	ND	ug/L	20.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	25.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00				
Tetrachloroethene	ND	ug/L	5.00				
Toluene	ND	ug/L	5.00				
1,1,1-Trichloroethane	ND	ug/L	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 9519
FID #

Date Arrived 02/17/95
ETC Order Number 9502459

ETC Lab ID 9502459-03
Sample ID: 950' South

Matrix :AQUEOUS
Sample Date :02/17/95 12:10:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/17/95	LS	8240
1,1,2-Trichloroethane	ND	ug/L	5.00				
Trichloroethene	29.4	ug/L	5.00				
Trichlorofluoromethane	ND	ug/L	5.00				
1,2,3-Trichloropropane	ND	ug/L	5.00				
Vinyl Acetate	ND	ug/L	50.0				
Vinyl Chloride	ND	ug/L	5.00				
Xylenes	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	112	76	114
S2 - Toluene-d8	99	88	110
S3 - 4-Bromofluorobenzene	94	86	115

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

INORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const. Project # 5475

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-01 Matrix :SOIL
Sample ID: 5409 —20' SOUTH Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	83.4	mg/Kg	0.700	0231	02/18/95	SH	6010A
Copper	15.7	mg/Kg	0.600	0231	02/18/95	SH	6010A
Nickel	52.6	mg/Kg	1.50	0231	02/18/95	SH	6010A
Lead	14.7	mg/Kg	0.100	0120	02/18/95	SH	7421
Zinc	55.5	mg/Kg	1.00	0231	02/18/95	SH	6010A

ETC Lab ID 9502469-02 Matrix :SOIL
Sample ID: 5410 —950' SOUTH Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	13.8	mg/Kg	0.700	0231	02/18/95	SH	6010A
Copper	15.7	mg/Kg	0.600	0231	02/18/95	SH	6010A
Nickel	8.22	mg/Kg	1.50	0231	02/18/95	SH	6010A
Lead	48.8	mg/Kg	0.100	0120	02/18/95	SH	7421
Zinc	34.4	mg/Kg	1.00	0231	02/18/95	SH	6010A

ETC Lab ID 9502469-03 Matrix :AQUEOUS
Sample ID: 5411 —BACKGROUND (EAST OF HWY 332) Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	<0.007	mg/L	0.007	1052	02/18/95	SH	200.7
Copper	<0.006	mg/L	0.006	1052	02/18/95	SH	200.7
Nickel	<0.015	mg/L	0.015	1052	02/18/95	SH	200.7
Lead	<0.001	mg/L	0.001	1215	02/18/95	SH	239.2
Zinc	0.009	mg/L	0.002	1052	02/18/95	SH	200.7

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

INORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const. Project # 5475

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Date Arrived 02/18/95
ETC Order Number 9502469
ETC Lab ID 9502469-04
Sample ID: 5411

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	11.6	mg/Kg	0.700	0231	02/18/95	SH	6010A
Copper	11.9	mg/Kg	0.600	0231	02/18/95	SH	6010A
Nickel	9.45	mg/Kg	1.50	0231	02/18/95	SH	6010A
Lead	31.7	mg/Kg	0.100	0120	02/18/95	SH	7421
Zinc	52.0	mg/Kg	1.00	0231	02/18/95	SH	6010A

ETC Lab ID 9502469-05
Sample ID: 5412 BACKGROUND (200'S of MW 10)

Matrix :AQUEOUS
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	<0.007	mg/L	0.007	1052	02/18/95	SH	200.7
Copper	<0.006	mg/L	0.006	1052	02/18/95	SH	200.7
Nickel	<0.015	mg/L	0.015	1052	02/18/95	SH	200.7
Lead	<0.001	mg/L	0.001	1215	02/18/95	SH	239.2
Zinc	0.013	mg/L	0.002	1052	02/18/95	SH	200.7

ETC Lab ID 9502469-06
Sample ID: 5412

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Chromium	10.9	mg/Kg	0.700	0231	02/18/95	SH	6010A
Copper	8.96	mg/Kg	0.600	0231	02/18/95	SH	6010A
Nickel	9.55	mg/Kg	1.50	0231	02/18/95	SH	6010A
Lead	9.17	mg/Kg	0.100	0120	02/18/95	SH	7421
Zinc	38.6	mg/Kg	1.00	0231	02/18/95	SH	6010A

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-01
Sample ID: 5409

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
Acetone	ND	ug/Kg	100				
Acrolein	ND	ug/Kg	50.0				
Acrylonitrile	ND	ug/Kg	50.0				
Benzene	ND	ug/Kg	5.00				
Bromodichloromethane	ND	ug/Kg	5.00				
Bromoform	ND	ug/Kg	5.00				
Bromomethane	ND	ug/Kg	5.00				
Carbon Disulfide	ND	ug/Kg	50.0				
Carbon Tetrachloride	ND	ug/Kg	5.00				
Chlorobenzene	ND	ug/Kg	5.00				
Chlorodibromomethane	ND	ug/Kg	5.00				
Chloroethane	ND	ug/Kg	5.00				
2-Chloroethyl vinyl ether	ND	ug/Kg	50.0				
Chloroform	ND	ug/Kg	5.00				
Chloromethane	ND	ug/Kg	5.00				
Dibromomethane	ND	ug/Kg	5.00				
1,4-Dichloro-2-butene	ND	ug/Kg	20.0				
Dichlorofluoromethane	ND	ug/Kg	5.00				
1,2-Dichlorobenzene	ND	ug/Kg	5.00				
1,3-Dichlorobenzene	ND	ug/Kg	5.00				
1,4-Dichlorobenzene	ND	ug/Kg	5.00				
1,1-Dichloroethane	ND	ug/Kg	5.00				
1,2-Dichloroethane	ND	ug/Kg	5.00				
1,1-Dichloroethene	ND	ug/Kg	5.00				
trans-1,2-Dichloroethene	ND	ug/Kg	5.00				
1,2-Dichloropropane	ND	ug/Kg	5.00				
cis-1,3-Dichloropropene	ND	ug/Kg	5.00				
trans-1,3-Dichloropropene	ND	ug/Kg	5.00				
Ethylbenzene	ND	ug/Kg	5.00				
Ethyl Methacrylate	ND	ug/Kg	50.0				
2-Hexanone (MBK)	ND	ug/Kg	50.0				
Iodomethane	ND	ug/Kg	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/Kg	50.0				
Methylene Chloride	ND	ug/Kg	20.0				
Styrene	ND	ug/Kg	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	5.00				
Tetrachloroethene	ND	ug/Kg	5.00				
Toluene	26.6	ug/Kg	5.00				
1,1,1-Trichloroethane	ND	ug/Kg	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-01
Sample ID: 5409

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
1,1,2-Trichloroethane	ND	ug/Kg	5.00				
Trichloroethene	22.4	ug/Kg	5.00				
Trichlorofluoromethane	ND	ug/Kg	5.00				
1,2,3-Trichloropropane	ND	ug/Kg	5.00				
Vinyl Acetate	ND	ug/Kg	50.0				
Vinyl Chloride	ND	ug/Kg	5.00				
Xylenes	ND	ug/Kg	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	111	70	121
S2 - Toluene-d8	99	81	117
S3 - 4-Bromofluorobenzene	87	74	121

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Project # 5475
FID #

Site ID Rockwell-Grenada, MS

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-02
Sample ID: 5410

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
Acetone	ND	ug/Kg	100				
Acrolein	ND	ug/Kg	50.0				
Acrylonitrile	ND	ug/Kg	50.0				
Benzene	ND	ug/Kg	5.00				
Bromodichloromethane	ND	ug/Kg	5.00				
Bromoform	ND	ug/Kg	5.00				
Bromomethane	ND	ug/Kg	5.00				
Carbon Disulfide	ND	ug/Kg	50.0				
Carbon Tetrachloride	ND	ug/Kg	5.00				
Chlorobenzene	ND	ug/Kg	5.00				
Chlorodibromomethane	ND	ug/Kg	5.00				
Chloroethane	ND	ug/Kg	5.00				
2-Chloroethyl vinyl ether	ND	ug/Kg	50.0				
Chloroform	ND	ug/Kg	5.00				
Chloromethane	ND	ug/Kg	5.00				
Dibromomethane	ND	ug/Kg	5.00				
1,4-Dichloro-2-butene	ND	ug/Kg	20.0				
Dichlorofluoromethane	ND	ug/Kg	5.00				
1,2-Dichlorobenzene	ND	ug/Kg	5.00				
1,3-Dichlorobenzene	ND	ug/Kg	5.00				
1,4-Dichlorobenzene	ND	ug/Kg	5.00				
1,1-Dichloroethane	ND	ug/Kg	5.00				
1,2-Dichloroethane	ND	ug/Kg	5.00				
1,1-Dichloroethene	ND	ug/Kg	5.00				
trans-1,2-Dichloroethene	ND	ug/Kg	5.00				
1,2-Dichloropropane	ND	ug/Kg	5.00				
cis-1,3-Dichloropropene	ND	ug/Kg	5.00				
trans-1,3-Dichloropropene	ND	ug/Kg	5.00				
Ethylbenzene	ND	ug/Kg	5.00				
Ethyl Methacrylate	ND	ug/Kg	50.0				
2-Hexanone (MBK)	ND	ug/Kg	50.0				
Iodomethane	ND	ug/Kg	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/Kg	50.0				
Methylene Chloride	ND	ug/Kg	20.0				
Styrene	ND	ug/Kg	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	5.00				
Tetrachloroethene	ND	ug/Kg	5.00				
Toluene	ND	ug/Kg	5.00				
1,1,1-Trichloroethane	ND	ug/Kg	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-02
Sample ID: 5410

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
1,1,2-Trichloroethane	ND	ug/Kg	5.00				
Trichloroethene	ND	ug/Kg	5.00				
Trichlorofluoromethane	ND	ug/Kg	5.00				
1,2,3-Trichloropropane	ND	ug/Kg	5.00				
Vinyl Acetate	ND	ug/Kg	50.0				
Vinyl Chloride	ND	ug/Kg	5.00				
Xylenes	ND	ug/Kg	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	129 Q	70	121
S2 - Toluene-d8	95	81	117
S3 - 4-Bromofluorobenzene	83	74	121

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Project # 5475
FID #

Site ID Rockwell-Grenada, MS

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-03
Sample ID: 5411

Matrix :AQUEOUS
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
Acetone	ND	ug/L	100				
Acrolein	ND	ug/L	50.0				
Acrylonitrile	ND	ug/L	50.0				
Benzene	ND	ug/L	5.00				
Bromodichloromethane	ND	ug/L	5.00				
Bromoform	ND	ug/L	5.00				
Bromomethane	ND	ug/L	5.00				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	5.00				
Chlorobenzene	ND	ug/L	5.00				
Chlorodibromomethane	ND	ug/L	5.00				
Chloroethane	ND	ug/L	5.00				
2-Chloroethyl vinyl ether	ND	ug/L	50.0				
Chloroform	ND	ug/L	5.00				
Chloromethane	ND	ug/L	5.00				
Dibromomethane	ND	ug/L	5.00				
1,4-Dichloro-2-butene	ND	ug/L	20.0				
Dichlorofluoromethane	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
1,1-Dichloroethane	ND	ug/L	5.00				
1,2-Dichloroethane	ND	ug/L	5.00				
1,1-Dichloroethene	ND	ug/L	5.00				
trans-1,2-Dichloroethene	ND	ug/L	5.00				
1,2-Dichloropropane	ND	ug/L	5.00				
cis-1,3-Dichloropropene	ND	ug/L	5.00				
trans-1,3-Dichloropropene	ND	ug/L	5.00				
Ethylbenzene	ND	ug/L	5.00				
Ethyl Methacrylate	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
Iodomethane	ND	ug/L	20.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	25.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00				
Tetrachloroethene	ND	ug/L	5.00				
Toluene	ND	ug/L	5.00				
1,1,1-Trichloroethane	ND	ug/L	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-03
Sample ID: 5411

Matrix :AQUEOUS
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
1,1,2-Trichloroethane	ND	ug/L	5.00				
Trichloroethene	13.9	ug/L	5.00				
Trichlorofluoromethane	ND	ug/L	5.00				
1,2,3-Trichloropropane	ND	ug/L	5.00				
Vinyl Acetate	ND	ug/L	50.0				
Vinyl Chloride	ND	ug/L	5.00				
Xylenes	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	107	76	114
S2 - Toluene-d8	99	88	110
S3 - 4-Bromofluorobenzene	95	86	115

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-04
Sample ID: 5411

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
Acetone	ND	ug/Kg	100				
Acrolein	ND	ug/Kg	50.0				
Acrylonitrile	ND	ug/Kg	50.0				
Benzene	ND	ug/Kg	5.00				
Bromodichloromethane	ND	ug/Kg	5.00				
Bromoform	ND	ug/Kg	5.00				
Bromomethane	ND	ug/Kg	5.00				
Carbon Disulfide	ND	ug/Kg	50.0				
Carbon Tetrachloride	ND	ug/Kg	5.00				
Chlorobenzene	ND	ug/Kg	5.00				
Chlorodibromomethane	ND	ug/Kg	5.00				
Chloroethane	ND	ug/Kg	5.00				
2-Chloroethyl vinyl ether	ND	ug/Kg	50.0				
Chloroform	ND	ug/Kg	5.00				
Chloromethane	ND	ug/Kg	5.00				
Dibromomethane	ND	ug/Kg	5.00				
1,4-Dichloro-2-butene	ND	ug/Kg	20.0				
Dichlorofluoromethane	ND	ug/Kg	5.00				
1,2-Dichlorobenzene	ND	ug/Kg	5.00				
1,3-Dichlorobenzene	ND	ug/Kg	5.00				
1,4-Dichlorobenzene	ND	ug/Kg	5.00				
1,1-Dichloroethane	ND	ug/Kg	5.00				
1,2-Dichloroethane	ND	ug/Kg	5.00				
1,1-Dichloroethene	ND	ug/Kg	5.00				
trans-1,2-Dichloroethene	ND	ug/Kg	5.00				
1,2-Dichloropropane	ND	ug/Kg	5.00				
cis-1,3-Dichloropropene	ND	ug/Kg	5.00				
trans-1,3-Dichloropropene	ND	ug/Kg	5.00				
Ethylbenzene	ND	ug/Kg	5.00				
Ethyl Methacrylate	ND	ug/Kg	50.0				
2-Hexanone (MBK)	ND	ug/Kg	50.0				
Iodomethane	ND	ug/Kg	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/Kg	50.0				
Methylene Chloride	ND	ug/Kg	20.0				
Styrene	ND	ug/Kg	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	5.00				
Tetrachloroethene	ND	ug/Kg	5.00				
Toluene	ND	ug/Kg	5.00				
1,1,1-Trichloroethane	ND	ug/Kg	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-04
Sample ID: 5411

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
1,1,2-Trichloroethane	ND	ug/Kg	5.00				
Trichloroethene	ND	ug/Kg	5.00				
Trichlorofluoromethane	ND	ug/Kg	5.00				
1,2,3-Trichloropropane	ND	ug/Kg	5.00				
Vinyl Acetate	ND	ug/Kg	50.0				
Vinyl Chloride	ND	ug/Kg	5.00				
Xylenes	ND	ug/Kg	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	113	70	121
S2 - Toluene-d8	97	81	117
S3 - 4-Bromofluorobenzene	89	74	121

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-05
Sample ID: 5412

Matrix :AQUEOUS
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
Acetone	ND	ug/L	100				
Acrolein	ND	ug/L	50.0				
Acrylonitrile	ND	ug/L	50.0				
Benzene	ND	ug/L	5.00				
Bromodichloromethane	ND	ug/L	5.00				
Bromoform	ND	ug/L	5.00				
Bromomethane	ND	ug/L	5.00				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	5.00				
Chlorobenzene	ND	ug/L	5.00				
Chlorodibromomethane	ND	ug/L	5.00				
Chloroethane	ND	ug/L	5.00				
2-Chloroethyl vinyl ether	ND	ug/L	50.0				
Chloroform	ND	ug/L	5.00				
Chloromethane	ND	ug/L	5.00				
Dibromomethane	ND	ug/L	5.00				
1,4-Dichloro-2-butene	ND	ug/L	20.0				
Dichlorofluoromethane	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
1,1-Dichloroethane	ND	ug/L	5.00				
1,2-Dichloroethane	ND	ug/L	5.00				
1,1-Dichloroethene	ND	ug/L	5.00				
trans-1,2-Dichloroethene	ND	ug/L	5.00				
1,2-Dichloropropane	ND	ug/L	5.00				
cis-1,3-Dichloropropene	ND	ug/L	5.00				
trans-1,3-Dichloropropene	ND	ug/L	5.00				
Ethylbenzene	ND	ug/L	5.00				
Ethyl Methacrylate	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
Iodomethane	ND	ug/L	20.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	25.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00				
Tetrachloroethene	ND	ug/L	5.00				
Toluene	ND	ug/L	5.00				
1,1,1-Trichloroethane	ND	ug/L	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-05
Sample ID: 5412

Matrix :AQUEOUS
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
1,1,2-Trichloroethane	ND	ug/L	5.00				
Trichloroethene	13.4	ug/L	5.00				
Trichlorofluoromethane	ND	ug/L	5.00				
1,2,3-Trichloropropane	ND	ug/L	5.00				
Vinyl Acetate	ND	ug/L	50.0				
Vinyl Chloride	ND	ug/L	5.00				
Xylenes	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	109	76	114
S2 - Toluene-d8	100	88	110
S3 - 4-Bromofluorobenzene	98	86	115

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-06
Sample ID: 5412

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
Acetone	ND	ug/Kg	100				
Acrolein	ND	ug/Kg	50.0				
Acrylonitrile	ND	ug/Kg	50.0				
Benzene	ND	ug/Kg	5.00				
Bromodichloromethane	ND	ug/Kg	5.00				
Bromoform	ND	ug/Kg	5.00				
Bromomethane	ND	ug/Kg	5.00				
Carbon Disulfide	ND	ug/Kg	50.0				
Carbon Tetrachloride	ND	ug/Kg	5.00				
Chlorobenzene	ND	ug/Kg	5.00				
Chlorodibromomethane	ND	ug/Kg	5.00				
Chloroethane	ND	ug/Kg	5.00				
2-Chloroethyl vinyl ether	ND	ug/Kg	50.0				
Chloroform	ND	ug/Kg	5.00				
Chloromethane	ND	ug/Kg	5.00				
Dibromomethane	ND	ug/Kg	5.00				
1,4-Dichloro-2-butene	ND	ug/Kg	20.0				
Dichlorofluoromethane	ND	ug/Kg	5.00				
1,2-Dichlorobenzene	ND	ug/Kg	5.00				
1,3-Dichlorobenzene	ND	ug/Kg	5.00				
1,4-Dichlorobenzene	ND	ug/Kg	5.00				
1,1-Dichloroethane	ND	ug/Kg	5.00				
1,2-Dichloroethane	ND	ug/Kg	5.00				
1,1-Dichloroethene	ND	ug/Kg	5.00				
trans-1,2-Dichloroethene	ND	ug/Kg	5.00				
1,2-Dichloropropane	ND	ug/Kg	5.00				
cis-1,3-Dichloropropene	ND	ug/Kg	5.00				
trans-1,3-Dichloropropene	ND	ug/Kg	5.00				
Ethylbenzene	ND	ug/Kg	5.00				
Ethyl Methacrylate	ND	ug/Kg	50.0				
2-Hexanone (MBK)	ND	ug/Kg	50.0				
Iodomethane	ND	ug/Kg	5.00				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/Kg	50.0				
Methylene Chloride	ND	ug/Kg	20.0				
Styrene	ND	ug/Kg	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	5.00				
Tetrachloroethene	ND	ug/Kg	5.00				
Toluene	ND	ug/Kg	5.00				
1,1,1-Trichloroethane	ND	ug/Kg	5.00				

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada, MS

Project # 5475
FID #

Date Arrived 02/18/95
ETC Order Number 9502469

ETC Lab ID 9502469-06
Sample ID: 5412

Matrix :SOIL
Sample Date :02/17/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics					02/18/95	LS	8240
1,1,2-Trichloroethane	ND	ug/Kg	5.00				
Trichloroethene	ND	ug/Kg	5.00				
Trichlorofluoromethane	ND	ug/Kg	5.00				
1,2,3-Trichloropropane	ND	ug/Kg	5.00				
Vinyl Acetate	ND	ug/Kg	50.0				
Vinyl Chloride	ND	ug/Kg	5.00				
Xylenes	ND	ug/Kg	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	116	70	121
S2 - Toluene-d8	96	81	117
S3 - 4-Bromofluorobenzene	92	74	121

ND - Not Detected

LABORATORY MANAGER

APPENDIX F

FULL-SCALE SOIL PROCESSING TEST WORK PLAN

DSS
Received
1/11/95
Received
Revision
1/17/95

Rockwell International Corporation

Troy, Michigan

ENSR

Full-Scale Soil Processing Test Work Plan for Remediation Services in Grenada, MS

ENSR Remediation and Construction

January 10, 1995

✓ Approved ____ Revise and Resubmit

____ Approved as Noted ____ Not Approved (see below)

ECKENFELDER INC.

By: [illegible] Date: 1-26-95

Document Number 5475

Approval of this submittal does not relieve the Contractor from his responsibility for any deviations from the Contract Documents nor from his responsibility for errors or omissions in the submittal. Contractor is, and Engineer is not, responsible for all matters relating to fabrication, shipping, handling, storage, assembly, installation, construction (including all safety aspects of performing the work) and for coordinating the Work.

TABLE OF CONTENTS

SECTION		PAGE
1.0	SCOPE OF WORK	1-1
1.1	Mobilization	1-1
1.2	Site Control and Security	1-3
1.3	Site Preparation	1-3
1.4	Erosion Control	1-3
1.5	Clearing and Grubbing	1-5
1.6	Temporary Access Roads	1-5
1.7	Topsoil Removal	1-5
1.8	Water-Saturated Soil Staging	1-5
1.9	Full-Scale Process Test	1-6
1.10	Full-Scale Processing	1-10
2.0	STORMWATER CONTROL	2-1
3.0	WATER TREATMENT	3-1
4.0	FUGITIVE EMISSIONS CONTROL	4-1
5.0	WASTE HANDLING, STORAGE, AND DISPOSAL	5-1

LIST OF ATTACHMENTS

Attachment A:	Surveyor Qualifications
Attachment B:	Cat SS-250 Information
Attachment C:	Gradation Testing and Certifications
Attachment D:	Water Treatment System Data Sheets
Attachment E:	Fugitive Emissions Control System Data Sheet

LIST OF FIGURES

FIGURE		PAGE
Figure 1-1:	Anticipated Schedule	1-2
Figure 1-2:	Site Plot Plan	1-4
Figure 1-3:	Full-Scale Process Test Area	1-9
Figure 3-1:	Water Treatment System - Flow Diagram	3-2
Figure 4-1:	Fugitive Emissions Control System	4-2

1.0 SCOPE OF WORK

ENSR's proposed project execution plan is designed to address Rockwell International's primary objectives for the Soil Interim Remedial Action at the Randall Textron site in Grenada, Mississippi. According to the "Summary of Previous Studies" that accompanied the bid specifications, the major chemical of concern in this area is trichloroethylene (TCE) which has been found at levels as high as 5,400 milligrams per kilogram (mg/kg) in the soils between the surface and the aquifer. ENSR proposes to mix/aerate the impacted soils in-situ with a soil stabilizer. A sand and gravel mixture and/or lime will be added to the soils as necessary to achieve the desired clean-up level of 7.8 mg/kg TCE. Soils that do not meet the clean-up criteria via this method will be placed in a lined treatment cell for subsequent vapor extraction.

An anticipated schedule for project activities is contained in Figure 1-1.

1.1 Mobilization

ENSR will mobilize project personnel and selected equipment from its office located in Houston, Texas. Additional subcontracted items, heavy equipment, materials, and supplies will be obtained locally on an as-needed basis. Key subcontractors will mobilize from their respective home bases. Subcontractors include the following:

- Surveying - Joe A. Sutherland, Jr. (Attachment A)
- Fencing - Turner Shaw Fence Sales
- Site Clearing - D&S Hydroax
- Tree Salvage - Jerry Hoop & Sons Logging
- Drainage Excavation/Access Road Preparation - Townes Construction Company
- Sand and Gravel - Memphis Sand and Gravel
- Lime - Chemlime

ROCKWELL INTERNATIONAL CORPORATION
SOIL REMEDIATION SERVICES
GRENADA, MS

Task Name	Start	End
NOTICE TO PROCEED	02/Nov/94	02/Nov/94
PROJECT SUBMITTALS	03/Nov/94	10/Jan/95
MOBILIZATION	15/Nov/94	17/Nov/94
SITE PREPARATION	17/Nov/94	15/Jan/95
SITE CLEARING	18/Nov/94	22/Nov/94
TOPSOIL REMOVAL	07/Dec/94	08/Dec/94
SATURATED SOIL STAGING	08/Dec/94	09/Dec/94
PROCESSING TEST	16/Jan/95	20/Jan/95
FULL-SCALE PROCESSING	21/Jan/95	13/Feb/95
DEMOBILIZATION	14/Feb/95	16/Feb/95
CELL CONSTRUCTION *	14/Feb/95	27/Feb/95
SOIL PLACEMENT *	28/Feb/95	03/Mar/95
CELL TREATMENT *	04/Mar/95	04/Apr/95
DEMOBILIZATION *	04/Apr/95	06/Apr/95

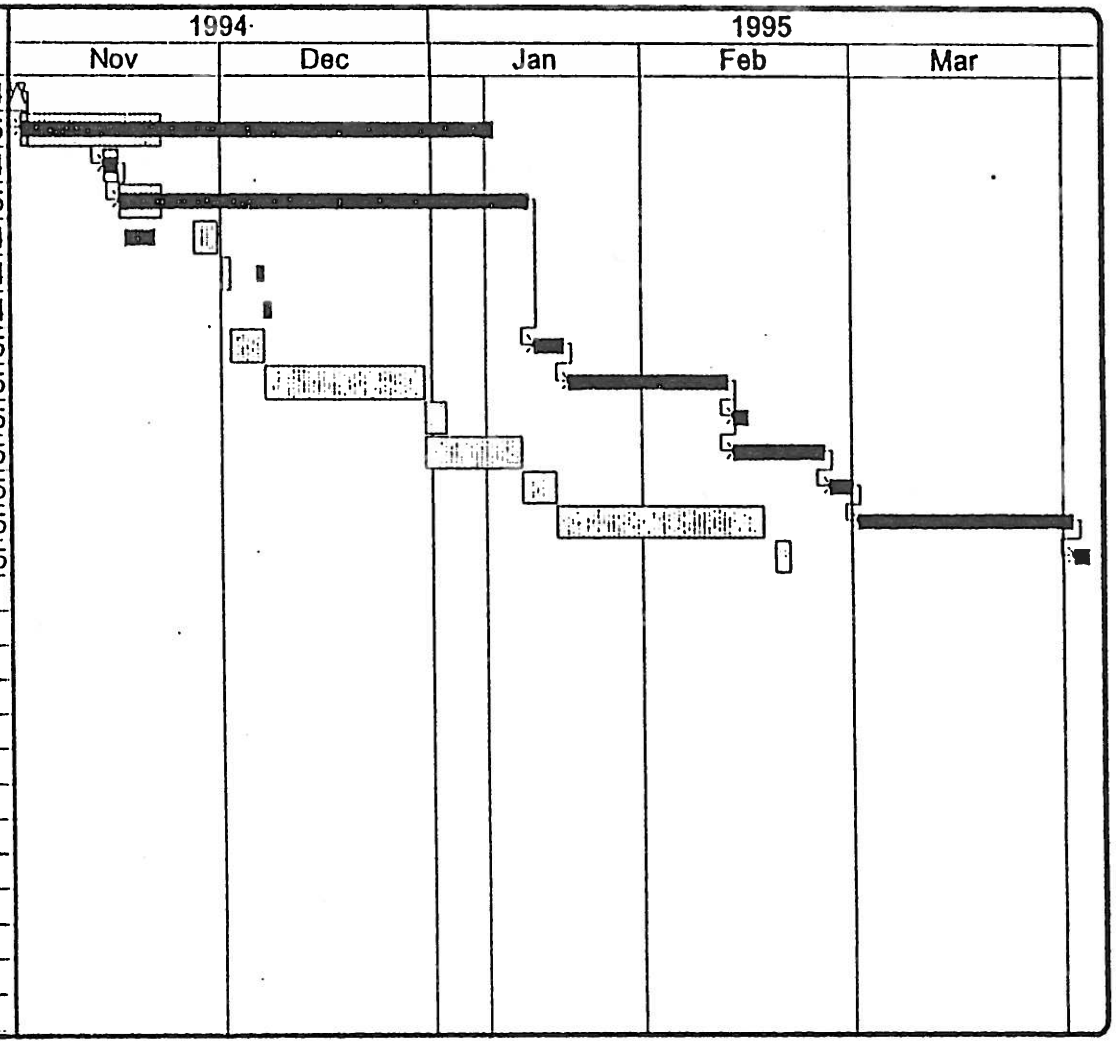


FIGURE 1-1
* IF NECESSARY

1.2 Site Control and Security

Before starting any physical on-site activities, ENSR will establish site control and security to provide for all the necessary work areas or site zones. All work performed to establish site control and security will be done in conformance with the "Site Control and Security Plan" located in Section 7.0 of the site-specific Health and Safety Plan (HASP). The existing outfield fence of the ballfield will be extended to a height of 6 feet between the wastewater lagoon fence and the south perimeter fence to prevent unauthorized personnel from trespassing.

1.3 Site Preparation

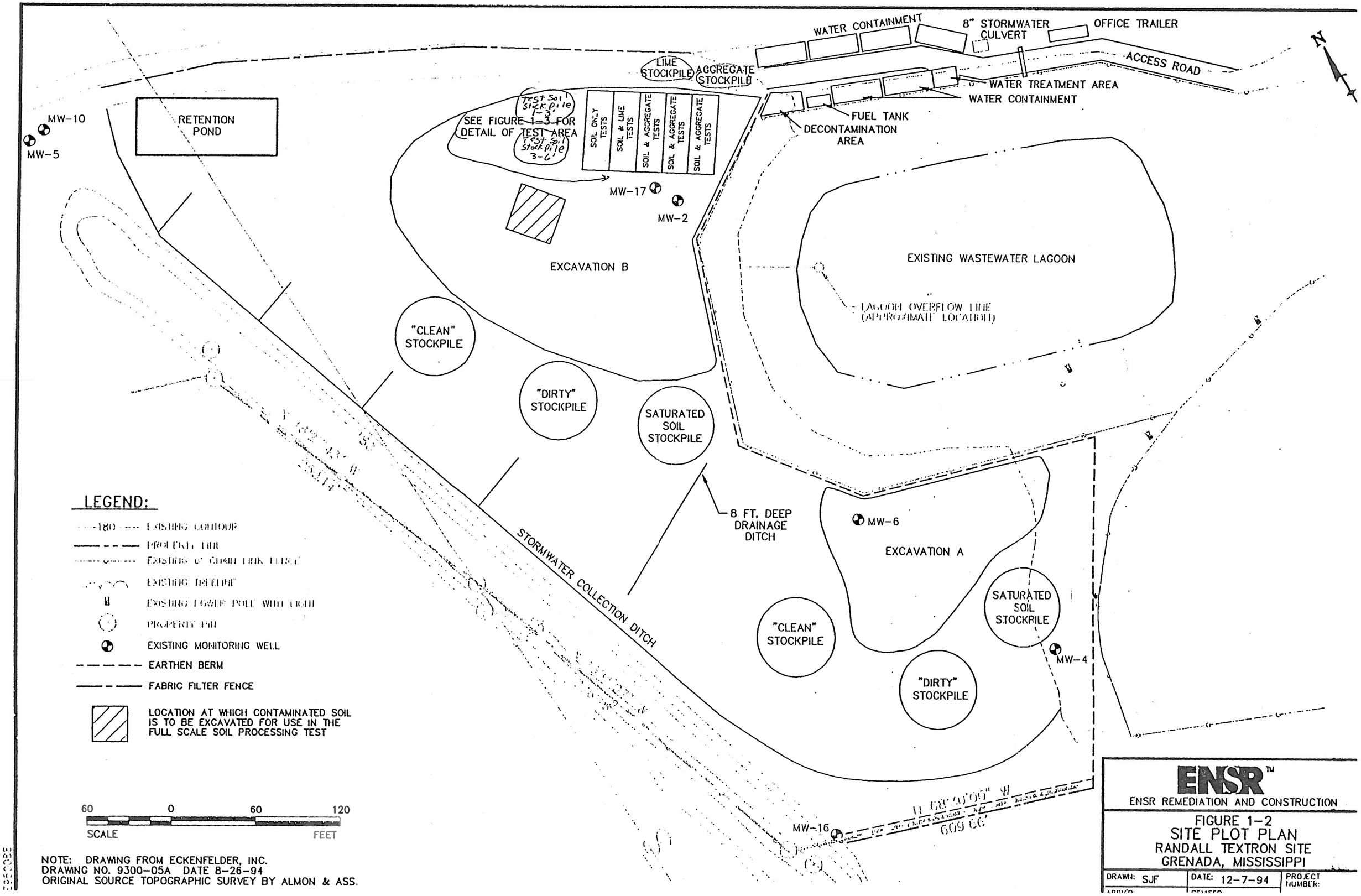
When delineation of the site zones is completed, ENSR will perform the following general site preparation activities:

- Improve the existing accessways to allow for optimal movement of equipment and vehicles.
- Construct the Support Zone by placing the temporary support facilities (including telephones), temporary toilet facilities, water supplies, and electric power.
- Establish equipment and personnel decontamination zones.

Figure 1-2 depicts ENSR's proposed site layout. ENSR does not anticipate disturbing the adjacent ballfield during project activities.

1.4 Erosion Control

Erosion control methods will be implemented prior to any soil excavation and/or site clearing. Control measures will be performed in accordance with the project specifications and the approved "Soil Erosion and Sediment Control Plan."


WATER CONTAINMENT
8" STORMWATER CULVERT
OFFICE TRAILER
ACCESS ROAD
N
LIME STOCKPILE
AGGREGATE STOCKPILE
WATER TREATMENT AREA
WATER CONTAINMENT
FUEL TANK
DECONTAMINATION AREA
MW-10
MW-5
RETENTION POND
Test Soil Stock pile 1-3
SEE FIGURE 1-3 FOR DETAIL OF TEST AREA
Test Soil Stock pile 3-6
SOIL ONLY TESTS
SOIL & LIME TESTS
SOIL & AGGREGATE TESTS
SOIL & AGGREGATE TESTS
SOIL & AGGREGATE TESTS
MW-17
MW-2
EXCAVATION B
EXISTING WASTEWATER LAGOON
LAGOON OVERFLOW LINE (APPROXIMATE LOCATION)
"CLEAN" STOCKPILE
"DIRTY" STOCKPILE
SATURATED SOIL STOCKPILE
8 FT. DEEP DRAINAGE DITCH
MW-6
EXCAVATION A
STORMWATER COLLECTION DITCH
"CLEAN" STOCKPILE
SATURATED SOIL STOCKPILE
MW-4
"DIRTY" STOCKPILE
MW-16
N 66°40'00" W
609.66'
LEGEND:
180 EXISTING CONTOUR
PROPERTY LINE
EXISTING 6' CHAIN LINK FENCE
EXISTING DECIDUOUS
EXISTING POWER POLE WITH LIGHT
PROPERTY PIN
EXISTING MONITORING WELL
EARTHEN BERM
FABRIC FILTER FENCE
LOCATION AT WHICH CONTAMINATED SOIL IS TO BE EXCAVATED FOR USE IN THE FULL SCALE SOIL PROCESSING TEST
60 0 60 120
SCALE FEET
NOTE: DRAWING FROM ECKENFELDER, INC.
DRAWING NO. 9300-05A DATE 8-26-94
ORIGINAL SOURCE TOPOGRAPHIC SURVEY BY ALMON & ASS.
ENSR™
ENSR REMEDIATION AND CONSTRUCTION
FIGURE 1-2
SITE PLOT PLAN
RANDALL TEXTRON SITE
GRENADA, MISSISSIPPI
DRAWN: SJF
DATE: 12-7-94
PROJECT NUMBER:

1.5 Clearing and Grubbing

After the erosion control measures have been installed, ENSR will begin removal of above ground vegetation in designated areas. ENSR will utilize a hydroax and bulldozer to clear anc grub designated areas. Trees will be mulched and incorporated into topsoil materials and/o removed off site.

1.6 Temporary Access Roads

Prior to initiating excavation activities, ENSR will install temporary roads for required constructior access. Access roads will be constructed utilizing gravel material and stabilizing fabric. Thi: approach will provide suitable support for anticipated vehicular traffic and all-weather traction Erosion control measures will be employed as necessary until completion of the work. Fina locations of temporary access roads and ramps will be coordinated with Rockwell.

1.7 Topsoil Removal

Once the above-ground vegetation in the designated areas has been removed, ENSR wi remove approximately the top one foot of soil from the designated areas as outlined on the bic drawings (1,010 bank cubic yards). This soil is considered non-contaminated and will bc stockpiled for backfill at a later time.

1.8 Water-Saturated Soil Staging

Approximately the top 1 foot of each excavation area is covered with water-saturated soil. Thi soil will be stockpiled in locations depicted on Figure 1-2 to facilitate dewatering. Samples wi be taken by the Engineer to determine if this material requires further processing. If the materia exceeds the established clean-up criteria it will be consolidated, after dewatering, with othe contaminated soils for subsequent treatment. If the material is less than the clean-up criteria it will remain staged until such time that it can be backfilled into the excavations.

TEST MATRIX FOR
SOIL OBTAINED FROM 1-3 FOOT DEPTH
(LOWER CONENTRATIONS)

Soil/Lime/Aggregate Ratio[a]	Travel Speed (Eight Passes)	
	Fast (30 - 40 fpm)	Slow (10 - 20 fpm)
100/0/0	1	1
97/3/0	1	1
90/0/10	1	1
80/0/20	1	1
70/0/30	1	1

TEST MATRIX FOR
SOIL OBTAINED FROM 3-6 FOOT DEPTH
(HIGHER CONCENTRATIONS)

Soil/Lime/Aggregate Ratio[a]	Travel Speed (Eight Passes)	
	Fast (30 - 40 fpm)	Slow (10 - 20 fpm)
100/0/0	1	1
97/3/0	1	1
90/0/10	1	1
80/0/20	1	1
70/0/30	1	1

ADDITIONAL TEST MATRIX TO BE DETERMINED
BASED ON RESULTS OF PREVIOUS TESTS

Soil/Lime/Aggregate Ratio[b]	Travel Speed (Eight Passes)	
	Fast (30 - 40 fpm)	Slow (10 - 20 fpm)
Ratio 1	1	1
Ratio 2	1	1
Ratio 3	1	1
Ratio 4	1	1
Ratio 5	1	1

[a] Indicates ratio in percent of contaminated soil to be mixed with the lime/aggregate. Aggregate will consist of 15% sand and 85% gravel and will conform to the gradation presented in Section 13270 - Supplement Conditions for Earthwork of the project specifications.

[b] Ratios will be based on the results of previous tests.

No subgrade preparation/construction will be performed prior to the full-scale processing test. Equipment mats, if necessary, will be used in unstable areas adjacent to the test area. Soil processing equipment will be confined to the immediate test area and the adjacent access road.

The excavated test soil will be placed and compacted to a one foot depth in the test area by utilizing the tracks of on-site heavy equipment. Each individual test will consist of a 19-foot long by 7-foot wide area. Each individual test area will be marked with a wooden stake in the northeast corner of the area. The stake will be labeled to identify the test area by the admixture quantities, travel speed, and soil origination depth per the detail of the full-scale process test area (Figure 1-3). The test area will be covered immediately after soil placement and not uncovered until just prior to conducting the test.

Each test will consist of mixing approximately five bank cubic yards of contaminated soil with the various lime/aggregate ratios at slow (10 - 20 fpm) and fast (30 - 40 fpm) travel speeds. The soil/lime aggregate ratios will be prepared for processing by spreading the admixtures over the one-foot compacted soil. Lime/sand/gravel will be added to each test cell via a hydraulic excavator. The bucket of the excavator will be volume calibrated to assure the proper quantity of lime/sand/gravel is added to each test cell. Based on the Engineers analytical results, test matrices less than the established clean-up criteria will be staged for subsequent backfill. Test matrices greater than the clean-up criteria will be returned to the excavation for additional treatment during the full-scale processing phase.

TRAVEL SPEED/ SOIL DEPTH (FT BGL)	SOIL/LIME/AGGREGATE RATIO				
FAST/1–3	100/0/0	97/3/0	90/0/10	80/0/20	70/0/30
SLOW/1–3	100/0/0	97/3/0	90/0/10	80/0/20	70/0/30
FAST/3–6	100/0/0	97/3/0	90/0/10	80/0/20	70/0/30
SLOW/3–6	100/0/0	97/3/0	90/0/10	80/0/20	70/0/30
FAST	RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5
SLOW	RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5

7'

42'

19'

95'

ADMIXTURE QUANTITY FOR EACH 5 CUBIC YARD (CY) CONTAMINATED SOIL TEST CELL

SOIL/LIME/AGGREGATE RATIO	ADMIXTURE QUANTITY
100/0/0	NO ADMIXTURE
97/3/0	0.15cy LIME
90/0/10	0.08cy SAND/0.48cy GRAVEL
80/0/20	0.19cy SAND/1.06cy GRAVEL
70/0/30	0.32cy SAND/1.82cy GRAVEL
RATIO 1–5	TO BE DETERMINED BASED ON RESULTS OF PREVIOUS TESTS

20 0 20

SCALE IN FEET

ENSR™

ENSR REMEDIATION AND CONSTRUCTION

FIGURE 1–3
FULL SCALE
PROCESS TEST AREA
RANDALL TEXTRAN SITE
GRENADA, MISSISSIPPI

DRAWN: SJF	DATE: 1–13–95	PROJECT NUMBER:
APPV'D:	REVISED:	9500–182–007

CE950091

The Engineer will be responsible for obtaining soil samples. Time will be allowed for the Engineer to obtain samples on the test soil. An initial sample will be collected just prior to placement of admixtures and the subsequent test. A middle and a final sample will be collected after the stabilizing machine has mixed in the admixtures, making 4 and 8 passes over the soil, respectfully. Samples will be collected from two locations within each individual test area. One location will be collected approximately 9 feet from the eastern edge of the 19 feet long test area and the other at approximately 14 feet. These location were selected to insure that soil from the previous or the next individual test area is not carried by the mixing action of the machine into the sample location.

It is important that the stabilizer unit is operated in a straight line and that mixing is conducted from east to west only. This will insure that the mixing action of the stabilizer unit does not carry soil and admixtures from the adjacent test area into the designated sample location. This will be accomplished by starting the mixing on the eastern most test area and mixing in a westwardly direction until all test areas in a straight line have been passed over. The stabilizer unit will then back over the test areas without mixing and the mixing repeated again starting on the eastern most test area. The stabilizer unit will be kept in a straight line by lining the equipment up with the stakes placed to mark the individual test areas.

The samples will be labeled with the individual test area designation (see Figure 1-3) and with the designation "I", "M", or "F" standing for initial sample, middle sample, and final sample. The sample designation will also have a distance in feet from the east edge of the individual test area. An example sample designation is S9,97/3/0/1-3/M, which stands for slow travel speed, sample location is 9 feet from east edge of the test area, 97 percent soil, 3 percent lime, 0 percent aggregate, soil origination depth 1-3 feet, and sample collect after 4 passes.

A phased analytical procedure will be implemented at the ECKENFELDER INC. laboratory to minimize unnecessary sample analysis. The final sample from each test will be placed on hold pending the results of the middle sample. The final sample will only be analyzed if the analysis from the middle sample is above 7.0 mg/kg TCE. Additionally, all samples designated with admixture quantity 80/0/20 will be placed on hold pending the results of the final sample with admixture quantity of 90/0/10 for the same soil origination depth.

ENSR will utilize a Caterpillar (Cat) SS-250 soil stabilizer to mix the contaminated soil and any required admixtures. The Cat SS-250 is a heavy-duty, single-rotor soil stabilization machine that aggressively cuts, mixes, and pulverizes in-place soils/materials. The pulverizing action of the Cat SS-250 reduces the clay particle size and increases the surface area, which enhances the TCE volatility. Cat SS-250 information is contained in Attachment B. All mixing during the process test will be performed at maximum rotor speeds.

The soil stabilizer will be equipped with a covering shovel and vent guards over the cutting sections to prevent release of volatile air emissions. As TCE is released from the soils, it is routed via a manifold on the stabilizer shroud through an equipment-mounted activated carbon filtration system.

ENSR will maintain plastic sheeting cover over the stockpiles in the event of inclement weather. Gradation testing, certifications, and laboratory analyses of the sand and gravel are contained in Attachment C.

1.10 Full-Scale Processing

The full-scale processing plan will use the data obtained during the full-scale processing test to determine the appropriate admixture ratios and mix durations. If site conditions permit, full-scale processing will be performed within the confines of excavations A and B. If the excavation area is not conducive to in-situ treatment, ENSR will remove one-half of the impacted soils from each excavation area and place it on top of the remaining soil in the same excavation area. This excavated material will then be treated in accordance with the admixture ratios/mix durations determined during the full-scale processing test. After receipt of analytical less than the established clean-up criteria, this processed material will be returned to the excavation and compacted. Processed material greater than the clean-up criteria will be staged for subsequent soil cell treatment. The second half of each excavation area will be processed in the same manner.

2.0 STORMWATER CONTROL

As needed throughout the project, ENSR will maintain effective stormwater management. Stormwater management will be accomplished by proper grading, construction of drainage trenches, diversion ditches, retention ponds, and the utilization of water pumping equipment. Figure 1-2 depicts the location of stormwater control items. Water collected will be transferred to the influent frac tank for subsequent water treatment. All stormwater control will comply with the soil erosion and sediment control plan.

3.0 WATER TREATMENT

Throughout the project, ENSR will collect and treat all run-off water and all project generated decontamination rinsates. Water treatment will be accomplished via an acrylic polymer flocculant/carbon filtration system. Figure 3-1 is a flow diagram of the water treatment system. Water will be pumped from the diversion ditches and the retention pond to the treatment facility.

The water treatment facility will consist of the following components:

- Influent transfer pump (2" centrifical, 3.5 HP, gas powered)
- Influent holding tank (21,000 gallon capacity)
- Influent flowmeter (King 7200 series)
- ~~Acrylic polymer flocculant (Drewfloc 2480)~~ Alum (Aluminum sulfate)
- ~~Polymixer - emulsion polymer~~ Alum feeder
- Influent/polymer transfer pump (2" centrifical, 3.5 HP, gas powered)
- Flocculation/overflow tank (baffled - 18,100 gallon total capacity)
- Overflow transfer pump (2" pneumatic)
- Dual 5 micron bag filters/tripods
- Dual Liquidpure LM-40 Carbon Adsorbers
- Four effluent holding tanks (21,000 gallon capacity each)
- Effluent transfer pump (2" pneumatic)
- Flow-totalizing water meter
- 185 CFM air compressor
- Transfer hoses (2", 150 psi petroleum transfer hoses with camlock fittings)
- Ion Exchange System.

Influent water will be pumped through the water treatment system at the rate of 40 gallons per minute (gpm).

A ~~0.1% Drewfloc 2480~~ Alum solution will be added for a final concentration of ~~20~~ 50 ppm via the ~~polymer~~ metering pump.

CE950090
1/9/95

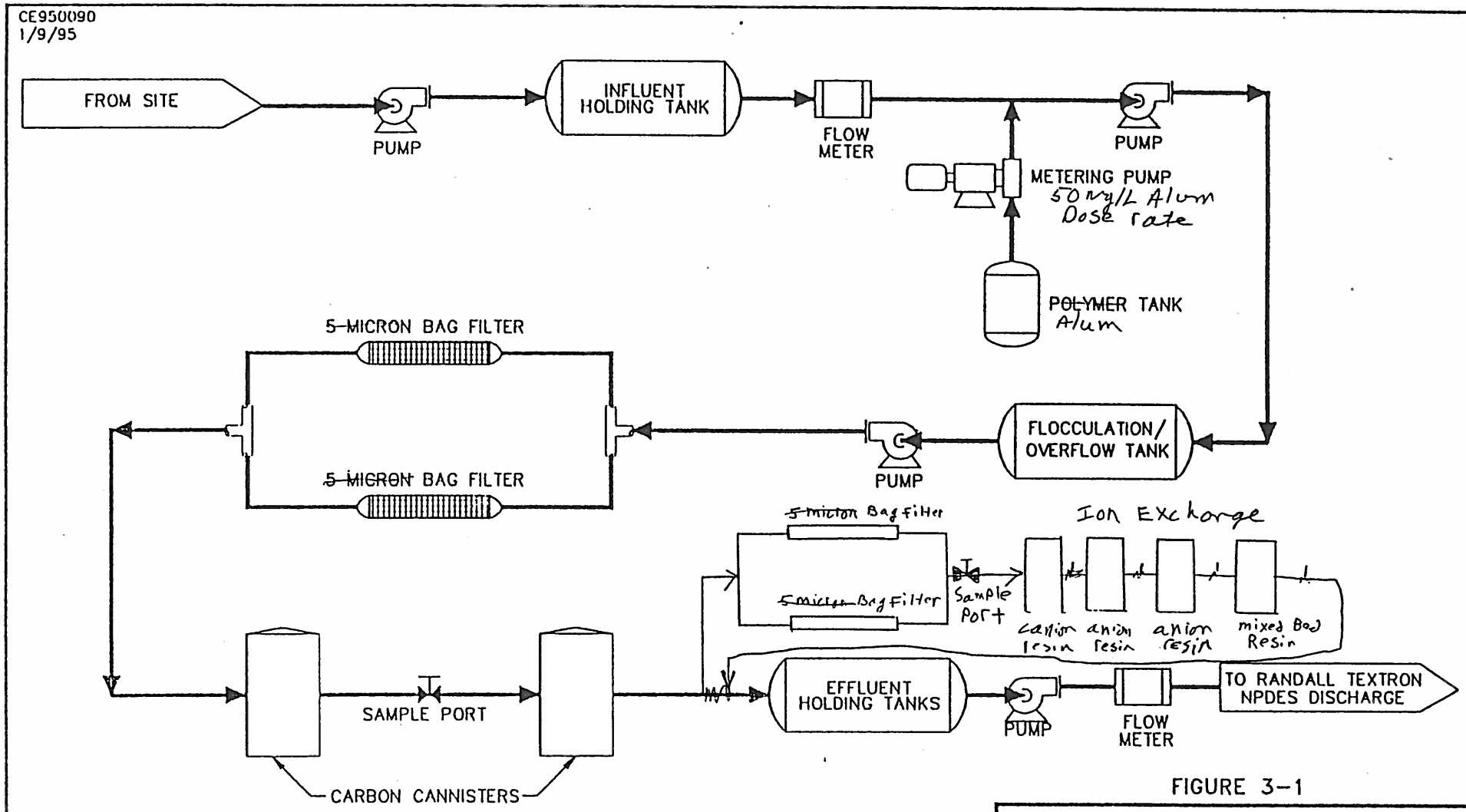


FIGURE 3-1

ENSR™
ENSR REMEDIATION AND CONSTRUCTION

PROCESS FLOW DIAGRAM
WATER TREATMENT SYSTEM
RANDALL TEXTRON SITE
GRENADA, MISSISSIPPI

DRAWN:	J. MITSAKIS	DATE:	1/9/95	PROJECT NUMBER:	9500-182-007
APPV'D:	X	REVISED:	X		

The floccution/overflow tank will have an internal baffle such that the flocculation chamber is approximately 20' x 8' x 8' and has a maximum resonance time of 239 minutes. Water from the overflow chamber will be pumped through the 5 micron bag filters and the carbon canisters to the effluent holding tank.

The flocculation/overflow tank and a new 21,000-gallon effluent holding the tank will be mobilized to the site. After processing the initial 21,000 gallons, ENSR will clean the previous influent tank so that it can be used for additional effluent tankage. Water will be processed in this manner until there are four effluent storage tanks.

All transfer hoses/piping will be free of holes, cracks, or tears and will have the appropriate interlocking and/or sealed connections to ensure that water leakage does not occur.

Pressure differentials will be monitored across the sedimentation bag filters in order to determine when the filters should be replaced. Bag filters will be visually inspected at a minimum of once per day during water treatment operations. Spent bag filters, collected sediment and flocculant solids will be consolidated with contaminated soils for subsequent treatment.

The primary and secondary carbon filtration vessels will be LM-40 Liquidpure Modular Adsorbers. These vessels have the same specifications as the LM-35 models with the exception that 920 pounds of activated carbon is utilized.

ENSR will conduct the performance testing on the treatment system during startup until it is demonstrated that the system will meet the discharge limits and as appropriate during the operation to insure the performance of the treatment system. The Engineer will conduct additional verification sampling to document compliance with the discharge limits.

The effluent will be contained until analytical results from the Engineer documents that the discharge limits are met. The effluent will be held in three 21,000 gallon tanks. The Engineer will sample the third tank filled. If the analysis show that the discharge limits are met on the third tank it is assumed that the two previously treated tanks also met the discharge limits and all

three tanks may be discharged. If the results are not met on the third tank, ENSR will retreat all three tanks or demonstrate by analytical that the other two tanks pass the discharge limits.

The effluent water will be analyzed for Randall Textron discharge parameters and USEPA method 8240 volatile organics to ensure permit compliance prior to transfer to Randall Textron's NPDES discharge. 8240 volatile organics will be assumed to be in permit compliance at non-detectable levels.

Should analysis of 8240 organics indicate greater than non-detectable levels, the primary carbon filtration vessel will be replaced with the secondary carbon filtration vessel and a new carbon filtration vessel will replace the secondary carbon filtration vessel. Effluent water with organics greater than non-detectable levels will be re-routed through the water treatment system.

Spent carbon filtration vessels will be staged on site for subsequent regeneration at Envirotrol in Sewickley, PA.

Off-site transportation and disposal treatment of project generated liquid wastes can be arranged at an estimated cost of $0.55/gallon. The liquid waste would be transported to Stolt-Nelson in Houston, TX for biological treatment. Reduced rates using rail/barge transportation are currently being evaluated.

Water treatment system data sheets are contain in Attachment D.

4.0 FUGITIVE EMISSIONS CONTROL

ENSR will collect vapor emissions from the soil mixing operation and filter the emissions through a carbon filtration system before discharge to the atmosphere. The carbon filtration system will consist of two 400-pound activated carbon canisters mounted on the Caterpillar SS-250 soil stabilizer. The hood of the SS-250 will have a customized manifold with a blower. The manifold system will pull emissions from the soil processing through the carbon canisters. The activated carbon canisters will be used to eliminate the discharge of volatile organic constituents.

The airstream exiting the secondary carbon canister will be monitored with a PID at a minimum of once per hour during soil treatment operations. If PID readings exiting the secondary canister are greater than the current ambient levels, the primary canister will be replaced with the existing secondary canister and the secondary canister will be replaced with a new canister. Spent carbon canisters will be staged on site for subsequent regeneration at Envirotrol in Sewickley, PA. Figure 4-1 depicts the fugitive emissions control system.

Attachment E contains fugitive emissions control system data sheets.

5.0 WASTE HANDLING, STORAGE, AND DISPOSAL

Miscellaneous debris and materials collected during project activities will be contained and characterized for proper disposal at a Rockwell approved facility. The debris will be stored on site in a roll-off box until quantity or contract completion necessitates disposal. Disposal PPE will also be containerized with other project generated solid waste. Waste materials will be characterized and profiled for proper disposal. Consistent with our contract agreement, ENSR anticipates approximately 30 cubic yards of non-hazardous waste will require disposal. Spent carbon canisters from fugitive emission control and wastewater treatment will be transported to Envirotrol in Sewickley, PA. for carbon regeneration.

ATTACHMENT A
SURVEYOR QUALIFICATIONS

STATE OF MISSISSIPPI

Board of Registration for Professional Engineers and Land Surveyors

THIS IS TO CERTIFY THAT

JOE ASHLEY SUTHERLAND JR

HAS MET THE REQUIREMENTS OF THE LAW, IS DULY REGISTERED, AND IS ENTITLED TO PRACTICE AS A

PROFESSIONAL ENGINEER

1995

PROFESSIONAL LAND SURVEYOR

UNTIL DECEMBER 31, 1995 WHEN THIS CERTIFICATE EXPIRES

REG. NO. 07571 PLS-02307

PRESIDENT

SIGNATURE OF REGISTRANT

SECRETARY

ATTACHMENT B
CAT SS-250 INFORMATION

SS-250

SOIL STABILIZER

- **Maximum Production** — rotor driven by Cat turbocharged Diesel Engine through mechanical drive system.
- **Highly Efficient** — load-sensing propel system helps prevent overloading while allowing continuous work near rated horsepower.
- **Extremely Versatile** — five rotor options for working in various soil types at different depths.
- **Consistent Blending** — automatic depth control, mid-mounted mixing chamber and multi-speed rotor drive combine for optimum blending and increased production.
- **Total Customer Support** — unmatched in the industry.

- Cat 3406B Diesel Engine ..... 250 kW/335 hp
- Cutting Width ..... 2438 mm/96"
- Cutting Depth (maximum) ..... 457 mm/18"

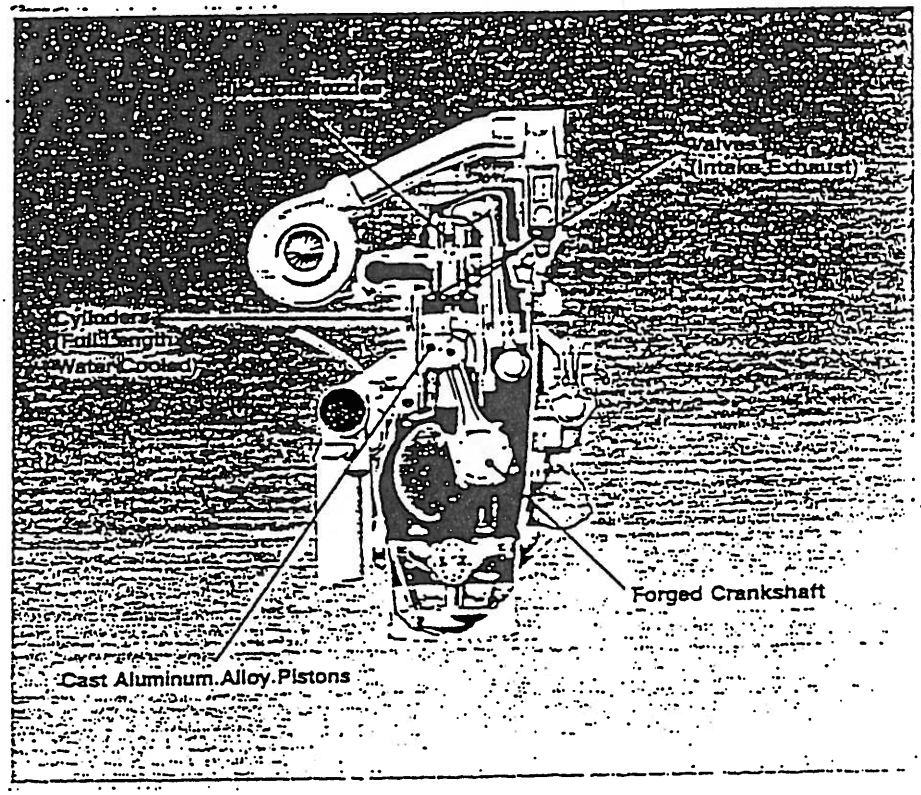
Machines shown may have optional equipment.

FEATURES

Cat® 3406B Engine

Dependable, field-proven, efficient Cat power.

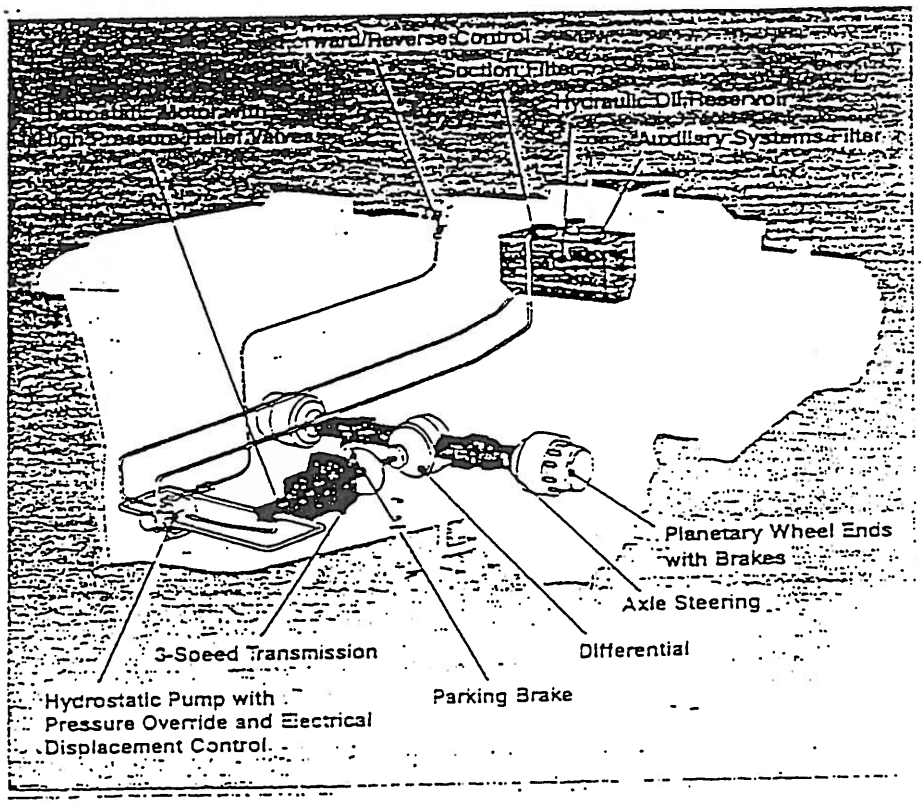
- ☐ **Adjustment-free fuel system**...separate fuel injection camshaft, field-replaceable injection nozzles, timing advance for fuel economy.
- ☐ **Turbocharger**...reacts to load demands while delivering full rated power up to 2286 m/7500' elevation.
- ☐ **Pistons**...cast aluminum alloy with three-ring design and excellent oil control.
- ☐ **Crankshaft**...steel forged and heat treated to eliminate soft metal in fillets or cheeks.
- ☐ **Cylinder block**...high strength cast iron alloy for superior durability in high load factor operations.



Propel System

Simple to operate, highly reliable for on-the-job efficiency.

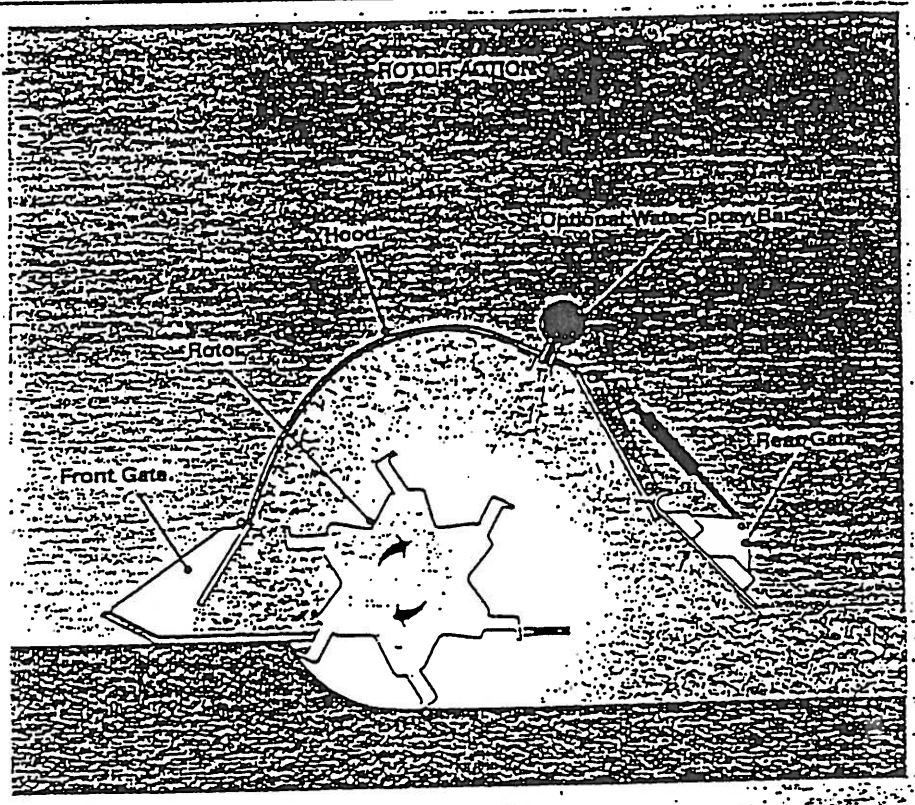
- ☐ **Fully hydrostatic**...with three infinitely variable speeds.
- ☐ **Single Lever Control**...of speed and direction with top speed 21 km/h/13 mph.
- ☐ **Load-sensing control system**...matches forward speed with rotor load to prevent engine overloading and maximize production.
- ☐ **High Traction Differential**...compensates for traction loss at one wheel by transmitting additional torque to opposite wheel.
- ☐ **Torsion Flow Axle Shaft**...heat treated for hardness to resist fatigue and reduce spline wear.



Mixing Chamber and Rotor

Assures depth control, proper sizing and thorough blending of materials.

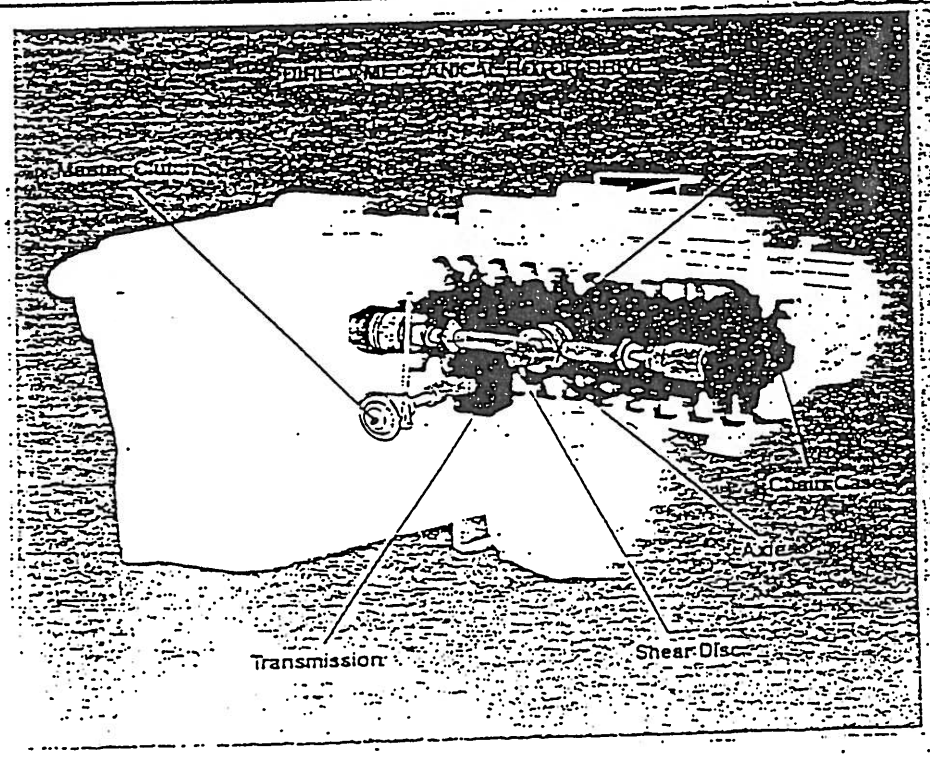
- ☐ **Mid-machine Rotor**...uses total machine weight to help keep rotor steady in the cut for uniform depth control.
- ☐ **Automatic Depth Control**... senses change in depth and corrects rotor level to maintain predetermined depth for precise control.
- ☐ **Interchangeable Rotors**... simple rotor swap for working in a variety of materials; 5 rotor options.
- ☐ **Water Spray Bar**...optional water spray system for control of water content.
- ☐ **Adjustable Rear Door**...for optimum control of gradation and uniformity.



Mechanical Rotor Drive System

Delivers continuous, smooth power for high production and optimum blending.

- ☐ **Mechanical Drive**...efficient and reliable transfer of engine power to rotor.
- ☐ **Three Rotor Speeds**...for maximum performance in a variety of materials and cutting depths.
- ☐ **Heavy-duty Shear Disc**... protects rotor drive components from torsional stress and shocks.
- ☐ **Rugged Drive Chains**...single strand, 135,000 lb chain resists breakage and drives rotor on both ends. Simple tension adjustment and self-lubricating.

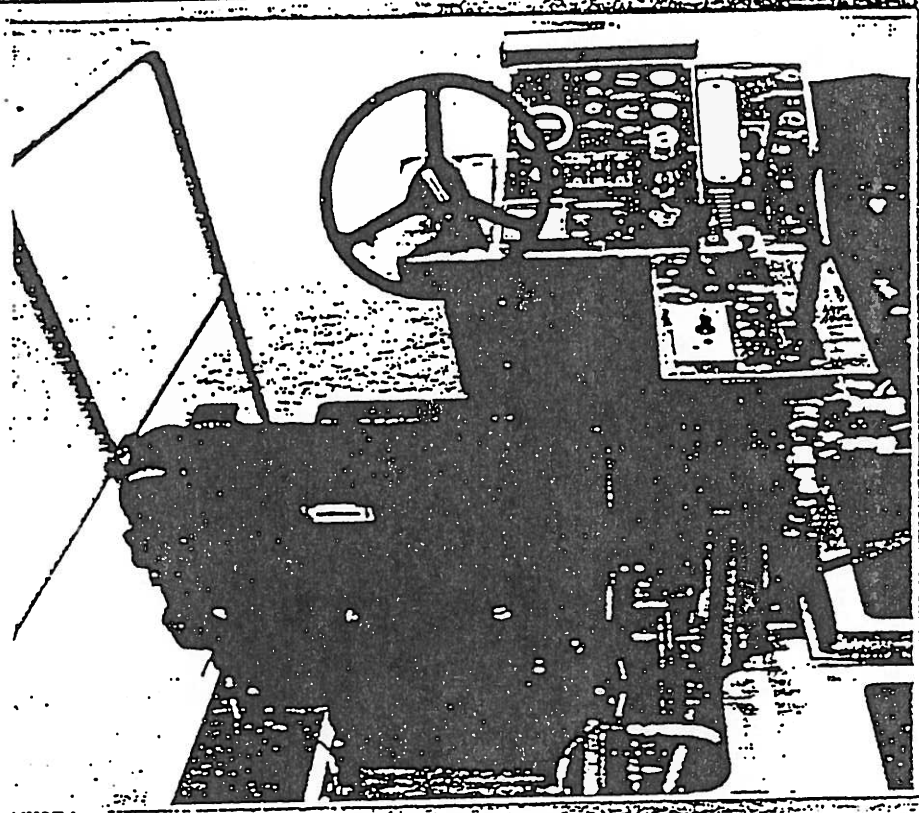


FEATURES

Operator's Station

Designed for comfort and efficiency.

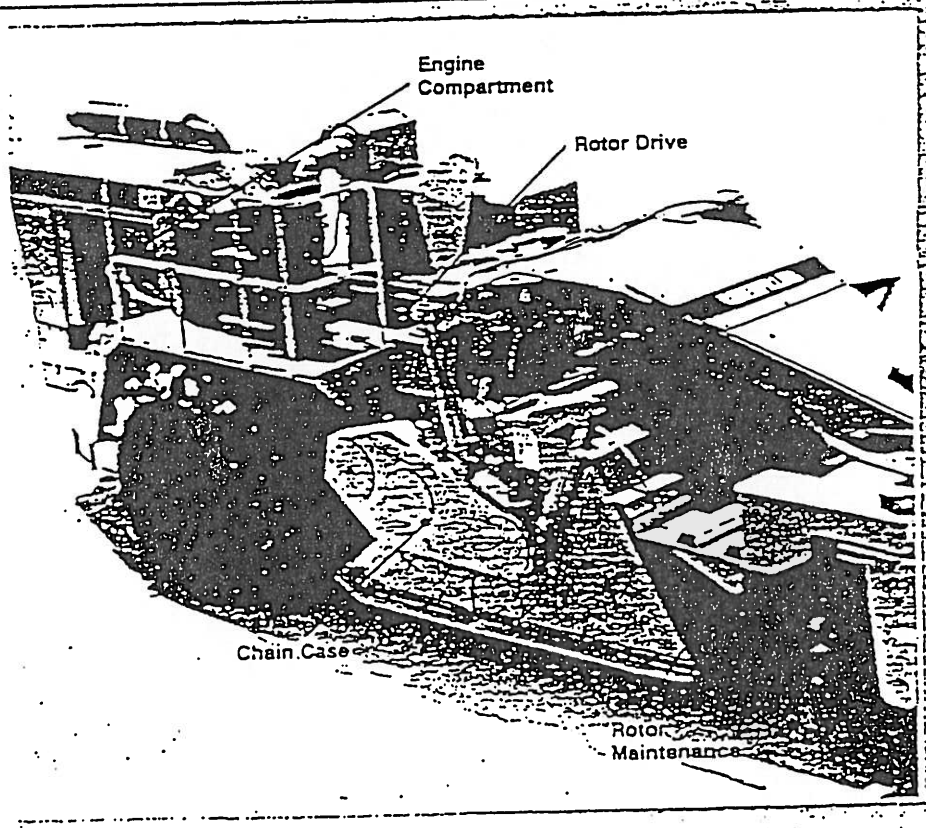
- ☐ **Convenient Controls**...located for operation in the seated position.
- ☐ **Clear Instrumentation**... includes tachometer and engine system gauges.
- ☐ **Comfortable Seat**...padded, three-way adjustable with flip-up armrests.
- ☐ **Shift Lock**...protects propel transmission.
- ☐ **Secondary Brake**...when depressed automatically destrokes propel pump and engages wheel brakes to stop machine.
- ☐ **Rear Steering**...option cuts turning radius in half for maneuvering in tight quarters.



Service

Less time on maintenance means more time on the job.

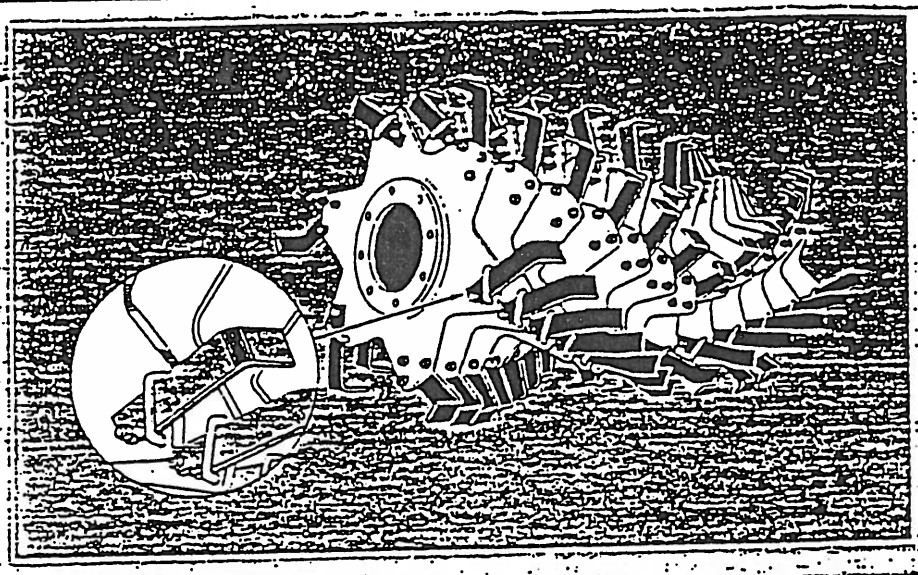
- ☐ **Cat Electrical**...color-coded, numbered wiring harnesses for easy troubleshooting. Kevlar wrapped for cut resistance. Cat batteries.
- ☐ **Hinged Service Doors**...open wide on top deck for access to rotor drive, including shear disc and bolt.
- ☐ **Rotor Maintenance**...Rotor hood and rear door lock up for access to rotor. Quick tool change rotor speeds tool replacement.
- ☐ **Self-lubricating Rotor Drive Chains**...in sealed chain cases partially filled with oil.



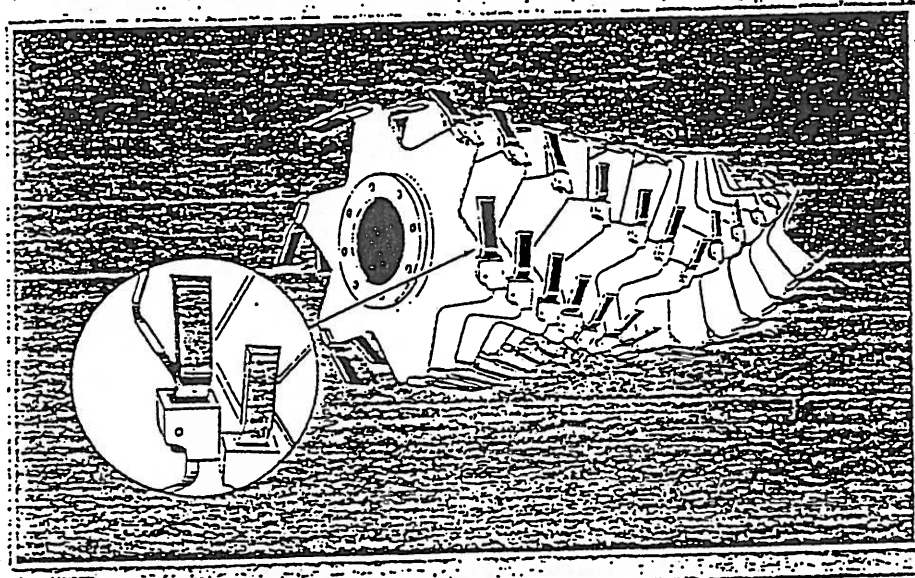
Rotor Selection

Choice of rotor designs for different soil types and depth specifications.

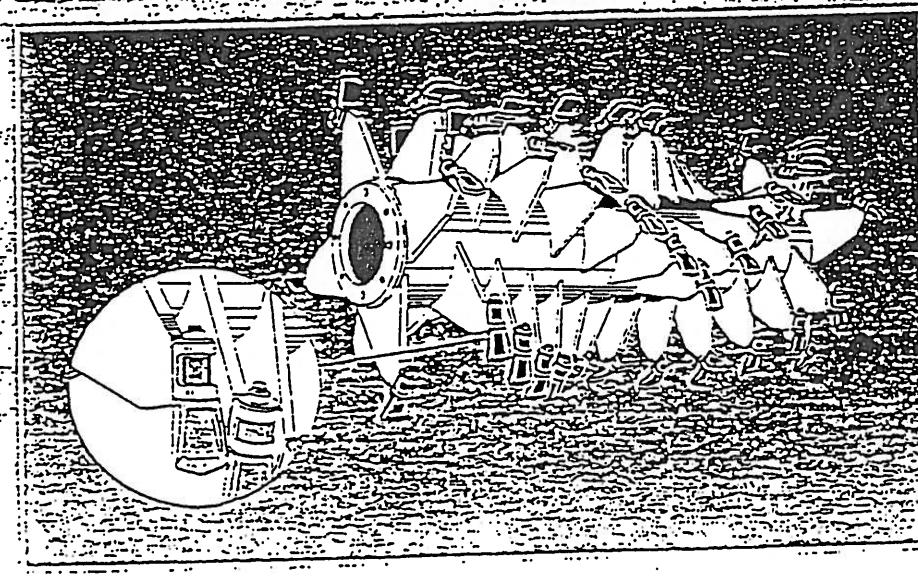
☐ **Chopper Rotor**...78 L-shaped chopper tines with 381 mm/15" or 457 mm/18" maximum depth. Cutting width 2438 mm/96". Upcutting mode for standard depth; downcutting for deep mix. Secured by U-bolts to rotor arms. Carbide faced tools available for extended service life. Typical application is blending additives with cohesive or semi-cohesive soil types.



☐ **Straight Tool Rotor**...78 straight tools with 381 mm/15" or 457 mm/18" maximum depth. Cutting width 2438 mm/96". Upcutting mode for standard depth; downcutting for deep mix. Secured by pin in tool pocket. Typical application is blending additives with granular materials.



☐ **Quick Tool Change Rotor**...58 spade-type tools with 381 mm/15" maximum depth. Cutting width 2438 mm/96". Upcutting mode. Carbide faced tools standard for long service life. Tool secured by single bolt and nut for reduced tool replacement time. Universal application — blends additives with cohesive, semi-cohesive and granular materials.



SPECIFICATIONS

Diesel Engine

Gross power
@ 2100 rpm .....250 kw/335 hp.

Caterpillar® 3406B turbo-charged diesel engine.

Gross horsepower based on SAE J1349 standard conditions 25°C/77°F and 100 kPa/29.61" hg. using 35 API gravity fuel and engine equipped with fuel, lube oil and jacket water pumps. No derating required up to 3200 m/10,500 ft altitude.

Four-stroke/cycle diesel engine with six cylinders. 137 mm/5.4" bore. 165 mm/6.5" stroke and 14.6 liter/893 cu in displacement.

Air cleaner — dry type with restriction indicator.

24-volt electrical starting system with 55-amp alternator and two 12-volt Caterpillar batteries.

Propel System

Hydrostatic transmission consists of a variable displacement pump driving a fixed displacement motor. Motor drives a three-speed transmission and steerable drive axle with planetary gear reduction at each drive. Speeds are infinitely variable throughout the three speed ranges. Electronic shift lock prevents shifting while the machine is moving. Electronic displacement control and load sensing system can be used to match propel speed to load on rotor. Pressure limiting relief valves provide secondary overload protection.

Speeds:
Working: .....0-54 mpm/0-176 fpm
Intermediate: .....0-8.3 kph/0-5.2 mph
Travel: .....0-21 km/h/0-13 mph

Tires

Front: ..... 28.1 x 26-10 Lug PR. 24 psi
Rear: .....14.9 x 24-6 PR Lug. 18 psi

Tires fluid filled (calcium chloride). Rear wheels pivot 180° to positions inside or outside of cut.

Frame

Fabricated from heavy gauge steel plates, rolled sections and structural steel shapes. Frame joined to rear bolster with heavy-duty horizontal pin to allow rear bolster oscillation of 15°.

Brakes

Service — Closed-loop hydrostatic drive provides dynamic braking.

Secondary — Hydraulic drum wheel end brakes. Propel pump is destroked when pedal is depressed to aid in stopping machine.

Parking — Spring-applied, hydraulically-released installed on drive axle. Propel pump destroked when parking brake is engaged.

Rotor Drive System

Operates through engine P.T.O. clutch. Three rotor speeds are created through the rotor drive axle and rotor transmission. Choice of rotor speeds permits working in wide range of material types and depths.

Single strand, 135,000 lb rotor drive chains on both sides are contained in heavy-duty chain cases. Shear disc and bolt arrangement protects rotor drive components.

Rotor Speeds:

TRAN	DRIVE	MAX RPM
Low	Low	124
Low	High	168
High	Low	284

Rotor Options

Five rotor styles are available. All mount to standard rotor mixing chamber. Standard depth units can be converted to downcutting mode to accept deep mix rotors.

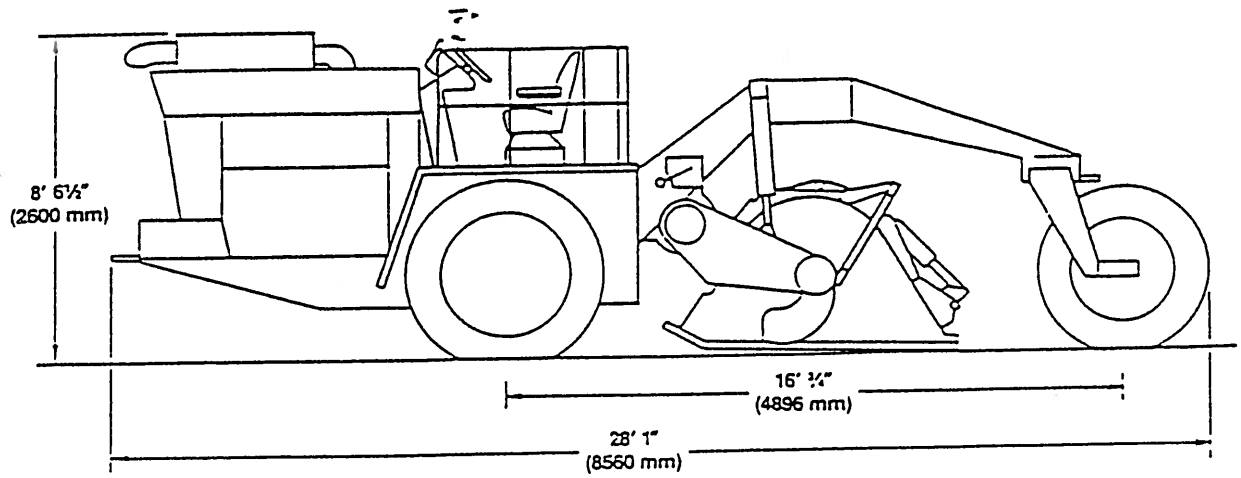
ROTOR	DIA.	TEETH	CUT	MAX. DEPTH
Standard Chopper	1220 mm/ 48"	78	Up	381 mm/15"
Standard Straight	1220 mm/ 48"	78	Up	381 mm/15"
Quick Change	1220 mm/ 48"	58	Up	381 mm/15"
Deep Mix Chopper	1372 mm/ 54"	78	Down	457 mm/18"
Deep Mix Straight	1220 mm/ 54"	78	Down	457 mm/18"

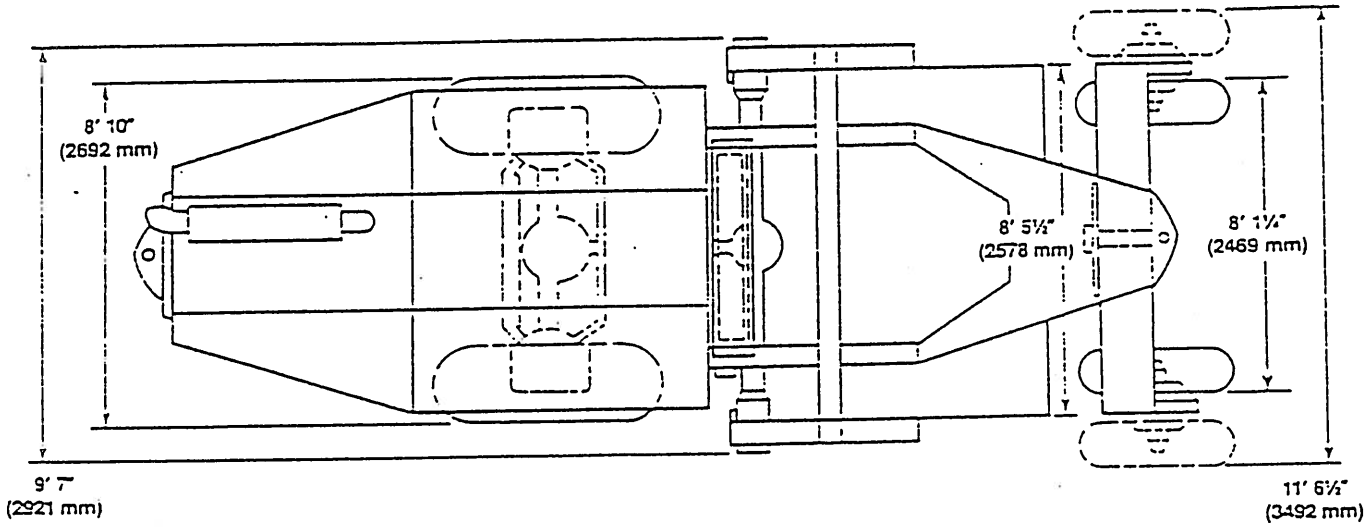
Steering

Equipped with hydraulic power assist system for smooth, firm machine handling. System includes two 76 mm/3" bore, double-acting steering cylinders powered by a vane-type pump. Pump output is 9 lpm/5gpm @ 1200 rpm with 689 kPa (6.8 bar)/100 psi.

Minimum Inside Turning Radius:
Standard .....12.19 m/40'
w/optional rear steering .....6.1 m/20'

Dimensions





Service Refill Capacities

SERVICE ITEMS	LITERS	U.S. GALLONS
Fuel tank	416	110
Cooling system	61	16
Crankcase	34	9
Differential (propel)	7.5	2
Wheel ends (each)	3.81	.38
Hydraulic system	200	53
Rotor cooling reservoir	56	15
Rotor bearing lube	3.8	1

Operating Dimensions

DIMENSION	METERS	FEET
Length	8.56	28' 1"
(rear steer)	8.64	28' 4½"
Width (wheels in)	2.9	9' 7"
(wheels out)	3.5	11' 6½"
Wheelbase	4.89	16' ¾"
(rear steer)	4.97	16' 4"
Height	2.6	8' 6½"
Weight	13.300 kg	29.300 lb
(on front wheels)	10.240 kg	22.560 lb
(on rear wheels)	3.060 kg	6.740 lb

Optional Equipment

Roll Over Protective Structure (ROPS) Designed to meet SAE recommended practice J1040c. Can be field installed.

FPM/MPM Indicator — Measures machine speed and displays it on analog readout. Helps operator maintain efficient speed for higher production. English and Metric while in working (low) speed range.

Working Light Package — Four adjustable flood lights. Two positioned in front and two in rear. For use under working conditions, not highway transport purposes. Rear lights are combination red or flood-type.

Cab — with either heater and defroster fan, or air conditioner.

Rear Wheel Steering — For greater maneuverability and tighter turning radius. Hydraulically controlled by the operator, it reduces turning radius to 6.1 m/20'. Rear wheels can pivot to positions inside or outside the rotor cutting width.

Water Spray System — For accurate addition of water to control moisture content. System includes 190-1135 liters/50-300 U.S. gallons per minute centrifugal pump, spray bar with nozzles and hydraulically operated single valve spray bar shut-off. 76 mm/3" in-line flow meter optional on system. Standard spray bar is mounted on top of the mixing chamber. Optional spray bar frame mounted in front of the mixing chamber.

Value Analysis

Cat Diesel Engine

- Adjustment-free fuel system.
- Performance matched turbocharger.
- Full-range, hydra-mechanical governor.
- High strength cast iron alloy cylinder blocks.
- Cast aluminum alloy, three-ring design pistons.
- Steel forged, heat treated crankshaft.

Propel System

- Three-speed, hydrostatic transmission for optimum efficiency.
- Load-sensing control system prevents engine overloading and maximizes production.
- Hypoid gearing provides 30% more torque capacity and longer life to propel axle.
- High traction differential delivers 24% more torque for better traction.
- Axle shafts heat treated for extreme surface hardness.
- High capacity roller bearings for heavy load carrying capacity and longer life.

Mechanical Rotor Drive

- Efficient transfer of engine power to rotor for maximum force to each tool.
- Three usable rotor speeds for matching rotor performance to application demands.
- Heavy-duty drive chains on both rotor ends for increased service life.
- Easy-to-replace shear bolt protects rotor drive components.

Mixing Chamber and Rotor

- Mid-machine rotor location uses machine weight to keep machine steady in the cut for uniform depth.
- Interchangeable rotors for added versatility.
- Automatic rotor depth control for quality results and ease of operation.
- Heavy-duty rotor hood with hydraulically controlled rear door maintains proper material volume and controls material size and uniformity.

Operator's Station

- Uncluttered platform with padded adjustable seat.
- Conveniently located controls.
- Highly visible instruments and gauges.
- Shift lock-out prevents shifting propel system on-the-go.
- Automatic load-sensing simplifies operation.

CATERPILLAR®

SEHC8946 (10-91)
Replaces SEHC2981

Caterpillar follows a policy of continual product improvement. For this reason, some material and specifications could change without notice.

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Printed in U.S.A.

MEMPHIS STONE & GRAVEL CO. -- SIEVE ANALYSIS DATA SHEET

11-7-94

Concrete Sand PL.8

Date

SAMPLE WGT 224.6

SAMPLE WGT.

Sieve Size U.S Series	Wgt. Ret. Cuml.	% Ret Cuml	% Passing Cuml.	Wgt Ret. Cuml.	% Ret. Cuml.	% Passing Cuml.	Spec. % Passing Cuml.
3"							
2"							
1-1/2"							
1-1/4"							
1"							
3/4"							
1/2"							100
3/8"	0		100.0				97-100
1/4"							
No 4	1.6		99.3				92-100
No. 6							
No. 8	20.9		90.7				75-100
No. 10							
No 14							
No. 16	55.3		75.4				45-90
No 30	106.0		52.8				25-70
No 40							
No 50	216.7		5.3				3-35
No 50							
No. 30							
No. 100	223.7		.4				0-10
No 200							
PAN							
TOTAL							

REMARKS.

PK

Signature

Title

DEC-04-1994 16:28 95% P.27

MEMPHIS STONE & GRAVEL CO. -- SIEVE ANALYSIS DATA SHEET

Date

57 Washed Gravel

SAMPLE WGT. 3024.2				SAMPLE WGT.			
Sieve Size U.S Series	Wgt. Ret. Cuml.	% Ret. Cuml	% Passing Cuml.	Wgt. Ret. Cuml.	% Ret. Cuml.	% Passing Cuml.	Spec. % Passing Cuml.
3"							
2"							
1-1/2"							100
1-1/4"							
1"	257.1		91.5				80-100
3/4"	895.1		70.4				
1/2"	1672.3		44.7				25-60
3/8"	2089.7		30.9				
1/4"							
No 4	2933.5		3.0				0-10
No. 6							
No 8	2994.0		1.0				0-5
No 10							
No 14							
No. 16							
No. 30							
No 40							
No. 50							
No 80							
No. 80							
No. 100							
No. 200							
PAN							
TOTAL							

REMARKS:

Signature

Title

BHSS-214

MEMPHIS SAND AND GRAVEL
15% SAND/85% GRAVEL
CONSOLIDATED SIEVE ANALYSIS

	SAND		GRAVEL		15% SAND/85% GRAVEL	SPEC
SIEVE SIZE	% PASSING	AT 15%	% PASSING	AT 85%	% PASSING	% PASSING
1.5 INCH	100.0	15.0	100.0	85.0	100.0	100
1 INCH	100.0	15.0	91.5	77.8	92.8	80-100
0.5 INCH	100.0	15.0	44.7	38.0	53.0	25-60
NO. 4	99.3	14.9	3.0	2.6	17.4	12-20
NO. 8	90.7	13.6	1.0	0.9	14.5	8-15
NO. 100	0.4	0.1	0.0	0.0	0.1	0-5

July 26, 1995

Dan Sauve
Assistant Project Manager
Eckenfelder, Inc.
227 French Landing Dr.
Nashville, TN 37228

Re: Access Road Materials
Soil Interim Remedial Action-Grenada, MS
ENSR Project No. 5475

Dear Mr. Sauve:

ENSR Remediation and Construction (ENSR) certifies that the referenced materials are void of hazardous constituents. Please contact me at (713) 520-9030 if you have any questions or require additional information.

Respectfully,

John C. Elliott
Project Manager

ENSR An American NuKEM Company

ENSR Remediation & Construction
3000 Richmond Avenue
Suite 200
Houston, Texas 77098
713-520-9030
Fax: 713-520-5952

December 8, 1994

To Whom It May Concern:

Re: Sand and Gravel Admixtures
Rockwell International Corporation
Soil Remediation Services - Grenada, Mississippi

Based upon discussions with Memphis Sand and Gravel Company and the attached analytical results, ENSR Remediation and Construction certifies that the referenced project admixtures are void of hazardous constituents.

JC Elliott

John C. Elliott
Project Manager

DEC 01 '94 14:34 E T C MPHS TN 901 327 6334

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6384
Founded 1972

December 1, 1994

Mr. Gary McGaughy
ENSR Remediation and Const.
3000 Richmond Avenue
Suite 200
Houston, TX 77098

Ref: Analytical Testing
ETC Order # 9411605
Project Description Rockwell-Grenada

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods 17th Edition; The Solid Waste Manual SW-846; EPA Methods for the Analysis of Water and Wastes and/or 40 CFR part 136. The results are shown on the attached analysis sheet(s).

Within the attached report, some analyte data may be reported as "Qualified" data indicated by a "Data Flag" next to the result. The following summarizes the possible "Data Flags" that may be associated with this data :

Q - Surrogate recovery outside QC Limits.
j - Estimated Value. Presence of the compound was confirmed but less than the sample quanititation limit but greater than zero.
E - Concentration exceeds the established method calibration range.
B - Analyte detected in blank.
S - Associated Surrogate Recovery outside QC Limits
N - Non-Compliance Report associated with this sample or project indicating standard protocol was not followed. Please refer to attached report.

Please do not hesitate to contact our office if you have any questions.

Sincerely,

Randall H. Thomas
Vice-President
General Manager

rt

Attachment

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada

Project # 5475
FID #

Date Arrived 11/22/94
ETC Order Number 9411605

ETC Lab ID 9411605-01
Sample ID: Gravel/F956544

Matrix :SOLID
Sample Date :11/18/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
Arsenic - TCLP	<0.500	0.500	5.0	11/30/94	AA	6010A
Barium - TCLP	0.360	0.020	100	11/30/94	AA	6010A
Cadmium - TCLP	<0.040	0.040	1.0	11/30/94	AA	6010A
Chromium - TCLP	<0.070	0.070	5.0	11/30/94	AA	6010A
Lead - TCLP	0.600	0.450	5.0	11/30/94	AA	6010A
Mercury - TCLP	<0.001	0.001	0.2	11/30/94	JT	7470
Selenium - TCLP	<0.750	0.750	1.0	11/30/94	AA	6010A
Silver - TCLP	<0.070	0.070	5.0	11/30/94	AA	6010A
TCLP Extraction	Leachate			11/22/94	TL	1311

ETC Lab ID 9411605-02
Sample ID: Sand/F956534

Matrix :SOIL
Sample Date :11/18/94

TEST	RESULT UNITS: (mg/L)	DL	REGULATORY LEVEL: (mg/L)	DATE ANALYZED	BY	METHOD
Arsenic - TCLP	<0.500	0.500	5.0	11/30/94	AA	6010A
Barium - TCLP	0.330	0.020	100	11/30/94	AA	6010A
Cadmium - TCLP	<0.040	0.040	1.0	11/30/94	AA	6010A
Chromium - TCLP	<0.070	0.070	5.0	11/30/94	AA	6010A
Lead - TCLP	<0.450	0.450	5.0	11/30/94	AA	6010A
Mercury - TCLP	<0.001	0.001	0.2	11/30/94	JT	7470
Selenium - TCLP	<0.750	0.750	1.0	11/30/94	AA	6010A
Silver - TCLP	<0.070	0.070	5.0	11/30/94	AA	6010A
TCLP Extraction	Leachate			11/22/94	TL	1311

DL - Detection Limit

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name ENSR Remediation and Const.

3000 Richmond Avenue
Suite 200
Houston, TX 77098

Site ID Rockwell-Grenada

Project # 5475
FID #

Date Arrived 11/22/94
ETC Order Number 9411605

ETC Lab ID 9411605-01
Sample ID: Gravel/F956544

Matrix :SOLID
Sample Date :11/18/94

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	BY	METHOD
TPH - Infrared	ND	mg/Kg	30.0	11/28/94	AJ	418.1

ETC Lab ID 9411605-02
Sample ID: Sand/F956534

Matrix :SOIL
Sample Date :11/18/94

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	BY	METHOD
TPH - Infrared	ND	mg/Kg	30.0	11/28/94	AJ	418.1

LABORATORY MANAGER

ND - Not Detected

ATTACHMENT D
WATER TREATMENT SYSTEM DATA SHEETS

NORIT AMERICAS INC.

Solutions Through Carbon Technology

DATASHEET

NORIT

Bulletin No. 30-7A
Revised 12-93

LIQUIDPURE MODULAR ADSORBERS

LM SERIES DESCRIPTION

NORIT AMERICAS offers a complete line of modular liquid phase adsorbers. The LIQUIDPURE LM series is designed for customers who need a small, low cost, high pressure adsorber that is portable and can be easily put into service. These adsorbers are designed for a maximum pressure of 100 psi and available in sizes from 18 ft^3 (designed for 20 GPM maximum flow) to 72 ft^3 (for 75 GPM maximum flow). Some other important features are:

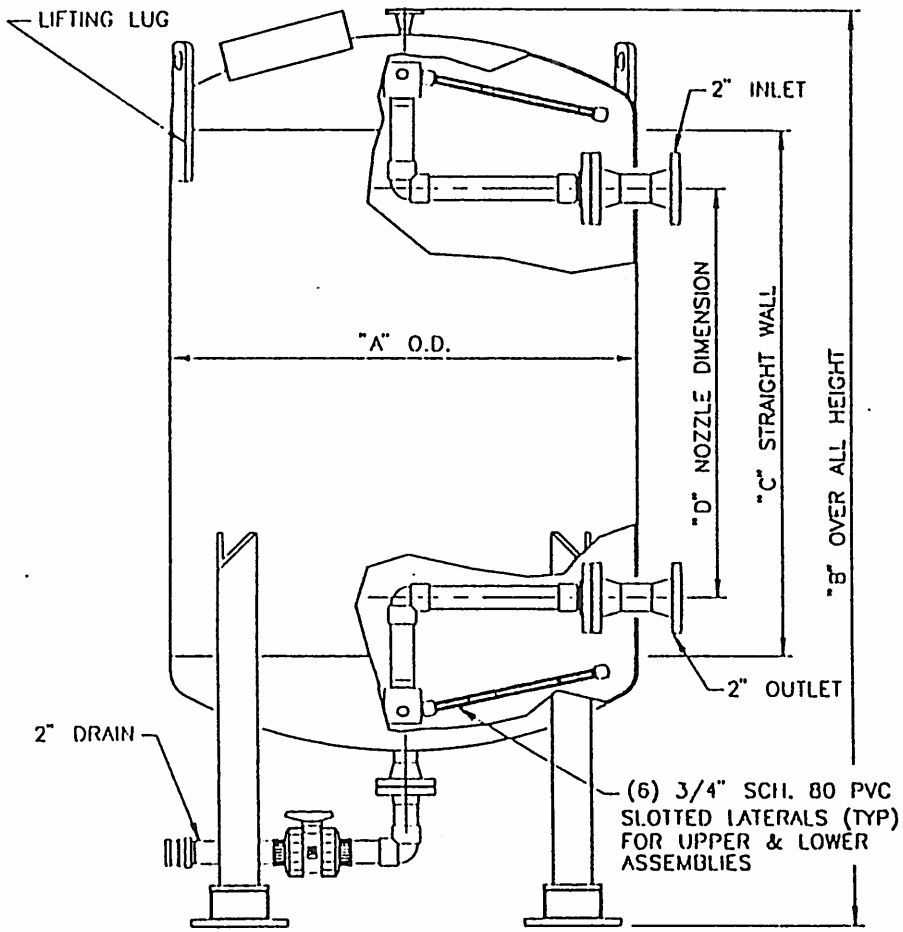
- ★ Durable Carbon Steel Construction
- ★ Both Fork Lift Landings And Lifting Lugs To Facilitate Moving
- ★ Lower PVC Distributor System To Provide High GAC Utilization
- ★ Upper PVC Distributor To Allow Backflushing And Up-Flow Operation
- ★ 12"x16" Elliptical Manway
- ★ 2" Inlet And Outlet Connections
- ★ 2" Carbon Transfer Line To Allow Fast GAC Removal
- ★ Protective Epoxy Internal And External Coatings
- ★ Designed for 100 psi @ 150°F
- ★ The World's Largest Selection Of Activated Carbons

MODEL	GAC CAPACITY ft^3/pounds*	FLOW** (GPM) NORM./MAX.	OVERALL DIAxHGT
LM-18	18 ft^3/500#	20	30"x78"
LM-27	27 ft^3/750#	30	36"x78"
LM-35	35 ft^3/1000#	30 / 40	36"x99"
LM-54	54 ft^3/1500#	50	48"x99"
LM-72	72 ft^3/2000#	50 / 75	48"x99"

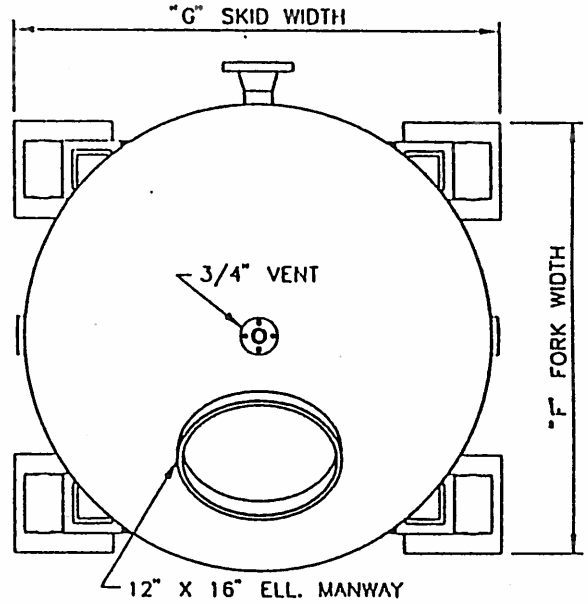
* - Estimated GAC Weight Is Based On Bituminous Coal Product

** - Flowrates Based On Equipment Limits, Contact American Norit Company's Technical Representatives For Operational Estimates On Your Process Stream.

1050 Crown Pointe Parkway • Suite 1500 • Atlanta, Georgia 30338
Tel. (404) 512-4610 • 1-800-641-9245 • FAX (404) 512-4622 • Telex 56-540



ELEVATION
VERTICAL DIMENSIONS ONLY
Not to Scale



ORIENTATION PLAN
Not to Scale

SPECIFICATIONS

MODEL NAME	CARBON CAPACITY	"A" DIM	"B" DIM	"C" DIM	"D" DIM	"F" DIM	"G" DIM	GPM **
LM-18	18 Ft.³ (500#)	30"	78"	48"	36"	31 3/4"	37"	20
LM-27	27 Ft.³ (750#)	36"	78"	48"	36"	36"	41 3/8"	30
LM-35	35 Ft.³ (1000#)	36"	99"	72"	60"	36"	41 3/8"	30
LM-54	54 Ft.³ (1500#)	48"	99"	72"	60"	48"	48"	50
LM-72	72 Ft.³ (2000#)	48"	99"	72"	60"	48"	48"	50

** BASED ON 4 gpm/SQ. FT. OF BED AREA.
DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

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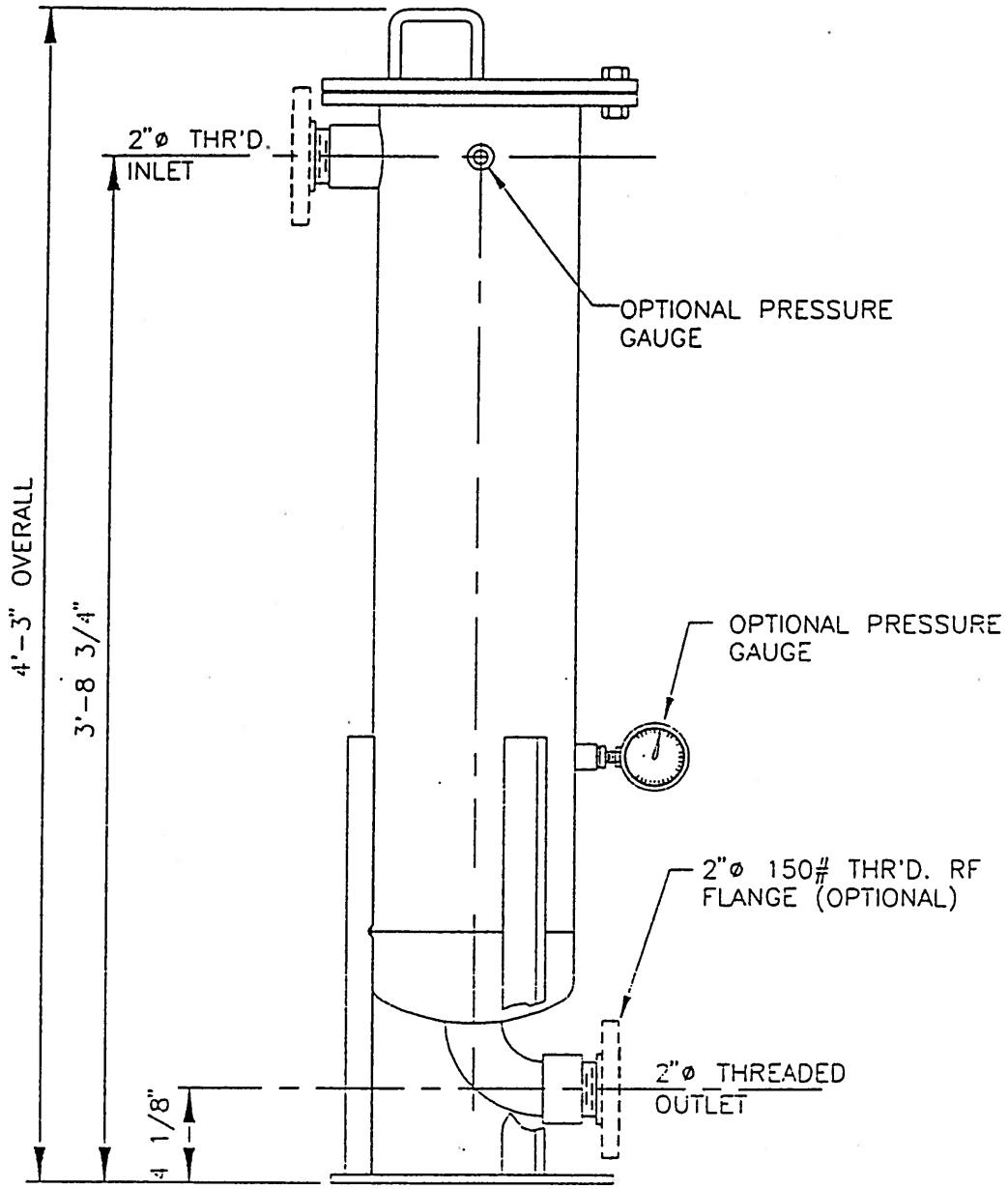
NORIT AMERICAS INC.
ACES
ACTIVATED CARBON ENGINEERING & SERVICES
NORIT Atlanta, Georgia 1-800-641-9246

LIQUIDPURE LM SERIES MODULAR 100 psi ADSORBER

DATE: 12/01/93
SCALE: NONE
ACAD FILE: GACSN



ELEVATION
BAG FILTER ASSEMBLY
(NOT TRUE ORIENTATION)

8"ø Sch. 40 CARBON STEEL
TRIPOD BAG FILTER
APPROX. EMPTY WEIGHT = 170 LBS.

Not to Scale

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CETCO AQUATEC DIVISION

K:\STANDARD\SYSTEMS\CS-BF

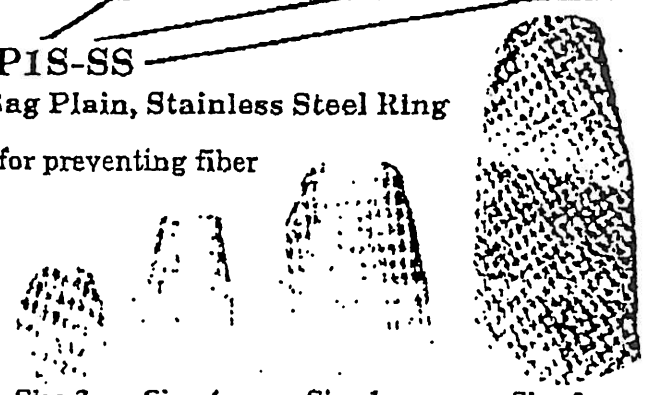
12\23/94

PART 1	PART 2	PART 3	PART 4	PART 5	PART 6
Fiber & Media Style	**Micron Rating**	**Bag Cover**	**Bag Size Number**	**Bag Design**	**Suffix**
PE - polyester	1, 3, 5, 10, 15, 25, 50, 75, 100, 200	P - plain (no cover) NM - nylon monofilament cover PEM - polyester multifilament cover G - fiber-free finish Cerex-spun bonded nylon NMO - nylon monofilament cover	1 - #1 size bag (fits CK Housings) 2 - #2 size bag (fits RK Housings) 3 - #3 size bag (fits PK Housings) 4 - #4 size bag (fits GK Housings)	S - metal retaining ring snap collar design PC - 1 - fits #1 Cuno® housing PC - 2 - fits #2 Cuno® housing C1 - fits Commercial® housing C2 - fits Commercial® housing RP - fits Ronnigen-Petter® housing	SS - stainless steel ring R - reverse collar L/H - lifting handle T - lifting tab TN - triple needle seam (for increased strength)
P - polypropylene felt	1, 3, 5, 10, 25, 50, 100				
N - nylon felt	5, 10, 25, 50, 100				
NM - nylon multi-filament mesh	75, 100, 125, 150, 175, 200, 600, 800, 1000				
PEM - polyester multi-filament mesh	75, 100, 125, 150, 200, 250, 400, 600, 800, 1400				
NMO - nylon monofilament mesh	1, 5, 10, 20, 30, 40, 65, 75, 100, 125, 150, 175, 210, 250, 300, 400, 600, 800				
PEMO - polyester monofilament mesh	5, 10, 25, 50, 75, 100, 150, 200, 250, 400, 600, 800				
PMO - poly-propylene mono-filament mesh	300, 400, 600, 800				
HT - nylon nomex felt	5, 15, 25, 50, 100				
S - saran mono-filament mesh	300, 600, 800				
Fiber & Media Style	Micron Rating	Bag Cover	Bag Size Number	Bag Design	Suffix

PE 25 P1S-SS

Example: Polyester, 25 Micron, #1 Size Bag Plain, Stainless Steel Ring

Also available: Glazed felt finish or mesh covers for preventing fiber migration on highly critical process applications.



Size 3 Size 4 Size 1 Size 2

Table 2

Gives bag volume, bag dimensions, surface area and cross reference for all filter bags used in Knight filter housings.

Bag Size Number (See Table 1)	3	4	1	2
Surface Area Per Bag - (ft^2)	0.5	1.0	2.0	4.4
Volume Per Bag - (gal)	.37	.67	2.1	4.6
Bag Diameter - inch/cm	4/10.2	4/10.2	7/17.8	7/17.8
Bag Length - inch/cm	9/22.9	15/38.1	16.5/41.9	32/81.3
Knight Corp. Filter Housing Number	PK-6	GK-12	CK-15	RK-30

MATERIAL SAFETY DATA SHEET

Drew Industrial Division
ASHLAND CHEMICAL INC.
One Drew Plaza, Boonton, New Jersey 07005
Phone (201) 263-7600/Telex 136444

24-HOUR Emergency Telephone
1(800) 274-5263 or
1(800) ASHLAND

003584

DREWFLOC 2480 FLOCCULANT

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

Product Name: DREWFLOC 2480 FLOCCULANT

Data Sheet No: 0242458-001
Prepared: 05/03/90
Supersedes: (N/A)

DREW INDUSTRIAL DIVISION
307 SOUTH FRIENDSWOOD DRIVE
SUITE E-2
FRIENDSWOOD TX 77546

DISTRICT MANAGER

00 10 919

PRODUCT: 5042
INVOICE:
INVOICE DATE:
TO: DREW INDUSTRIAL DIVISION
307 SOUTH FRIENDSWOOD DRIVE
FRIENDSWOOD
TX 77546

SECTION I-PRODUCT IDENTIFICATION

General or Generic ID: FLOCCULANT

DOT Hazard Classification: COMBUSTIBLE (173.115)

SECTION II-COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION. SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
ACRYLIC POLYMER *	40-55			(1)

Notes:

(1) SUPPLIER RECOMMENDS AN EXPOSURE LIMIT OF 200 PPM TOTAL HYDROCARBON BASED ON COMPOSITION.

* THE SPECIFIC CHEMICAL NAME OF THIS COMPONENT IS BEING WITHHELD AS A TRADE SECRET.

SECTION III-PHYSICAL DATA

Boiling Point	for PRODUCT	212.00 - 370.00 Deg F (100.00 - 187.77 Deg C) @ 760.00 mm Hg
Vapor Pressure	for PRODUCT	< 10.00 mm Hg @ 77.00 Deg F (25.00 Deg C)
Specific Vapor Density	AIR = 1	> 1.0
Specific Gravity		.980 - 1.120 @ 77.00 Deg F (25.00 Deg C)
Percent Volatiles	UNAVAILABLE	
Evaporation Rate		SLOWER THAN ETHER
Appearance		OPAQUE, MILKY WHITE
State		LIQUID
Form		METER SOLN

SECTION IV-FIRE AND EXPLOSION INFORMATION

FLASH POINT(TCC) 154.0 Deg F (67.8 Deg C)

EXPLOSIVE LIMIT UNAVAILABLE

EXTINGUISHING MEDIA: DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: NOT APPLICABLE

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY HEAT, PILOT LIGHTS, OTHER FLAMES AND IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS INCLUDING TANK CARS AND TANK TRUCKS SHOULD BE GROUNDED AND/OR BONDED WHEN MATERIAL IS TRANSFERRED.

SECTION V-HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL: NOT ESTABLISHED FOR PRODUCT. SEE SECTION II.

EFFECTS OF ACUTE OVEREXPOSURE:

EYES - CAN CAUSE SEVERE IRRITATION, POSSIBLE CORNEAL INJURY.
SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.
BREATHING - EXCESSIVE INHALATION OF VAPORS MAY CAUSE NASAL AND RESPIRATORY IRRITATION.

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CONTINUED ON PAGE: 2

003584

DREWFLOC 2480 FLOCCULANT

SECTION V-HEALTH HAZARD DATA (Continued)

SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY. GET MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING. KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN CONTACT

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED, THAT A SPILL HAS OCCURED.

SPILLS OF THIS MATERIAL ARE VERY SLIPPERY.

ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE. PREVENT FROM ENTERING DRAINS, SEWERS, STREAMS OR OTHER BODIES OF WATER.PREVENT FROM SPREADING. IF RUNOFF OCCURS, NOTIFY AUTHORITIES AS REQUIRED. PUMP OR VACUUM TRANSFER SPILLED PRODUCT TO CLEAN CONTAINERS FOR RECOVERY. ABSORB UNRECOVERABLE PRODUCT.TRANSFER CONTAMINATED ABSORBENT, SOIL AND OTHER MATERIALS TOCONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II). A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS:, NITRILE RUBBER

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THIS DATASHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

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MATERIAL SAFETY DATA SHEET

Drew Industrial Division
ASHLAND CHEMICAL INC.
One Drew Plaza, Boonton, New Jersey 07005
Phone (201) 263-7600/Telex 136444

24-HOUR Emergency Telephone
1(800) 274-5263 or
1(800) ASHLAND

DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Drew Chemical Corporation. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G – Occupational Health and Environmental Control, and subpart I – Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC, or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELS) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If the Specific Vapor Density of a product is not known, the value is expressed as lighter or greater than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit and vapor pressure above 0.1mm Hg at 68 F.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowest value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

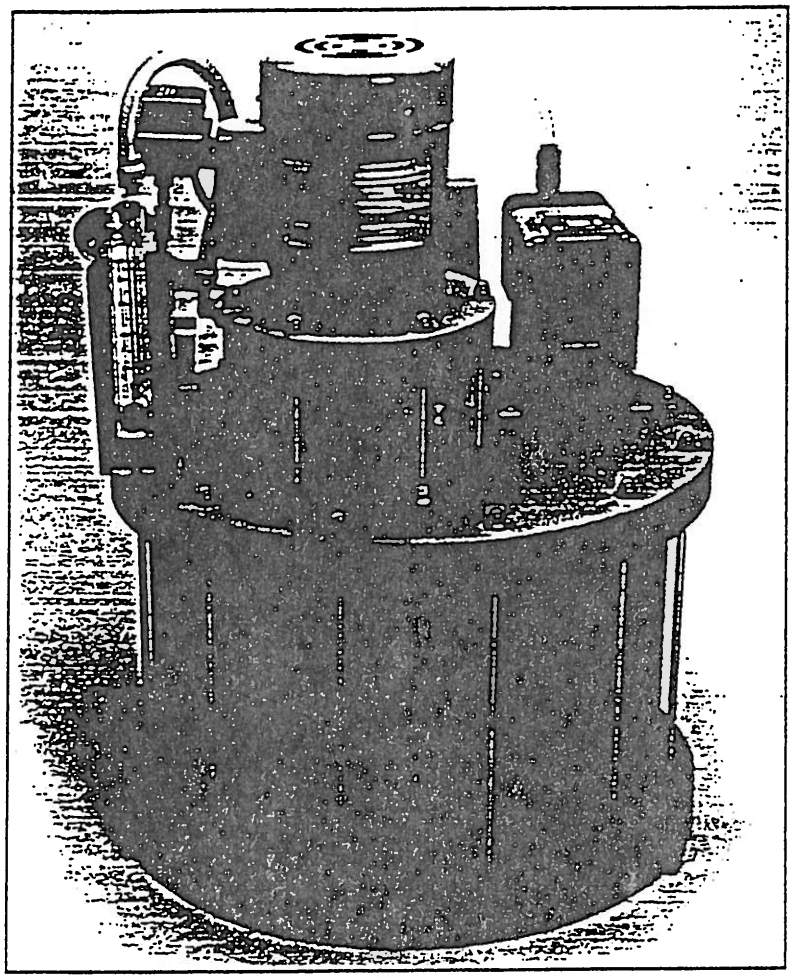
Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums,pails,etc.). Refer to Sections IV and IX.

POLYMIXER

EMULSION
POLYMER
FEEDERS



- ❑ REDUCE POLYMER CONSUMPTION
- ❑ LOW MAINTENANCE
- ❑ FULLY AUTOMATED
- ❑ 30 DAY UNCONDITIONAL WARRANTY – 1 YEAR PARTS

OVERVIEW

The **Patented Polymixer** unit thoroughly dilutes and ages emulsion polymers into a highly activated and uniformly diluted polymer solution. Pressurized water and small quantities of concentrated polymer are blended together within an in-line mixing chamber. The mixing unit contains a perforated turbine style impeller driven by a direct drive heavy duty motor and is baffled to produce high energy mixing throughout the entire chamber eliminating channeling and vortexing. Even high viscosity polymers may be rapidly blended in the high energy mixing chamber producing a consistent flow of homogeneous diluted polymer, free of "strings" and "fish eyes." The mixing chamber is constructed of transparent plastic with the entire mixing process readily visible to the operator.

The diluted molecules of polymer then pass through a **Patented Aging Chamber** which provides polymer adequate time to hydrate into highly active long chains of polymer. Since the fragile polymer molecules' integrity is maintained, the activity level attained is far superior to diluted polymer solutions produced in non-aged polymer blending devices.

REDUCE POLYMER CONSUMPTION

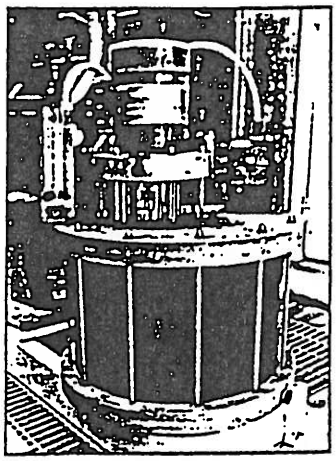
High shear mixing together with the **Polymixer's** patented aging chamber completely activates polymer to significantly reduce polymer consumption. The mixing chamber subjects emulsion polymers to an ultrahigh shear zone (for a few seconds) to mechanically strip the polymer of oil, uniformly disperse and prevent agglomeration; leaving microscopic particles of polymer to hydrate. The 15 gallon patented aging chamber mounted beneath the mixing chamber provides polymer sufficient aging time to hydrate into long chains of highly active polymer.

LOW MAINTENANCE

Commonly failed parts contained in similar polymer feeders such as belts and side-loaded bearings do not exist with the **Polymixer**. The mixer motor is connected to the impeller via a stainless steel direct shaft drive. All components that make-up the unit have been engineered to be readily accessible. The operator can access any **Polymixer** component within minutes.

STANDARD FEATURES

- Patented 15 Gallon Aging Chamber
- Clear Plexiglass Mixing Chamber
- Heavy Duty 3/4 h.p. Direct Drive TEFC Motor
- Stainless Steel Direct Drive Impeller
- Adjustable Stroke Polymer Pump w/Priming Port
- Weather Tight Electrical Components
- Pressure Regulator
- Low Pressure Shut-off Switch
- Powerloss Water Shut-off Valve
- 30 Day Unconditional Warranty
- 1 Year Warranty/Parts



FULLY AUTOMATED

Eliminate time-consuming, inconsistent batches of wasted polymer. The **Polymixer** automatically and continuously blends concentrations of emulsion polymer with pressurized water. Either low water pressure or a power loss will shut the unit off automatically.

OPTIONAL FEATURES

- Remote 4-20 ma Controllable
- External Pacing
- Post Dilution
- 30 Gallon Aging Chamber
- Wall Mounting Bracket/Stand
- Backflow Preventer Valves
- Drum Wand/Drum Air Dryer
- Calibration Tube
- Low Flow Shut-off Switch
- Auto-Flush
- Explosion Proof

GENERAL SPECIFICATIONS

DIMENSIONS: 24" diam, 32" tall, 180 lb. empty, 300 lb. service weight.
MATERIALS: **Mixer motor** is a 3/4 HP TEFC direct drive continuous duty, 1725 rpm operation (110 VAC, 60 HZ, 11 amps). **Mixing chamber** is constructed of clear plexiglass with four stainless steel baffles, enclosing a stainless steel impeller mounted to a stainless steel shaft. A ceramic/buna-n mechanical seal is used. **Aging chamber** is constructed of PVC and polypropylene. Internal chambers are also PVC.
INPUT/OUTPUT FITTINGS: Input 1/2" FNPT for 100 gph/300 gph, 1" FNPT for 10 gpm/20 gpm. Output 1" FNPT.
MAX WATER PRESSURE: 100 psi, 30 psi minimum.
ELECTRICAL: 110 VAC, 60HZ, max 15 amps, single phase service, 3-prong grounded plug.

Distributed by:

POLYMIXER

303 SILVER SPRING ROAD CONROE, TEXAS 77303
PHONE: (409) 856-4515 FAX: (409) 856-4589

PROCESS SOLUTIONS INTERNATIONAL (PSI) 713-326-4275
ROY DACUS & DAVID KELIEHOR FAX 326-1813
251-3 NASA RD 1, #203
SEABROOK TX 77586

ATTN: JOHN ELLIOTT

7200 SERIES

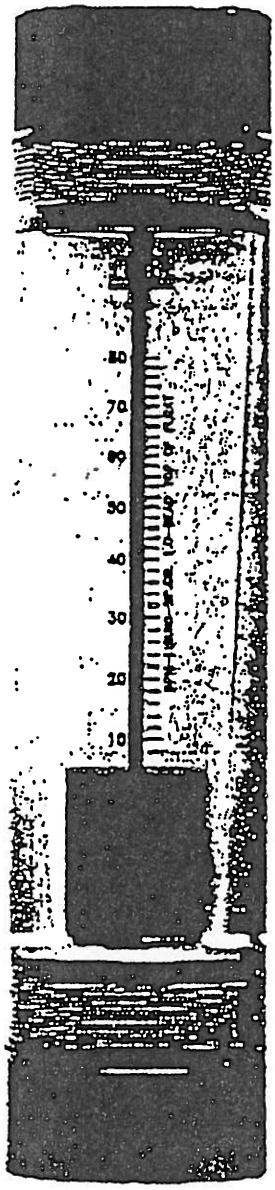
MEDIUM AND HIGH CAPACITY MODELS

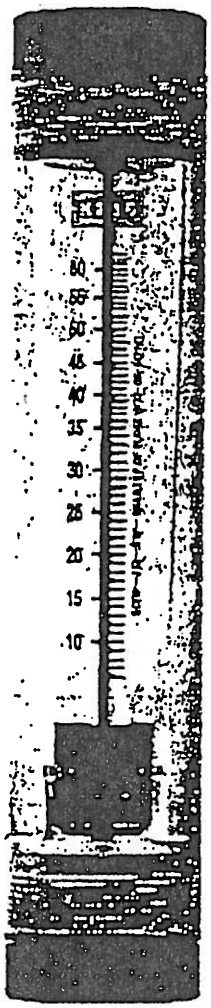
SCALE LENGTH
127mm (5")

ACCURACY/REPEATABILITY
see table page 11

CAPACITIES
5 GPM to 200 GPM--Water
40 SCFM to 245 SCFM--Air

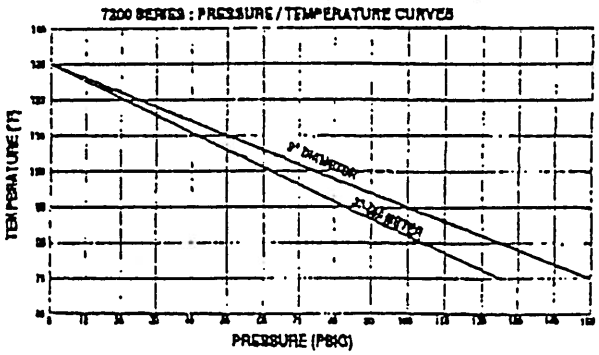
METERING TUBE MATERIAL
Machined Cast Acrylic





A real value in general purpose rotameters.

- Metering tubes are machined from solid cast acrylic rod stock. (Cast material is made from the most durable of all Acrylic resins.)
- Floats are rod guided.
- Scales are direct reading (GPM--Water or SCFM--Air).
- Special Scales are available.
- Meters have white screen printed backs for enhanced readability.
- Fittings thread into metering tubes.
- O-rings are used to create seals.
- Connections are in line type, NPT.
- Factory certified calibrations are available.



MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
Meter Tube	Acrylic	—
Fittings	PVC	Brass, 316 Stainless Steel
Float	316 Stainless Steel	—
Guide Rod	316 Stainless Steel	—
Float Stops	Polysulfone	—
O-rings	EPR	Viton, Buna-N

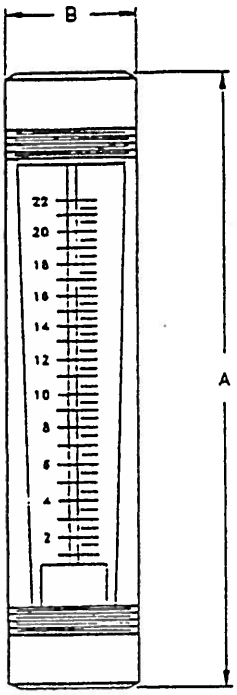
KING INSTRUMENT COMPANY • Phone (714) 841-3883 • Fax (714) 847-2062

GENERAL PURPOSE METERS

7200 SERIES

ORDER/CAPACITY INFORMATION

Order Number	Flow GPM–Water	Flow SCFM–Air	Accuracy (±)	Press. Drop (In./W.C.)	Connection Size	Dimensions A	Dimensions B
0151	.5-5	2-21	3%	10	1" FNPT	2"	10 1/4"
0161	1-10	4-40		12			
0171	1.5-15	6-62		18			
0181	2-22	—		22			
0191	3-30.5	—		26			
0201	4-40	—	6%	32	1 1/2" MNPT	2"	12 1/16"
0211	8-50	—		38			
0221	4-40	16-165	4%	18	2" FNPT	3"	13 1/4"
0231	6-60	25-245		25			
0241	8-80	—		30			
0251	20-100	—		35			
0261	30-120	—	6%	45			
0271	45-160	—		60			
0281	55-200	—		80			



ORDERING PROCEDURE ORDER #

(Exact Sequence Must Be Followed)

— — — — — — — — — — —
1 2 3 4 5 6 7 8 9 10 11

Material: Order #

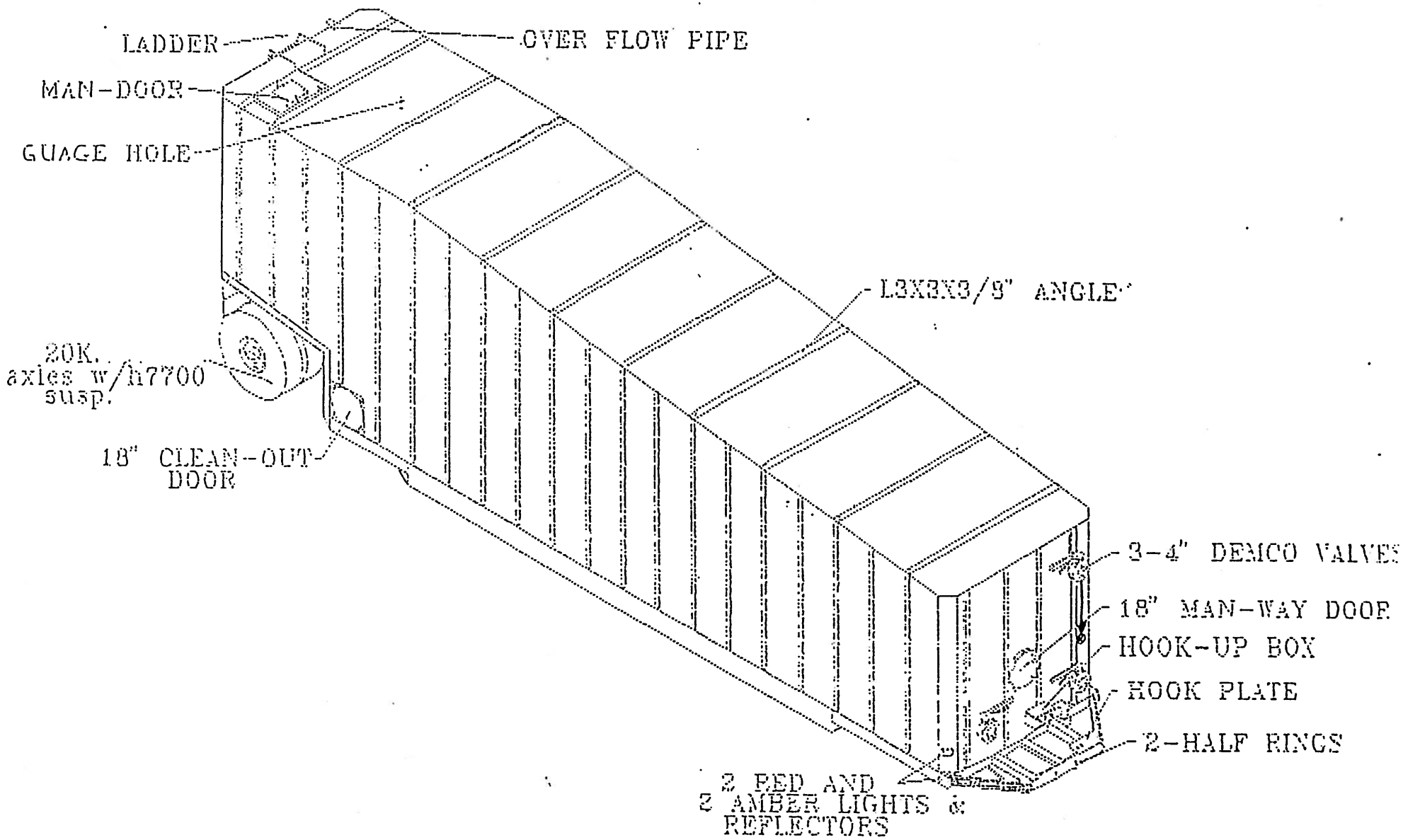
1. Specify Meter Series (Positions: 1–4) — 7205:
2. Specify Flow Range/Order Number from table above: (Position: 5–8)
3. Specify Fitting Material (Position: 9) — PVC: 3; Brass: 1; 316 Stainless Steel: 2
4. Specify O-Ring Material (Position: 10) — EPR: 1; Buna-N: 2; Viton: 3
5. Specify Fluid To Be Metered (Position: 11) — GPM–Liquid: W; SCFM–Air: A

KING INSTRUMENT COMPANY • Phone (714) 841-3663 • Fax (714) 847-2062

TEXOMA
Tank Company, Inc.

500 BBL. MOBILE STORAGE TANK

SLOPED-TOP DESIGN



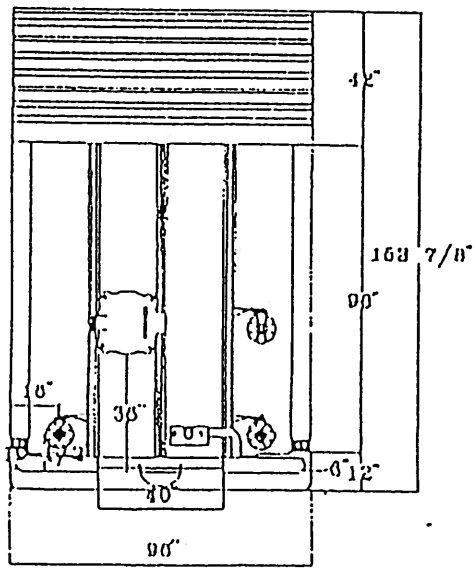
TEXOMA
Tank Company, Inc.

500 BBL. MOBILE STORAGE TANK

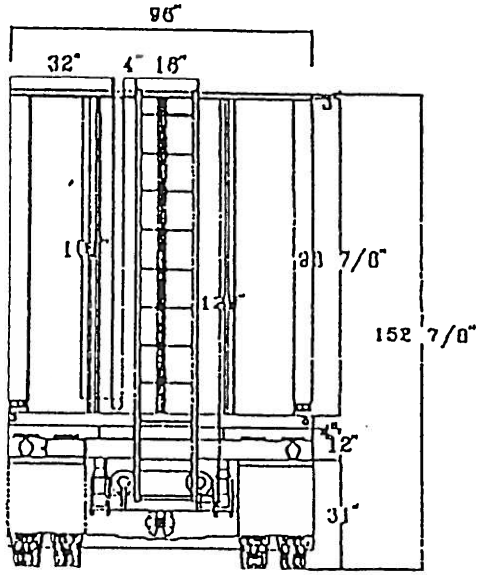
SLOPED-TOP DESIGN

42 gallon / Barrel

500 x 42 = 21,000 gal



FRONT VIEW



REAR VIEW

GOOSENECK TRAILER MFG. CO. INC. BRYAN, TEXA

TEXOMA FRAC-TANKS
FRONT & REAR

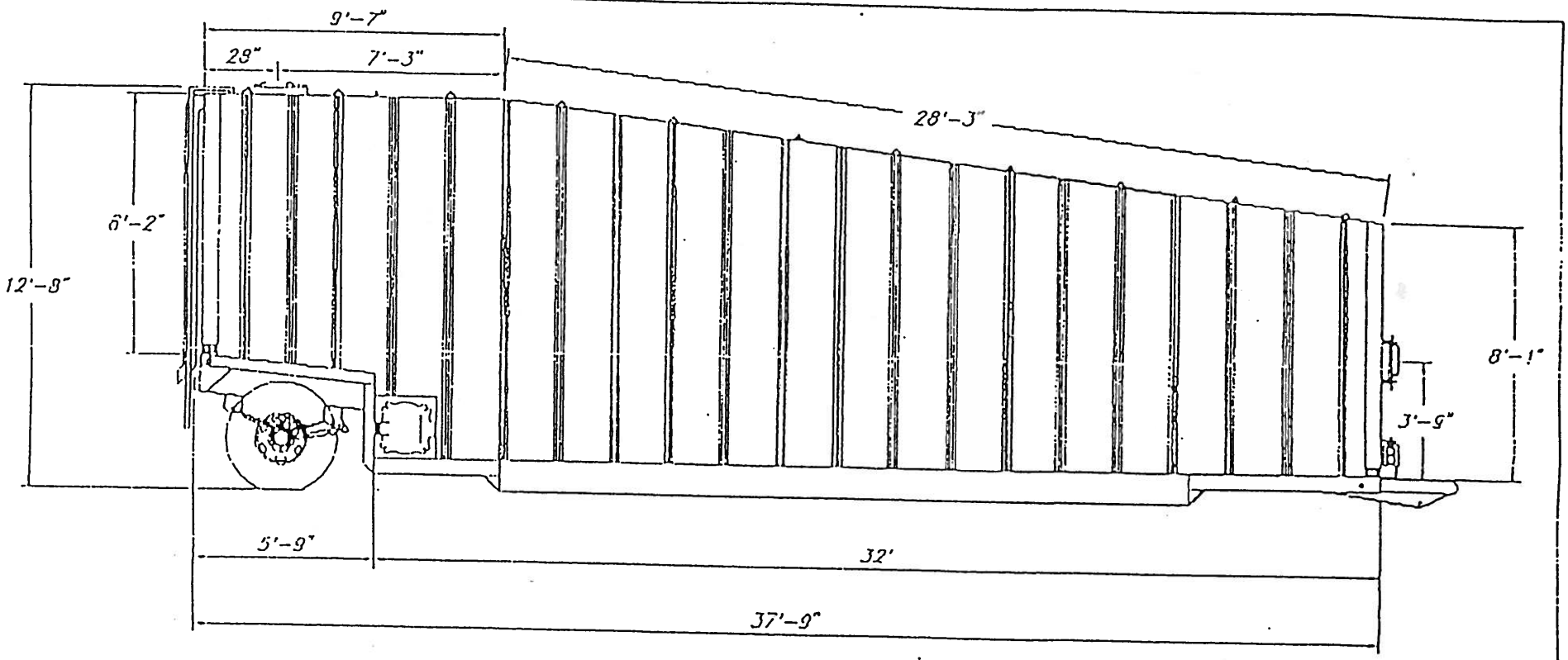
SCALE 1/4" = 1'-0"
DATE 7-14-91
DRAWN BY L.J.L.

MATL: A36 MILD STEEL

TEXOMA
Tank Company, Inc.

500 BBL. MOBILE STORAGE TANK

SLOPED-TOP DESIGN

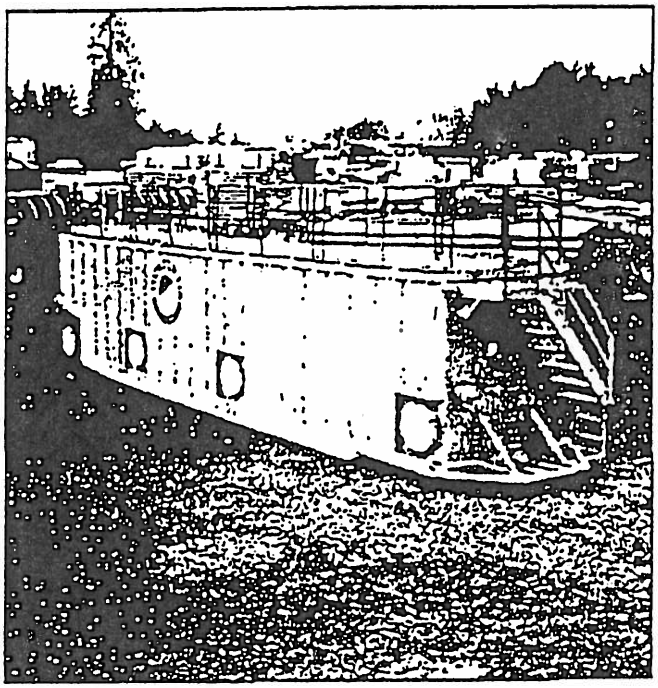


SIDE VIEW

GOOSENECK TRAILER MFG. CO. INC. BRYAN, TEXAS		
TEXOMA TANK COMPANY, INC.		
500 Bbl. Mobile Storage Tanks		
MATL:		

Steel TANKS

WORKSAFE™
18,100 Gallon Steel Weir Tank

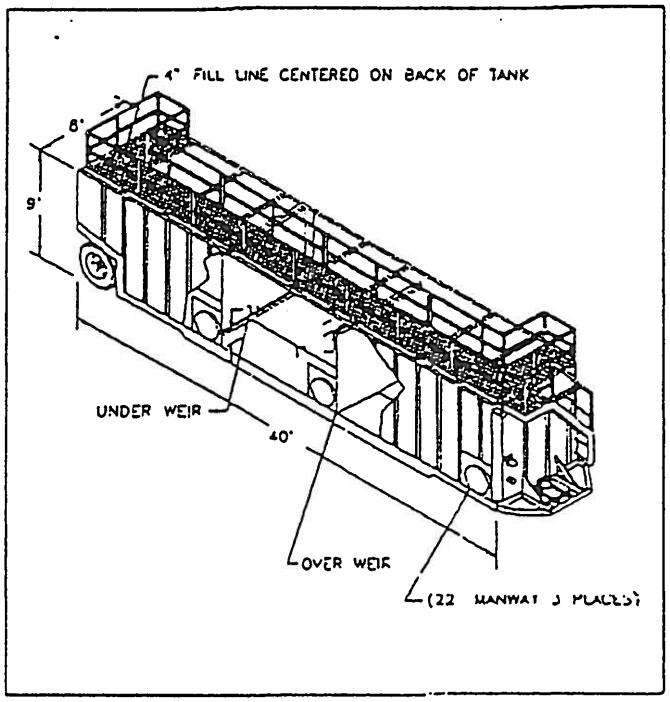


18,100 Gallon Weir Tank

WORKSAFE™ Weir Tank Features:

- *Over and under Weirs*
- *Safety stairway*
- *Complete guard rail system*
- *"V" shaped floor with 4" valves at each end for quick cleaning*
- *Easy to move and transport*

Weir Tank Dimensions



Technical Information

WORKSAFE™ Weir tanks come with a "V" shaped floor, allowing any residual fluid in the tank to easily flush out through the floor level 4" valves. Staircase, guard rails, and four 22" manway hatches are standard equipment. This allows easy monitoring of the fluids and easy cleaning when finished.

Material Specifications

Steel construction with cross style internal bracing. Two 4" Butterfly valves located at either end of the "V" shaped floor. Permanently attached axles for maximum maneuverability. Staircase attached to front end and a guard rail system on the tank walkway. Three 22" manway hatches. Each tank comes equipped with over and under weirs for simple seperation of liquids. These tanks are open top with a walkway and complete guard rail running the length of the tank.

RENTAL TANKS
TEMPORARY HAZARDOUS LIQUID CONTAINMENT SYSTEMS

RAIN FOR RENT PO BOX 2248, BAKERSFIELD CA 93303
(800) 742-7246 (805) 399-9124 FAX (805) 393-1542

ATTACHMENT E
FUGITIVE EMISSIONS CONTROL SYSTEM DATA SHEET

AeroPure 250

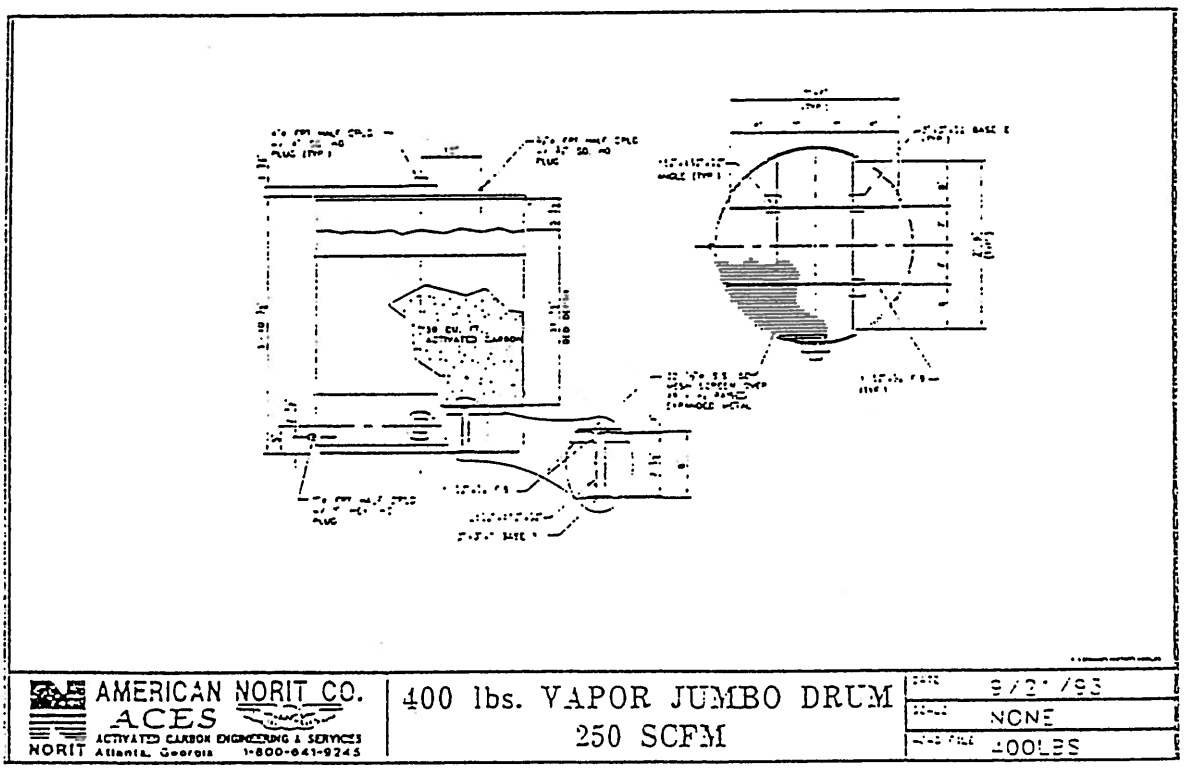
AMERICAN NORIT CO.
ACES
ACTIVATED CARBON ENGINEERING & SERVICES
NORIT Atlanta, Georgia 1-800-641-9245

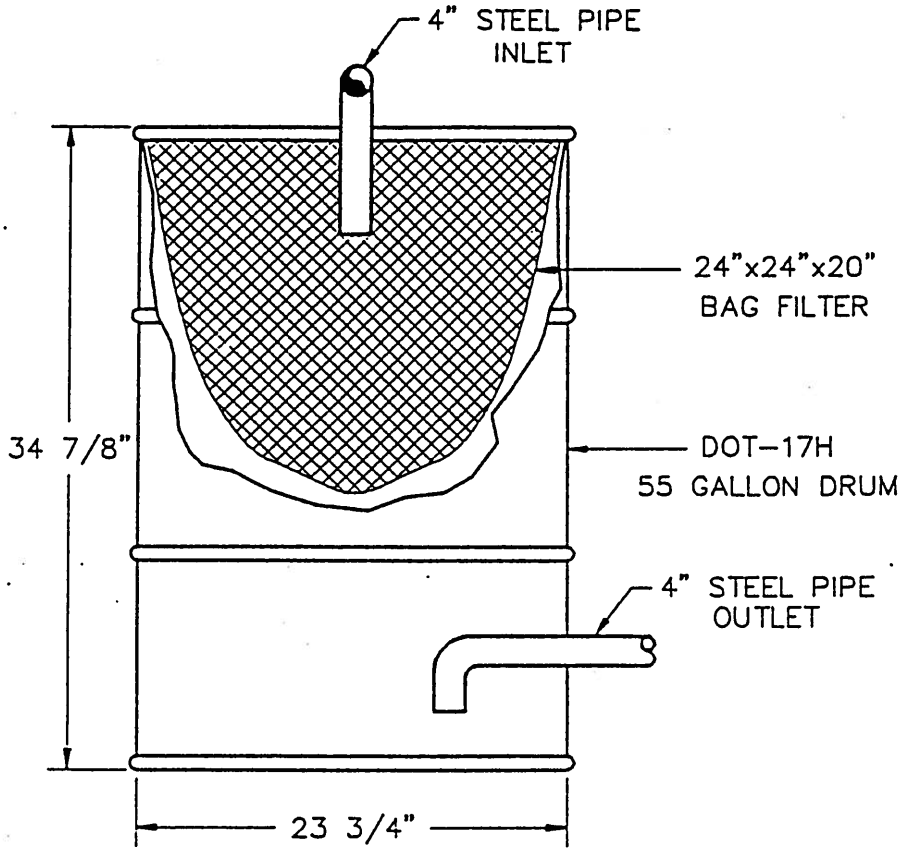
The AeroPure 250 is a specially designed drum adsorber that will help you solve your adsorption needs when the flows required are less than 250 CFM. This drum adsorber can be used in upflow or downflow and is equipped with four (4) inch diameter threaded, full coupling inlet/outlet ports. In addition the drum has the following standard features:

- 15 ft^3 of Activated Carbon (400 pounds of Vapure)
- Upper and lower plenum space for even distribution of vapor
- One-half (½) inch threaded, full coupling at base of vessel for condensate drain
- Carbon Steel Construction

Options

- Easy connect/disconnect CAMLOC fittings with Isolation butterfly valves on inlet/outlet
- Blower Fan with optional Explosion Proof Motor
- VOC indicators
- Stainless Steel Construction
- Fiberglass Construction





NOT TO SCALE

ENSR™

ENSR REMEDIATION AND CONSTRUCTION

FILTER BARREL
FUGITIVE EMISSIONS CONTROL SYSTEM
RANDALL TEXTRON SITE
GRENADA, MISSISSIPPI

DRAWN: J. MITSAKIS	DATE: 01/13/95	PROJECT NUMBER:
APPV'D:	REVISED:	9500-182-007

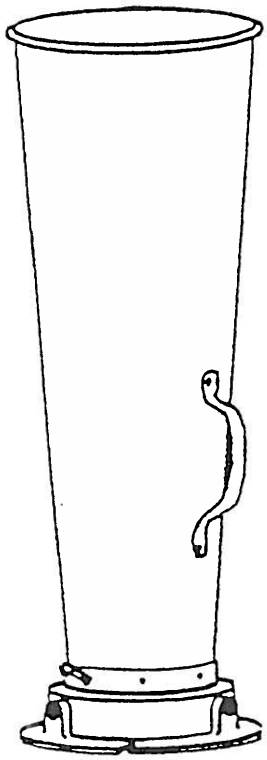
CE950092
01/13/95

UNIVERSAL TOOL

MODEL UT-9210/UT-9220/UT-9230/UT-9240 AIR MOVERS OPERATING INSTRUCTIONS & PARTS MANUAL

PL-205

READ CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE OR SERVICE THIS UNIVERSAL TOOL. FAILURE TO COMPLY WITH THE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE! RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.



• TOOL APPLICATION AND USAGE •

This air mover shall be used only for the purposes intended in its design and within the capacity for which it is intended and rated. It shall be the tool owner's and/or employer's responsibility to keep required rating and warnings on the tool in legible condition. It shall be the tool owners or employers responsibility to instruct each operator in the safe use of the tool and that the air mover is operated and maintained in safe condition..

Maintenance and repair shall be performed by authorized, trained competent personnel. Hoses and fittings shall be replaced if unsuitable for safe operation. Pressure regulators shall be used to limit supply pressure to the rated pressure where the pressure exceeds the air movers rated pressure. Air hoses and lines shall be relieved of compressed air before being disconnected.

• TOOL MAINTENANCE •

Tool performance ratings are based on clean parts. Care should be taken to prevent clogging of air passageways and nozzle jets. Periodic steam cleaning is appropriate.

This tool shall not be used without safety devices as furnished by the manufacturer

PERFORMANCE AND SPECIFICATIONS

Supply Pressure (psig)	3" Short UT-9210	3" UT-9220	6" UT-9230	8" UT-9240
Total Air Flow (CFM)				
40	970	1100	2860	4270
60	1155	1290	3460	5350
80	1400	1540	4020	6260
Air Consumption (SCFM)				
40	39	38	74	119
60	50	52	97	175
80	64	63	132	235
Induction Ratio (ratio of total air flow to air consumption shown here as a measure of effecienc				
40	24.9	28.9	38.6	35.9
60	23.1	24.8	35.2	30.6
80	21.9	24.4	30.0	26.6

PHYSICAL PROPERTIES	3" Short UT-9210	3" UT-9220	6" UT-9230	8" UT-9240
Overall Length (in.)	16 1/2	32 1/2	44 1/2	46
Dia. of Base (in.)	7.3	7.3	11.5	14.4
Dia. at Top (in.)	6	7	12	14
Bolt Circle Dia. (in.)	6.5	6.5	10.8	13.5
3 Slots on Base - Width/Dia (in.)	0.4	0.4	0.4	0.5
Inlet Size (NPT)	1/2	1/2	1	1
Weight (lbs.)	5 1/2	8	19	28 1/2

LIMITED WARRANTY

Universal Tool warrants its tools to be free from defects in material and workmanshi for one year from the date of purchase. This warranty does not apply to tools which hav been abused, misused, modified or repaired by someone other than Universal Tool o its authorized service centers. If a Universal Tool proves defective in material o workmanship within one year after purchase, return it to any authorized service cente or Universal Tool freight pre-paid. Please enclose your name, address and adequat proof of date of purchase and a short description of the defect. Universal Tool will, a its option, repair or replace defective tools, free of charge. Repairs or replacements ar warranted as described above for the remainder of the original warranty perioc Universal Tool's sole liability and your exclusive remedy under this warranty is limite to repair or replacement of the defective tool. There are no other warranties expresse or implied and Universal Tool shall not be liable for incidental, consequential or specia damages, or any other damages, costs or expense of repair or replacement a described above.

• OPERATING INSTRUCTIONS •

⚠ WARNING ⚠

Do not drag the air mover's aluminum base across steel. A heavy smear of aluminum on steel when struck can cause an incendiary spark and fire may result.

All air movers are equipped with a grounding lug. Attach a ground wire to prevent buildup of any static electricity whenever operating in a volatile or potentially volatile environment.

Do not exceed 150 psig pressure. This air mover is designed to operate at a pressure of 150 psig maximum, at the inlet. Use of higher pressure can may cause injury. The air or steam supply should be clean and dry. For best results drain the moisture from your compressor daily.

Use extreme caution in areas where other compressed gases or liquids are present. Flammable or explosive mixtures may result.

CAUTION
Read all operating and safety instructions before operating any air mover.

CAUTION
Secure the air mover in place prior to turning on the supply pressure. It may move from its intended position. Also check for loose parts, be cautious of loose clothing and check the immediate area for small objects which may be caught up in the air mover's flow path and thrown.

CAUTION
Eye protection recommended. Impact resistant eye protection should meet or exceed the standards as set forth in ANSI Z87.1, Occupational and Educational Eye and Face Protection. Look for the marking Z87.1 on your eye protection to insure that it is an approved style. For further information, ANSI Z87.1, Occupational and Educational Eye and Face Protection, is available from the American National Standards Institute, Inc., 11 West 42nd Street, New York, N Y 10036.

CAUTION
Hearing protection is recommended and should be worn when noise level meet or exceeds the limits of applicable Federal, State or local statutes, ordinances and/or regulations. If you are unable to determine your noise level exposure, we recommend the use of hearing protection.

APPENDIX G

WASTE MANIFESTS

Emergency Contact Telephone Number

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. MSD007037278	Manifest Document No. 00002	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.

GENERATOR

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901

4. Generator's Phone (601) 226-1161

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.

6. US EPA ID Number: OHD000000539

C. State Transporter's ID

D. Transporter's Phone: 513-772-1145

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232

10. US EPA ID Number: OHD083377010

G. State Facility's ID

H. Facility's Phone: 513/541-1823

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	HM		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a.	X	Hazardous waste, liquid, n.o.s., 9, NA3082, PG III, (F001)	001	TT	0450	G	F001
b.							
c.							
d.							

J. Additional Descriptions for Materials Listed Above
a. Profile #95551 ERG#31

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimized the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: John Bolik | Signature: John Bolik | Month 01 Day 11 Year 95

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Eldon Osmun | Signature: Eldon Osmun | Month 01 Day 11 Year 95

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR'S COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MSD007037278
Manifest Document No. 95008
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OHD000005539
513-772-1145

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	04500	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Haffer	[signature]	01	20	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
VERNON HOWE	Vernon Howe	01	20	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

(3)

Please Verify Your Copy
Form Designed for use on the 12 pitch typewriter

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: [illegible]
Manifest Document No.: [illegible]
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: [illegible]
513-772-11[illegible]

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD 0833770 10

A. Transporter's Phone:
B. Transporter's Phone:
C. Facility's Phone: 513/541-1623

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	00.1	T.T	0.4.5.0.0	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 [illegible]

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1623 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	[illegible]	[illegible]	15

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

(4)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. [illegible]
Manifest Document No. [illegible]
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Gren[illegible], [illegible] 38[illegible]1
4. Generator's Phone (601) 22[illegible]-[illegible]

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: [illegible]
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: [illegible]
A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	0.0.1	T.T	0.4.5.0.0	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 [illegible]

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Garry J Berry	[illegible]			

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

(5)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95009
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OH0000000539
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	00.1	T.T	0.4500	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hoffield	[signature]	01	21	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Eldon Osmun	Eldon Osmun	01	21	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

(6)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95018
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OH0000000539
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: [illegible]
Signature: [signature]
Month 01 Day 23 Year 95

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: LARRY TOLES
Signature: [signature]
Month 01 Day 23 Year 95

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month Day Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MSD007037278

Manifest Document No. 95020

2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901

4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.

6. US EPA ID Number: OHD000000539

513-772-1145

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232

10. US EPA ID Number: OHD083377010

A. Transporter's Phone

B. Transporter's Phone

C. Facility's Phone 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Gary Hall | Signature | Month 01 Day 23 Year 95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month 01 Day 23 Year 95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

(8)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037279
Manifest Document No.: 95019
2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OH0000000539
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone:
B. Transporter's Phone:
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Gary McCold
Signature: [signature]
Month 01 Day 23 Year 95

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Eldon Osmun
Signature: Eldon Osmun
Month 01 Day 23 Year 95

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name:
Signature:
Month Day Year

GENERATOR'S COPY

(4)

Please print or type
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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95001
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Environmental Enterprises of FL
6. US EPA ID Number: FLD984182725
407-855-0141

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	0500	3
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503 AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	01	24	05

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Charles H Stephens III	[illegible]	01	24	05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

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(10)

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95002
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Environmental Enterprises of FL
6. US EPA ID Number: FLD984182725
407-855-0141

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503 AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Gary Hoffell
Signature
Month 01 Day 24 Year 95

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Gary Williams
Signature
Month 01 Day 24 Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

GENERATOR TO TRANSPORTER TO FACILITY

GENERATOR'S COPY

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(11)

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95016
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OH0000000539
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Gary Hatfield
Signature: [signature]
Month / Day / Year: 01 / [illegible] / [illegible]

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Clinton L. Elkin
Signature: [signature]
Month / Day / Year: [illegible]

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month / Day / Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month / Day / Year:

GENERATOR

TRANSPORTER

FACILITY

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(12)

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 9500 3
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Environmental Enterprises of FL
6. US EPA ID Number: FLD984182725
407-855-0141

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503 AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Gary Heffield
Signature:
Month 01 Day 26 Year 95

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Charles H Stephens III
Signature:
Month 01 Day 27 Year 95

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month Day Year

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(13)

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95017
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901

4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OH0000000539
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232

10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hoffield	Gary Hoffield	01	26	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Eldon Osmun	Eldon Osmun	01	26	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

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(14)

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MSD007037278
Manifest Document No. 95005
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Environmental Enterprises of FL
6. US EPA ID Number: FLD984182725
A. Transporter's Phone: 407-855-0141

7. Transporter 2 Company Name:
8. US EPA ID Number:
B. Transporter's Phone:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NEIR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503 AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Gary Hatfield
Signature:
Month 01 Day 22 Year 95

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month / Day / Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month / Day / Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month / Day / Year

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95015
2. Page 1 of 1

Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: ~~Midwest Envir. Transport, Inc.~~
6. US EPA ID Number: ~~OH0000008539~~
~~513-772-1145~~

Transporter 2 Company Name: Environmental Enterprises of Fl.
8. US EPA ID Number: FLD984182725
407-855-0141

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hatfield	[signature]	01	28	75

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Charles H Stephens III	[signature]	01	28	75

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MSD007037279
Manifest Document No. 95014
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name ~~Midwest Envir. Transport, Inc.~~
6. US EPA ID Number ~~OHD000005379~~ ~~513-772-1145~~

7. Transporter 2 Company Name Environmental Enterprises of Fl.
8. US EPA ID Number FLD984152725 407-855-0141

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NRR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hoffold	Gary Hoffold	01	22	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
J.D. PLEASANT	J.D. Pleasant	01	22	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR TRANSPORTER FACILITY

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(17)

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MSD007037278 | Manifest Document No. 95011 | 2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901

4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OH0000000539
513-772-1145

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232

10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NNNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hoff, Ld	[signature]	01	28	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
GARY V BERRY	[signature]	01	28	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

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(18)

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NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: M S D 0 0 7 0 3 7 2 7 8
Manifest Document No.: 9 5 0 1 0
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: O H 0 0 0 0 0 0 0 5 3 9
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number: O H D 0 8 3 3 7 7 0 1 0

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	0.0 1	T.T	0.50.0.0	G
b.				
c.				
d.				

15. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hoffield	[signature]	01	2[illegible]	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Steven L Rose	[signature]	01	2[illegible]	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

12-BLS-C5 Rev. 11/89

GENERATOR'S COPY

(19)

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037278
Manifest Document No.: 95013
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901

4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Midwest Envir. Transport, Inc.
6. US EPA ID Number: OH0000000539
513-772-1145

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232

10. US EPA ID Number: OHD083377010

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	0500	9
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 NHNR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hoffield	[signature]	01	30	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
X STEVEN D. HITTE	Steven D. Hitte	01	30	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

12-BLS-C5 Rev. 11/89

Print or Type (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. M S D 0 0 7 0 3 7 2 7 8
Manifest Document No. 9 5 0 1 2
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901
4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name
Midwest Envir. Transport, Inc.
6. US EPA ID Number
O H 0 0 0 0 0 0 0 5 3 9
513-772-1145

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232
10. US EPA ID Number
O H D 0 8 3 3 7 7 0 1 0

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone
513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	001	TT	05000	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993, NHR

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503
AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Harrold	Gary Harrold	01	31	95

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Timothy B Booth	Timothy B Booth	01	31	95

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

12-BES-05 Rev. 11/89

GENERATOR'S COPY

(21)

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: [illegible]
Manifest Document No.: [illegible]
2. Page 1 of 1

3. Generator's Name and Mailing Address
Rockwell International
Route 332 East
Grenada, MS 38901

4. Generator's Phone (601) 226-0164

5. Transporter 1 Company Name: Environmental Enterprises of FL
6. US EPA ID Number: E L D 9 8 4 1 8 2 7 2 5
407-855-0141

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Environmental Enterprises
4650 Spring Grove Avenue
Cincinnati, Ohio 45232

10. US EPA ID Number: O H D 0 8 3 3 7 7 0 1 0

A. Transporter's Phone:
B. Transporter's Phone:
C. Facility's Phone: 513/541-1823

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-Regulated Waste Rainwater	[illegible]	TT	[illegible]	[illegible]
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a.) Profile #A1993 [illegible]

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY CONTACT: Gary Davis (513)541-1823 or (800)392-1503 AND CONTACT 911

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Gary Hefferd	[signature]	[illegible]	[illegible]	[illegible]

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Sam Williams	Sam Williams	[illegible]	[illegible]	[illegible]

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

12-BLS-C5 Rev. 11/89

GENERATOR'S COPY

EXAS WATER COMMISSION
.O. Box 13087, Capitol Station
Austin, Texas 78711-3087

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

Form approved. OMB No. 2050-0039, expires 09-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: M S D 0 0 7 0 3 7 2 7 8 — Manifest Document No.: 1 8 1 5 7

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
ROCKWELL INTERNATIONAL CORP.
630 HWY 332 EAST, GRENADA, MS 38901-

4. Generator's Phone (713) 339-3700

A. State Manifest Document Number: L0018157

B. State Generator's ID: 99928

5. Transporter 1 Company Name: LAIDLAW ENVIRONMENTAL SERVICES (FS), INC.

6. US EPA ID Number: T X D 9 8 8 0 2 3 3 0 5

C. State Transporter's ID: 75425

D. Transporter's Phone: (713) 998-7350

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. State Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address
LAIDLAW ENVIRONMENTAL SERVICES (TES), INC.
500 BATTLEGROUND ROAD ATTN: MANIFESTING DEPT
LAPORTE, TX 77571

10. US EPA ID Number: T X D 9 8 2 2 9 0 1 4 0

G. State Facility's ID: 50225

H. Facility's Phone: (713) 476-0645

11A. HM	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
	NON REGULATED MATERIAL, NON HAZARDOUS SOLID	0 0 1	C M	2.0	Y	OUTS3191 N / R
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above
Additional EPA Waste Codes a. b. c. d.

K. Handling Codes for Wastes Listed Above
a. M141
b.
c.
d.

15. Special Handling Instructions and Additional Information
Approval Numbers a. TSROR-46082 b. c. d.
WO#: 26279
Emergency Contact: 1-800-446-5777 Walt Stringer

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: John Bozich — Signature: [signature] — Month Day Year: 07 28 95

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Billy Hicks — Signature: Billy Hicks — Date: 07 31 95

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: — Signature: — Date: Month Day Year

C-0311 (Rev. 01/01/89) White-original Pink-TSD Facility Yellow-Transporter Green-Generator's first copy

LAIDLAW ENVIRONMENTAL SERVICES

Customer Notification And Certification

FORM A
Page 1 of 1

Generator Name/Location: ROCKWELL INTERNATIONAL CORP. 630 HWY 332 EAST, GRENADA MS 3890

EPA I.D. Number: MSD007037278

Waste Profile or ARF Designation: 46082

Manifest Number: L0018157

EPA Waste Number(s): NONE

Waste Analysis Available? Yes (attached) ____ No ✓ On file at receiving facility ____

Unrestricted Waste Notification (*Category 1*)
Mark the statement below if you generate a waste that is not a land disposal restricted waste (the waste has no applicable treatment standards).

☑ *I notify that I am familiar with the waste through analysis and testing or through knowledge of the waste to support this notification that the waste is not restricted as specified in 40 CFR §268, Subpart D or any applicable prohibitions set forth in 40 CFR §268.32 or RCRA Section 3004(d).*

Restricted Waste/Debris Notification (*Category 2*)
Mark statement (2a) below if you generate a waste that is restricted from land disposal (the waste has applicable treatment standards). NOTE-1: A waste may pass one or more standards and require treatment or be varianced for others. In this case, all applicable categories must be checked. NOTE-2: D001, D002 and D012 - D043 wastes must be evaluated for underlying constituents found in 40 CFR §268. 48 (Table UTS), that are reasonably expected to be present. A list of these constituents must be included on FORM B, or attached to and accompany this notification with each waste shipment. Mark statement (2b) if you generate a debris waste that will be treated to the alternate debris standards located in 40 CFR §268.45.

☐ **(2a) Restricted Waste Notification**
I notify that I am familiar with the waste through analysis and testing or through knowledge of the waste to support this notification that the waste is subject to the treatment standards specified in 40 CFR §268 Subpart D. The waste: (a) must be treated to the appropriate regulatory treatment standard, by the appropriate regulatory treatment method; (b) qualifies for a variance as described in category 3 below; or (c) meets some or all of the standards as described in Category 4 below.

☐ **(2b) Alternate Debris Treatment Notification: This hazardous debris is subject to the alternate treatment standards of 40 CFR §268.45.**
The waste contains the following contaminants subject to treatment [check all that apply]:
_____§268.45(b)(1) - Toxicity characteristic debris;
_____§268.45(b)(2) - Debris contaminated with listed waste;
_____§268.45(b)(3) - Cyanide reactive debris.

Restricted Waste Variance Notification (*Category 3*)
Mark the statement below and list the applicable variance date on Form B, if you generate a waste which does not require treatment prior to land disposal because of a variance (including a case-by-case extension under 40 CFR §268.5, a nationwide variance under 40 CFR §268 Subpart C, a no migration petition under 40 CFR §268.6, or other applicable variance).

☐ *I notify pursuant to 40 CFR §268.7(a)(3) that I am familiar with the waste through analysis and testing or through knowledge of the waste to support this notification that this waste is subject to a national capacity variance under 40 CFR §268 Subpart C, or a case-by-case extension under 40 CFR §268.5, or an exemption under 40 CFR §268.6.*

Restricted Waste Certification (Treatment Standards Met) (*Category 4*)
Mark the certification statement below if you generate a waste that is restricted from land disposal (the waste has applicable treatment standards), and the waste meets the standards as generated. Note: All applicable constituent standards must be accounted for. A waste may pass one or more standards and require treatment or be variance for other constituents. In this case, all applicable categories must be checked.

☐ *I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA § 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.*

SIGNATURE: [signature] DATE: 7-28-95

PRINT NAME: Julia Bozick TITLE: Env. Eng.

Revised 10/94 585-7510-585003

DATE	LAIDLAW ENVIRONMENTAL SERVICES SERVICE RECEIPT	NO. 50950
7-31-95		
TRUCK # TRAILER # 52093 - 52095 T		MANIFEST NO(S) 0012157

CUSTOMER: Rockwell International

UNIT NAME: Canada MS

GROSS WEIGHT

DESTINATION: LES Altair Tx

P.O.#

COMMODITY: Non Haz - PPE

QUANTITY: 20YDS

TRANSPORTATION INFORMATION:

☒ Load & Deliver ☐ Delivery and Dolly Down Only

ROLL OFF INFORMATION

☐ Deliver (Box # _____) ☐ Swap Out (Box # In _____) (Box # Out _____)

☒ Pickup & Return (Box # _____) ☐ Pickup No Return (Box # _____)

☐ Respot (Box # _____) Dump on Site (Box # _____) Installed ☐ Tarp ☐ Bows ☐ Liner

CONDITION OF EQUIPMENT DELIVERED OR PICK UP

	Driver Completes	Customer Completes
Condition of Container	Good – Fair – Poor –	Good – Fair – Poor –
Condition of Bows	Good – Fair – Poor –	Good – Fair – Poor –
Condition of Tarp	Good – Fair – Poor –	Good – Fair – Poor –

Driver's Signature: _____ Customer's Signature: _____

LOADING APPOINTMENT		UNLOADING APPOINTMENT	
DATE:	TIME:	DATE:	TIME:
TIME-IN ORIGIN	TIME-OUT ORIGIN	TIME-IN DESTINATION	TIME-OUT DESTINATION
[illegible] a.m. p.m.	1130 a.m. p.m.	a.m. p.m.	a.m. p.m.

COMMENTS:

[illegible]

[signature] Shipper Signature _____ Date _____ Receiver Signature _____ Date

[signature] Driver Signature _____ Date 7-31-95

FOR OFFICE USE ONLY

White: Office Blue: Billing Green: Billing Pink: Numerical Goldenrod: Customer

ALL COPIES MUST BE LEGIBLE. PLEASE PRINT OR TYPE. SEE INSTRUCTIONS ON BACK.

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES
Bureau of Waste Management
P.O. Box 8550
Harrisburg, PA 17105-8550

ER-WM-51 REV. 10/94

OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved. OMB No. 2050-0 Expires 9-30-96

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MSD007037218 — Manifest Document No.: 07953

2. Page 1 of

Information within the blue border is not required by Federal law but may be required by State law.

3. Generator's Name and Mailing Address
Rockwell International
Route 332 E.
Grenada, MS 38901

A. State Manifest Document Number: PAE 4711910

B. State Gen. ID

5. Transporter 1 Company Name: J.B. Hunt Special Comodities
6. US EPA ID Number: ARD981908551

C. State Trans. ID: PA-AH 0400

7. Transporter 2 Company Name
8. US EPA ID Number

D. Transporter's Phone: (800) 368-8539

E. State Trans. ID: PA-AH

9. Designated Facility Name and Site Address
Envirotrol Inc.
24th St. Extension and 31st St.
Beaver Falls, PA 15010
10. US EPA ID Number: PAD920707087

F. Transporter's Phone ( )

G. State Facility's ID: N/A

H. Facility's Phone: (412) 741-2030

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Hazardous Waste, Solid N.O.S. (spent Activated Carbon containing tri chloroethylene) 9, PG III NA3077	16	BA			F001
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

	Lab Pack	Physical State		Lab Pack	Physical State
a.			c.		
b.			d.		

K. Handling Codes for Wastes Listed Above
a. c.
b. d.

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economical practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health ar the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is availab to me and that I can afford.

Printed/Typed Name: John Bozick — Signature: John Bozick — MONTH 08 DAY 04 YEAR 95

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: William G. Thompson — Signature: William G. Thompson — MONTH 08 DAY 04 YEAR 95

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — MONTH DAY YEAR

FACILITY

19. Discrepancy Indication Space

20. Facility owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name — Signature — MONTH DAY YEAR

GENERATOR

In case of an emergency or spill immediately call the National Response Center (800) 424-8802 and the PA DER (717) 787-4343

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete

NOTICE FROM GENERATOR TO TREATMENT FACILITY THAT WASTES DO NOT MEET LAND PROHIBITION TREATMENT STANDARDS

The wastes identified on manifest number PAE 4711910 and bearing the EPA Hazardous Waste Number(s) F001 are subject to the land disposal restrictions of 40 CFR Part 268. The wastes do not meet the treatment standards specified in Part 268 Subpart D or do not meet the prohibitions specified in 268.32 or RCRA section 3004(d). The treatment standards or prohibition levels applicable to each waste are identified below:

EPA Hazardous Waste No.[1]	Subcategory[2]	Treatability Group[3]	Treatment Standard or Prohibition Level	CFR Reference for Treatment Standard[4]	Treatment Method[5]
F001	NA	Both		268.42(a)	INCINERATION

[1]Hazardous waste numbers can be determined from 40 CFR 268.
[2]Subcategory (if any), e.g., low-mercury subcategory.
[3]Treatability group is either "wastewater" or "nonwastewater."
[4]To find the CFR reference for the treatment standard look up the waste in 268.41(a)-Table CCWE; 268.42(a)(1), (a)(2),(c), and Tables 2 and 3; and 268.43(a)-Table CCW. The reference must include both the section and paragraph where the treatment is found, e.g. 268.42(a).
[5]Wherever the CFR reference is 268.42, a treatment method must be included, e.g. incineration.

A waste analysis for these wastes is attached, where available.

SIGNED: [signature]

TITLE: Supervison

DATE: 8-4-95

COMPANY NAME: ENSR

SITE NAME: Rockwell International

APPENDIX H

ANALYTICAL REPORTS ON STORMWATER AND VARIOUS STAGES OF WATER TREATMENT

ECKENFELDER INC.®

LIENT: ROCKWELL INTERNATIONAL # 9519
DATE SAMPLED: 12/7/94, 12/8/94
ATE RECEIVED: 12/9/94
ATE REPORTED: 12/12/94
DATE REVISED: 12/13/94

CKENFELDER SAMPLE NUMBER			9139	9139D	9140	9141	
LIENT SAMPLE DESCRIPTION			IT-1	IT-1	ET-1	Trip Blank #313	Method Blank
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC	20X (1) CONC	CONC	CONC	CONC
Acetone	5.0	50	50	U	U	U	U
enzene	1.0	10	U	U	U	U	U
romodichloromethane	1.0	10	U	U	U	U	U
Bromoform	1.0	10	U	U	U	U	U
romomethane	2.0	20	U	U	U	U	U
-Butanone	10	100	U	U	U	U	U
Carbon disulfide	2.0	20	U	U	U	U	U
arbon tetrachloride	1.0	10	U	U	U	U	U
hlorobenzene	1.0	10	U	U	U	U	U
Chloroethane	4.0	40	U	U	U	U	U
-Chloroethyl vinyl ether	10	100	U	U	U	U	U
hloroform	1.0	10	U	U	U	U	U
Chloromethane	2.0	20	U	U	U	U	U
ibromochloromethane	1.0	10	U	U	U	U	U
2-Dichlorobenzene	1.0	10	U	U	U	U	U
1,3-Dichlorobenzene	1.0	10	U	U	U	U	U
1,4-Dichlorobenzene	1.0	10	U	U	U	U	U
ichlorodifluoromethane	3.0	30	U	U	U	U	U
1,1-Dichloroethane	1.0	10	U	U	U	U	U
1,2-Dichloroethane	1.0	10	U	U	U	U	U
1-Dichloroethene	2.0	20	U	U	U	U	U
is-1,2-Dichloroethene	1.0	10	330 E	350 D	U	U	U

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER
NLESS OTHERWISE NOTED.

SEE ATTACHED PAGE FOR DEFINITIONS OF TERMS
ND QUALIFIERS.

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN
EPA HOLDING TIMES UNLESS OTHERWISE NOTED.

(1) = SAMPLES WERE DILUTED BY THE NUMERICAL VALUE DISPLAYED,
ETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

227 French Landing Drive
Nashville, Tennessee 37228
615.255.2288
FAX 615.256.8332

ECKENFELDER INC.®

CLIENT: ROCKWELL INTERNATIONAL # 9519
DATE SAMPLED: 12/7/94, 12/8/94
DATE RECEIVED: 12/9/94
DATE REPORTED: 12/12/94
DATE REVISED: 12/13/94

ECKENFELDER SAMPLE NUMBER			9139	9139D	9140	9141	
CLIENT SAMPLE DESCRIPTION			IT-1	IT-1	ET-1	Trip Blank #313	Method Blank
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC	20X (1) CONC	CONC	CONC	CONC
trans-1,2-Dichloroethene	1.0	10	1.9 J	U	U	U	U
1,2-Dichloropropane	1.0	10	U	U	U	U	U
cis-1,3-Dichloropropene	1.0	10	U	U	U	U	U
trans-1,3-Dichloropropene	1.0	10	U	U	U	U	U
Ethylbenzene	1.0	10	2.5 J	U	U	U	U
2-Hexanone	2.0	20	U	U	U	U	U
4-Methyl-2-pentanone	2.0	20	U	U	U	U	U
Methylene chloride	2.0	20	U	180 (2) JD	U	U	U
Styrene	1.0	10	U	U	U	U	U
1,1,2,2-Tetrachloroethane	1.0	10	U	U	U	U	U
Tetrachloroethene	1.0	10	U	U	U	U	U
Toluene	1.0	10	26	U	U	U	U
1,1,1-Trichloroethane	1.0	10	U	U	U	U	U
1,1,2-Trichloroethane	1.0	10	U	U	U	U	U
Trichloroethene	1.0	10	1900 E	2200 D	U	U	U
Trichlorofluoromethane	2.0	20	U	U	U	U	U
Vinyl acetate	1.0	10	U	U	U	U	U
Vinyl chloride	2.0	20	21	19 JD	U	U	U
Xylene(total)	1.0	10	9.9 J	U	U	U	U

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

SEE ATTACHED PAGE FOR DEFINITIONS OF TERMS AND QUALIFIERS.

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

(1) = SAMPLES WERE DILUTED BY THE NUMERICAL VALUE DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

(2) = SUSPECT SYSTEM CONTAMINATION.

ECKENFELDER INC.

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

ECKENFELDER INC.®

CLIENT: ROCKWELL INTERNATIONAL #9519
DATE SAMPLED: 12/7/94, 12/8/94
DATE RECEIVED: 12/9/94
DATE REPORTED: 12/12/94
DATE REVISED: 12/13/94

ECKENFELDER SAMPLE NUMBER —			9139	9140
CLIENT SAMPLE DESCRIPTION			IT-1	ET-1
WET CHEMISTRY/METALS	DETECTION LIMITS	USEPA METHOD	CONC	CONC
Cadmium	2.0	200.7/6010	BMDL	BMDL
Chromium	4.0	200.7/6010	249	87
Copper	8.0	200.7/6010	69	19
Lead	3.0	239.2/7421	43	16
Nickel	10	200.7/6010	195	37
Silver	0.40	272.2/7761	BMDL	BMDL
Zinc	20	200.7/6010	203	76
Hexavalent Chromium (mg/L)	0.025	7196	BMDL (2)	BMDL
Total Cyanide (mg/L)	0.005	335.3/9012	BMDL	BMDL
pH (units) Laboratory (1)	NA	150.1/9040	6.02	6.72
TSS (mg/L)	1.0	160.2	392	34
Oil and Grease (mg/L)	5.0	413.1/9070	BMDL	BMDL

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

BMDL = BELOW METHOD DETECTION LIMITS
NA = NOT APPLICABLE

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

(1) pH ANALYZED OUTSIDE USEPA HOLDING TIME. pH MUST BE MEASURED IMMEDIATELY AFTER SAMPLE COLLECTION.

(2) THE HEXAVALENT CHROMIUM WAS RECEIVED IN THE LABORATORY OUT OF THE USEPA HOLDING TIME OF 24 HOURS.

ECKENFELDER INC.

D. Rick Davis

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

227 French Landing Drive
Nashville, Tennessee 37228
615.255.2288
FAX 615.256.8332

ECKENFELDER INC.®

CLIENT: ROCKWELL INTERNATIONAL #9519
DATE SAMPLED: 12/7/94, 12/8/94
DATE RECEIVED: 12/9/94
DATE REPORTED: 12/12/94
DATE REVISED: 01/19/95

ECKENFELDER SAMPLE NUMBER			9139A	9140A
CLIENT SAMPLE DESCRIPTION			IT-1	ET-1
METALS	DETECTION LIMITS	USEPA METHOD	CONC	CONC
Arsenic	60	200.7/6010	BMDL	BMDL
Barium	2.0	200.7/6010	309	358
Cadmium	2.0	200.7/6010	BMDL	BMDL
Chromium	4.0	200.7/6010	249	87
Lead	3.0	239.2/7421	43	16
Selenium	50	200.7/6010	BMDL	BMDL
Silver	0.40	272.2/7761	BMDL	BMDL

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

BMDL = BELOW METHOD DETECTION LIMITS

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

ECKENFELDER INC.

Betty DeVille for

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

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ECKENFELDER INC.®

CLIENT: ROCKWELL INTERNATIONAL #9519
DATE SAMPLED: 01/16/95
DATE RECEIVED: 01/17/95
DATE REPORTED: 01/18/95

ECKENFELDER SAMPLE NUMBER			0264
CLIENT SAMPLE DESCRIPTION			IT-2
METALS	DETECTION LIMITS	USEPA METHOD	CONC
Mercury	0.20	245.1/7470	BMDL

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER
UNLESS OTHERWISE NOTED.

BMDL = BELOW METHOD DETECTION LIMITS

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN
USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

ECKENFELDER INC.

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

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ECKENFELDER INC.®

LIENT: ROCKWELL # 9519
DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94
ATE REPORTED: 11/28/94

ECKENFELDER SAMPLE NUMBER			8780	8781D	8781D	8782
LIENT SAMPLE DESCRIPTION			MD-1	LD-1	LD-1	TRIP BLANK #301
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC	100X (1) CONC	25X (1) CONC	CONC
cetone	5.0	50	U	U	U	U
Benzene	1.0	10	U	U	U	U
romodichloromethane	1.0	10	U	U	U	U
romoform	1.0	10	U	U	U	U
Bromomethane	2.0	20	U	U	U	U
2-Butanone	10	100	U	U	U	U
arbon disulfide	2.0	20	U	U	U	U
Carbon tetrachloride	1.0	10	U	U	U	U
Chlorobenzene	1.0	10	U	U	U	U
hloroethane	4.0	40	U	U	U	U
2-Chloroethyl vinyl ether	10	100	U	U	U	U
Chloroform	1.0	10	U	U	U	U
hloromethane	2.0	20	U	U	U	U
ibromochloromethane	1.0	10	U	U	U	U
1,2-Dichlorobenzene	1.0	10	U	U	U	U
3-Dichlorobenzene	1.0	10	U	U	U	U
4-Dichlorobenzene	1.0	10	U	U	U	U
Dichlorodifluoromethane	3.0	30	U	U	U	U
1-Dichloroethane	1.0	10	U	U	U	U
2-Dichloroethane	1.0	10	U	U	U	U
1,1-Dichloroethene	2.0	20	U	U	U	U
s-1,2-Dichloroethene	1.0	10	78	19000 D	19000 DE	U

LL RESULTS EXPRESSED IN MICROGRAMS/LITER
UNLESS OTHERWISE NOTED.

EE ATTACHED PAGE FOR DEFINITIONS OF TERMS
AND QUALIFIERS.

A = NOT APPLICABLE

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN
SEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

1) = SAMPLES WERE DILUTED BY THE NUMERICAL VALUE DISPLAYED,
ETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

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ECKENFELDER INC.®

CLIENT: ROCKWELL # 9519
DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94
DATE REPORTED: 11/28/94

ECKENFELDER SAMPLE NUMBER			8780	8781D	8781D	8782
CLIENT SAMPLE DESCRIPTION			MD-1	LD-1	LD-1	TRIP BLANK #301
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC	100X (1) CONC	25X (1) CONC	CONC
trans-1,2-Dichloroethene	1.0	10	U	U	U	U
1,2-Dichloropropane	1.0	10	U	U	U	U
cis-1,3-Dichloropropene	1.0	10	U	U	U	U
trans-1,3-Dichloropropene	1.0	10	U	U	U	U
Ethylbenzene	1.0	10	U	U	U	U
2-Hexanone	2.0	20	U	U	U	U
4-Methyl-2-pentanone	2.0	20	U	U	U	U
Methylene chloride	2.0	20	U	U	U	U
Styrene	1.0	10	U	U	U	U
1,1,2,2-Tetrachloroethane	1.0	10	U	U	U	U
Tetrachloroethene	1.0	10	U	U	U	U
Toluene	1.0	10	U	U	71 JD	U
1,1,1-Trichloroethane	1.0	10	U	U	U	U
1,1,2-Trichloroethane	1.0	10	U	U	U	U
Trichloroethene	1.0	10	120	970 JD	1000 D	U
Trichlorofluoromethane	2.0	20	U	U	U	U
Vinyl acetate	1.0	10	U	U	U	U
Vinyl chloride	2.0	20	U	2800 D	3000 D	U
Xylene(total)	1.0	10	U	U	220 JD	U

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

SEE ATTACHED PAGE FOR DEFINITIONS OF TERMS AND QUALIFIERS.

NA = NOT APPLICABLE

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

(1) = SAMPLES WERE DILUTED BY THE NUMERICAL VALUE DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

ECKENFELDER INC.®

CLIENT: ROCKWELL #9519
DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94
DATE REPORTED: 11/28/94

ECKENFELDER SAMPLE NUMBER			8780	8781
CLIENT SAMPLE DESCRIPTION			MD-1	LD-1
METALS	DETECTION LIMITS	USEPA METHOD	CONC	CONC
Chromium	4.0	200.7/6010	31	10

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

ECKENFELDER INC.

D. Rick Davis

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

227 French Landing Drive
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615.255.2288
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ECKENFELDER INC.®

CLIENT: ROCKWELL # 9519
DATE SAMPLED: NA
DATE RECEIVED: NA
DATE REPORTED: 11/28/94

ECKENFELDER SAMPLE NUMBER			
CLIENT SAMPLE DESCRIPTION			METHOD BLANK
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC
Acetone	5.0	50	U
Benzene	1.0	10	U
Bromodichloromethane	1.0	10	U
Bromoform	1.0	10	U
Bromomethane	2.0	20	U
2-Butanone	10	100	U
Carbon disulfide	2.0	20	U
Carbon tetrachloride	1.0	10	U
Chlorobenzene	1.0	10	U
Chloroethane	4.0	40	U
2-Chloroethyl vinyl ether	10	100	U
Chloroform	1.0	10	U
Chloromethane	2.0	20	U
Dibromochloromethane	1.0	10	U
1,2-Dichlorobenzene	1.0	10	U
1,3-Dichlorobenzene	1.0	10	U
1,4-Dichlorobenzene	1.0	10	U
Dichlorodifluoromethane	3.0	30	U
1,1-Dichloroethane	1.0	10	U
1,2-Dichloroethane	1.0	10	U
1,1-Dichloroethene	2.0	20	U
cis-1,2-Dichloroethene	1.0	10	U

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ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

(1) = SAMPLES WERE DILUTED BY THE NUMERICAL VALUE DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

ECKENFELDER INC.®

CLIENT: ROCKWELL # 9519
DATE SAMPLED: NA
DATE RECEIVED: NA
DATE REPORTED: 11/28/94

ECKENFELDER SAMPLE NUMBER			
CLIENT SAMPLE DESCRIPTION			METHOD BLANK
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC
trans-1,2-Dichloroethene	1.0	10	U
1,2-Dichloropropane	1.0	10	U
cis-1,3-Dichloropropene	1.0	10	U
trans-1,3-Dichloropropene	1.0	10	U
Ethylbenzene	1.0	10	U
2-Hexanone	2.0	20	U
4-Methyl-2-pentanone	2.0	20	U
Methylene chloride	2.0	20	U
Styrene	1.0	10	U
1,1,2,2-Tetrachloroethane	1.0	10	U
Tetrachloroethene	1.0	10	U
Toluene	1.0	10	U
1,1,1-Trichloroethane	1.0	10	U
1,1,2-Trichloroethane	1.0	10	U
Trichloroethene	1.0	10	U
Trichlorofluoromethane	2.0	20	U
Vinyl acetate	1.0	10	U
Vinyl chloride	2.0	20	U
Xylene(total)	1.0	10	U

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

SEE ATTACHED PAGE FOR DEFINITIONS OF TERMS AND QUALIFIERS.

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ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

(1) = SAMPLES WERE DILUTED BY THE NUMERICAL VALUE DISPLAYED, DETECTION LIMITS SHOULD INCREASE BY THE SAME FACTOR.

ECKENFELDER INC.

D. Rick Davis

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

ECKENFELDER INC.®

CLIENT: ROCKWELL INTERNATIONAL #9519
DATE SAMPLED: 4/25/95
DATE RECEIVED: 4/26/95
DATE REPORTED: 4/27/95

ECKENFELDER SAMPLE NUMBER			2153	
CLIENT SAMPLE DESCRIPTION			IT-3	METHOD BLANK
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC	CONC
Acetone	5.0	50	U	U
Benzene	1.0	10	U	U
Bromodichloromethane	1.0	10	U	U
Bromoform	1.0	10	U	U
Bromomethane	2.0	20	U	U
2-Butanone	10	100	U	U
Carbon disulfide	2.0	20	U	U
Carbon tetrachloride	1.0	10	U	U
Chlorobenzene	1.0	10	U	U
Chloroethane	4.0	40	U	U
2-Chloroethyl vinyl ether	10	100	U	U
Chloroform	1.0	10	U	U
Chloromethane	2.0	20	U	U
Dibromochloromethane	1.0	10	U	U
1,2-Dichlorobenzene	1.0	10	U	U
1,3-Dichlorobenzene	1.0	10	U	U
1,4-Dichlorobenzene	1.0	10	U	U
Dichlorodifluoromethane	3.0	30	U	U
1,1-Dichloroethane	1.0	10	U	U
1,2-Dichloroethane	1.0	10	U	U
1,1-Dichloroethene	2.0	20	U	U
cis-1,2-Dichloroethene	1.0	10	150	U

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

SEE ATTACHED PAGE FOR DEFINITIONS OF TERMS AND QUALIFIERS.

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

227 French Landing Drive
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ECKENFELDER INC.®

CLIENT: ROCKWELL INTERNATIONAL #9519
DATE SAMPLED: 4/25/95
DATE RECEIVED: 4/26/95
DATE REPORTED: 4/27/95

ECKENFELDER SAMPLE NUMBER			2153	
CLIENT SAMPLE DESCRIPTION			IT-3	METHOD BLANK
VOLATILE ORGANICS BY USEPA METHOD 8240	MDL	EQL	CONC	CONC
trans-1,2-Dichloroethene	1.0	10	U	U
1,2-Dichloropropane	1.0	10	U	U
cis-1,3-Dichloropropene	1.0	10	U	U
trans-1,3-Dichloropropene	1.0	10	U	U
Ethylbenzene	1.0	10	U	U
2-Hexanone	2.0	20	U	U
4-Methyl-2-pentanone	2.0	20	U	U
Methylene chloride	2.0	20	U	U
Styrene	1.0	10	U	U
1,1,2,2-Tetrachloroethane	1.0	10	U	U
Tetrachloroethene	1.0	10	U	U
Toluene	1.0	10	U	U
1,1,1-Trichloroethane	1.0	10	U	U
1,1,2-Trichloroethane	1.0	10	U	U
Trichloroethene	1.0	10	180	U
Trichlorofluoromethane	2.0	20	U	U
Vinyl acetate	1.0	10	U	U
Vinyl chloride	2.0	20	2.5 J	U
Xylene(total)	1.0	10	U	1.3 J

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

SEE ATTACHED PAGE FOR DEFINITIONS OF TERMS AND QUALIFIERS.

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

ECKENFELDER INC.

D. RICK DAVIS
VICE PRESIDENT/ANALYTICAL & TESTING SERVICES

ECKENFELDER INC.®

CLIENT: ROCKWELL INTERNATIONAL #9519
DATE SAMPLED: 04/25/95
DATE RECEIVED: 04/26/95
DATE REPORTED: 04/27/95

ECKENFELDER SAMPLE NUMBER			2153
CLIENT SAMPLE DESCRIPTION			IT-3
METALS	DETECTION LIMITS	USEPA METHOD	CONC
Lead	0.75	200.7/6010	11 (1)
Lead Soluble	0.75	200.7/6010	1.5 (2)

ALL RESULTS EXPRESSED IN MICROGRAMS/LITER UNLESS OTHERWISE NOTED.

BMDL= BELOW METHOD DETECTION LIMITS

ALL SAMPLES WERE EXTRACTED AND/OR ANALYZED WITHIN USEPA HOLDING TIMES UNLESS OTHERWISE NOTED.

(1)=THE SAMPLE WAS RECEIVED IN THE LABORATORY UNPRESEVED. IT WAS PRESERVED TO A pH <2.0 UPON RECEIPT.

(2)= THE PREPARATION BLANK WAS AT 2.7 ug/L. THIS MEANS THAT THERE IS A STRONG LIKELIHOOD THAT THE SAMPLE RESULT MAY BE BIASED HIGH.

ECKENFELDER INC.

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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name **Eckenfelder, Inc.**

227 French Landing Drive
Nashville, TN 37228

Project # 9519
FID #

Site ID Rockwell/Grenada, MS

Date Arrived 02/10/95
ETC Order Number 9502270

ETC Lab ID **9502270-06**
Sample ID: Trip Blank

Matrix :AQUEOUS
Sample Date :02/10/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics							8240
					02/10/95	LS	
Acetone	ND	ug/L	100				
Acrolein	ND	ug/L	50.0				
Acrylonitrile	ND	ug/L	50.0				
Benzene	ND	ug/L	5.00				
Bromodichloromethane	ND	ug/L	5.00				
Bromoform	ND	ug/L	5.00				
Bromomethane	ND	ug/L	5.00				
Carbon Disulfide	ND	ug/L	50.0				
Carbon Tetrachloride	ND	ug/L	5.00				
Chlorobenzene	ND	ug/L	5.00				
Chlorodibromomethane	ND	ug/L	5.00				
Chloroethane	ND	ug/L	5.00				
2-Chloroethyl vinyl ether	ND	ug/L	50.0				
Chloroform	ND	ug/L	5.00				
Chloromethane	ND	ug/L	5.00				
Dibromomethane	ND	ug/L	5.00				
1,4-Dichloro-2-butene	ND	ug/L	20.0				
Dichlorofluoromethane	ND	ug/L	5.00				
1,2-Dichlorobenzene	ND	ug/L	5.00				
1,3-Dichlorobenzene	ND	ug/L	5.00				
1,4-Dichlorobenzene	ND	ug/L	5.00				
1,1-Dichloroethane	ND	ug/L	5.00				
1,2-Dichloroethane	ND	ug/L	5.00				
1,1-Dichloroethene	ND	ug/L	5.00				
trans-1,2-Dichloroethene	ND	ug/L	5.00				
1,2-Dichloropropane	ND	ug/L	5.00				
cis-1,3-Dichloropropene	ND	ug/L	5.00				
trans-1,3-Dichloropropene	ND	ug/L	5.00				
Ethylbenzene	ND	ug/L	5.00				
Ethyl Methacrylate	ND	ug/L	50.0				
2-Hexanone (MBK)	ND	ug/L	50.0				
Iodomethane	ND	ug/L	20.0				
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0				
Methyl Ethyl Ketone (MEK)	ND	ug/L	50.0				
Methylene Chloride	ND	ug/L	25.0				
Styrene	ND	ug/L	5.00				
1,1,2,2-Tetrachloroethane	ND	ug/L	5.00				
Tetrachloroethene	ND	ug/L	5.00				
Toluene	ND	ug/L	5.00				
1,1,1-Trichloroethane	ND	ug/L	5.00				

ND - Not Detected

Michael Kaufman
LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ORGANIC ANALYSIS DATA SHEET

Client Name **Eckenfelder, Inc.**

227 French Landing Drive
Nashville, TN 37228

Project # 9519
FID #

Site ID Rockwell/Grenada, MS

Date Arrived 02/10/95
ETC Order Number 9502270

ETC Lab ID **9502270-06**
Sample ID: Trip Blank

Matrix :AQUEOUS
Sample Date :02/10/95

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Volatile Organics							8240
					02/10/95	LS	
1,1,2-Trichloroethane	ND	ug/L	5.00				
Trichloroethene	ND	ug/L	5.00				
Trichlorofluoromethane	ND	ug/L	5.00				
1,2,3-Trichloropropane	ND	ug/L	5.00				
Vinyl Acetate	ND	ug/L	50.0				
Vinyl Chloride	ND	ug/L	5.00				
Xylenes	ND	ug/L	5.00				

Surrogate Standard	% Recovery	QC Limits	
S1 - 1,2-Dichloroethane-d4	95	76	114
S2 - Toluene-d8	102	88	110
S3 - 4-Bromofluorobenzene	104	86	115

ND - Not Detected

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

INORGANIC ANALYSIS DATA SHEET

Client Name Eckenfelder, Inc. Project # 9519

227 French Landing Drive
Nashville, TN 37228

Site ID Rockwell/Grenada, MS

Date Arrived 02/10/95
ETC Order Number 9502270
ETC Lab ID 9502270-03
Sample ID: W-1

Matrix :AQUEOUS
Sample Date :02/10/95 12:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Copper Dissolved	0.013	mg/L	0.006	1406	02/10/95	SH	200.7
Copper	0.018	mg/L	0.006	1406	02/10/95	SH	200.7
Lead - Dissolved	<0.001	mg/L	0.001	1632	02/10/95	SH	239.2
Lead	0.009	mg/L	0.001	1632	02/10/95	SH	239.2

ETC Lab ID 9502270-04
Sample ID: W-2

Matrix :AQUEOUS
Sample Date :02/10/95 12:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Copper Dissolved	0.007	mg/L	0.006	1406	02/10/95	SH	200.7
Copper	0.011	mg/L	0.006	1406	02/10/95	SH	200.7
Lead - Dissolved	<0.001	mg/L	0.001	1632	02/10/95	SH	239.2
Lead	0.002	mg/L	0.001	1632	02/10/95	SH	239.2

ETC Lab ID 9502270-05
Sample ID: W-3

Matrix :AQUEOUS
Sample Date :02/10/95 12:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Copper Dissolved	0.012	mg/L	0.006	1406	02/10/95	SH	200.7
Copper	0.008	mg/L	0.006	1406	02/10/95	SH	200.7
Lead - Dissolved	0.037	mg/L	0.001	1632	02/10/95	SH	239.2
Lead	0.088	mg/L	0.001	1632	02/10/95	SH	239.2

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

INORGANIC ANALYSIS DATA SHEET

Client Name Eckenfelder, Inc. Project # 9519

227 French Landing Drive
Nashville, TN 37228

Site ID Rockwell/Grenada, MS

Date Arrived 02/10/95
ETC Order Number 9502270

ETC Lab ID 9502270-01 Matrix :AQUEOUS
Sample ID: ET-6 Sample Date :02/10/95 10:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Cyanide	<0.005	mg/L	0.005	1455	02/10/95	MK	335.2
Chromium - Hexavalent	<0.004	mg/L	0.004	1630	02/10/95	AE	3500-D
Oil and Grease	<5	mg/L	5	1500	02/10/95	AE	413.1
Total Suspended Solids	<2	mg/L	2	1455	02/10/95	GD	160.2
Temperature	8.7	oC		1455	02/10/95	GD	2550-B
Silver	<0.001	mg/L	0.001	1601	02/10/95	SH	272.2
Cadmium	<0.0010	mg/L	0.0010	1601	02/10/95	SH	213.2
Chromium	<0.007	mg/L	0.007	1406	02/10/95	SH	200.7
Copper	<0.006	mg/L	0.006	1406	02/10/95	SH	200.7
Nickel	<0.015	mg/L	0.015	1406	02/10/95	SH	200.7
Lead	<0.001	mg/L	0.001	1632	02/10/95	SH	239.2
Zinc	0.014	mg/L	0.002	1406	02/10/95	SH	200.7

ETC Lab ID 9502270-02 Matrix :AQUEOUS
Sample ID: ET-6 Sample Date :02/10/95 10:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Field Dissolved Oxygen	10.4	mg/L	0.50	1030	02/10/95	ECK	360.1
Field Reported pH	8.1	SU		1030	02/10/95	ECK	150.1

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

INORGANIC ANALYSIS DATA SHEET

Client Name **Eckenfelder, Inc.** Project # 9519

227 French Landing Drive
Nashville, TN 37228

Site ID Rockwell/Grenada, MS

Date Arrived 02/10/95
ETC Order Number 9502270

ETC Lab ID **9502270-01** Matrix :AQUEOUS
Sample ID: ET-6 Sample Date :02/10/95 10:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Cyanide	<0.005	mg/L	0.005	1455	02/10/95	MK	335.2
Chromium - Hexavalent	<0.004	mg/L	0.004	1630	02/10/95	AE	3500-D
Oil and Grease	<5	mg/L	5	1500	02/10/95	AE	413.1
Total Suspended Solids	<2	mg/L	2	1455	02/10/95	GD	160.2
Temperature	8.7	oC		1455	02/10/95	GD	2550-B
Silver	<0.001	mg/L	0.001	1601	02/10/95	SH	272.2
Cadmium	<0.010	mg/L	0.0010	1601	02/10/95	SH	213.2
Chromium	<0.007	mg/L	0.007	1406	02/10/95	SH	200.7
Copper	<0.006	mg/L	0.006	1406	02/10/95	SH	200.7
Nickel	<0.015	mg/L	0.015	1406	02/10/95	SH	200.7
Lead	<0.001	mg/L	0.001	1632	02/10/95	SH	239.2
Zinc	0.014	mg/L	0.002	1406	02/10/95	SH	200.7

ETC Lab ID **9502270-02** Matrix :AQUEOUS
Sample ID: ET-6 Sample Date :02/10/95 10:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Field Dissolved Oxygen	10.4	mg/L	0.50	1030	02/10/95	ECK	360.1
Field Reported pH	8.1	SU		1030	02/10/95	ECK	150.1

LABORATORY MANAGER