

**COMMERCIAL-SCALE DEMONSTRATION OF THE
LIQUID PHASE METHANOL (LPMEOH™) PROCESS**

ENVIRONMENTAL MONITORING REPORT NO. 6

For The Period

1 June - 30 September 1998

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and

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for the

Air Products Liquid Phase Conversion Company, L.P.

**Prepared for the United States Department of Energy
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Table of Contents

ACRONYMS AND DEFINITIONS.....	4
1. Introduction	6
2. Project Description	6
3. Process Description	7
4. Environmental Monitoring Plan (EMP) Description	9
4.1 Eastman Reporting of Publicly Available Technical Data	9
4.2 Compliance Monitoring	10
4.3 Supplemental Monitoring	10
5. Project Summary	14
6. Updates on Eastman "Chemicals-from-Coal" Publicly Available Technical Data	14
6.1 Gasifier Facility	14
6.2 10C-30 Catalyst Guard Bed	14
6.3 Wastewater and Alcohols to Wastewater Treatment System	14
7. Compliance Monitoring	16
7.1 Combined Vapor Flow from Demonstration Unit to Boiler	16
7.2 Fugitive Emissions	16
7.2.1 Leak Detection and Repair (LDAR)	16
7.2.2 Ambient Carbon Monoxide Background Concentration	16
7.3 Particulate Emissions.....	16
7.4 Wastewater Treatment System Outlet Stream	16
8. Supplemental Monitoring	17
8.1 Total Synthesis Gas Use and Methanol Production.....	17
8.2 Oil/Water Separator	17
8.3 Compressor and Pump Lubricants	17
8.4 Spent Catalyst Slurry.....	17
8.5 29C-40 Catalyst Guard Bed Spent Adsorbent	17
8.6 Noise.....	17
9. Compliance.....	19
9.1 Compliance with Permit Limits.....	19
10. Problems and Recommendations.....	19
APPENDICES.....	20
APPENDIX A - SIMPLIFIED PROCESS FLOW DIAGRAM.....	20
APPENDIX B - LEAK DETECTION AND REPAIR REPORT.....	21
APPENDIX C - NPDES REPORTS FOR WASTEWATER TREATMENT SYSTEM OUTLET STREAM	22

ACRONYMS AND DEFINITIONS

Acurex	-	Acurex Environmental Corporation (now ARCADIS, Geraghty & Miller)
Air Products	-	Air Products and Chemicals, Inc.
AFDU	-	Alternative Fuels Development Unit - The "LaPorte PDU"
Balanced Gas	-	A syngas with a composition of hydrogen (H ₂), carbon monoxide (CO), and carbon dioxide (CO ₂) in stoichiometric balance for the production of methanol
BOD	-	Biochemical Oxygen Demand
Carbon Monoxide Gas	-	A syngas containing primarily carbon monoxide (CO); also called CO Gas
Crude Grade Methanol	-	Underflow from rectifier column (29C-20), defined as 80 wt% minimum purity; requires further distillation in existing Eastman equipment prior to use
DME	-	dimethyl ether
DOE	-	United States Department of Energy
DOE-NETL	-	The DOE's National Energy Technology Laboratory (Project Team)
DOE-HQ	-	The DOE's Headquarters - Coal Fuels and Industrial Systems (Project Team)
DTP	-	Demonstration Test Plan - The four-year Operating Plan for Phase 3, Task 2 Operation
DVT	-	Design Verification Testing
Eastman	-	Eastman Chemical Company
EIV	-	Environmental Information Volume
EMP	-	Environmental Monitoring Plan
EMR	-	Environmental Monitoring Report
EPRI	-	Electric Power Research Institute
HAPs	-	Hazardous Air Pollutants
Hydrogen Gas	-	A syngas containing an excess of hydrogen (H ₂) over the stoichiometric balance for the production of methanol; also called H ₂ Gas
IGCC	-	Integrated Gasification Combined Cycle, a type of electric power generation plant
IGCC/OTM	-	An IGCC plant with a "Once-Thru Methanol" plant (the LPMEOH™ Process) added-on
KSCF	-	Thousand Standard Cubic Feet
KSCFH	-	Thousand Standard Cubic Feet per Hour
LaPorte PDU	-	The DOE-owned experimental unit (PDU) located adjacent to Air Products' industrial gas facility at LaPorte, Texas, where the LPMEOH™ process was successfully piloted
LDAR	-	Leak Detection and Repair
LPDME	-	Liquid Phase DME process, for the production of DME as a mixed coproduct with methanol
LPMEOH™	-	Liquid Phase Methanol (the technology to be demonstrated)
Main Plant Purge	-	Unreacted synthesis gas stream from LPMEOH™ process returned to Eastman's fuel gas header
mg/m ³	-	Milligrams per cubic meter
NEPA	-	National Environmental Policy Act
NPDES	-	National Pollutant Discharge Elimination System
OSHA	-	Occupational Safety and Health Administration
Partnership	-	Air Products Liquid Phase Conversion Company, L.P.
PDU	-	Process Development Unit
PFD	-	Process Flow Diagram(s)
ppbv	-	parts per billion (volume basis)
Project	-	Production of Methanol/DME Using the LPMEOH™ Process at an Integrated Coal Gasification Facility
psia	-	Pounds per Square Inch (Absolute)
psig	-	Pounds per Square Inch (gauge)
P&ID	-	Piping and Instrumentation Diagram(s)
RCRA	-	Resource and Conservation Recovery Act
Refined Grade Methanol	-	Distilled methanol, defined as 99.8wt% minimum purity; used directly in downstream Eastman processes
SCFH	-	Standard Cubic Feet per Hour
SI/hr-kg	-	Standard Liter(s) per Hour per Kilogram of Catalyst

ACRONYMS AND DEFINITIONS (cont'd)

Syngas	-	Abbreviation for Synthesis Gas
Synthesis Gas	-	A gas containing primarily hydrogen (H ₂) and carbon monoxide (CO), or mixtures of H ₂ and CO; intended for "synthesis" in a reactor to form methanol and/or other hydrocarbons (synthesis gas may also contain CO ₂ , water, and other gases)
Tie-in(s)	-	the interconnection(s) between the LPMEOH™ Process Demonstration Facility and the Eastman Facility
TOC	-	Total Organic Carbon
TLV	-	Threshold Limit Value
TPD	-	Ton(s) per Day
WBS	-	Work Breakdown Structure
wt	-	Weight

1. Introduction

The Liquid Phase Methanol (LPMEOH™) Demonstration Project at Kingsport, Tennessee, is a \$213.7 million effort being conducted under a cooperative agreement between the U.S. Department of Energy (DOE) and Air Products Liquid Phase Conversion Company, L.P. (the Partnership). Air Products and Chemicals, Inc. (Air Products) and Eastman Chemical Company (Eastman) formed the Partnership to execute the Demonstration Project. A demonstration unit producing 80,000 gallons per day (260 tons-per-day (TPD)) of methanol from coal-derived synthesis gas (syngas) was designed, constructed, and began a four-year operational period in April of 1997 at a site located at the Eastman complex in Kingsport. The Partnership will own and operate the facility for the four-year demonstration period.

This project is sponsored under the DOE's Clean Coal Technology Program, and its primary objective is to "demonstrate the production of methanol using the LPMEOH™ Process in conjunction with an integrated coal gasification facility." The project will also demonstrate the suitability of the methanol produced for use as a chemical feedstock or as a low-sulfur dioxide, low-nitrogen oxides alternative fuel in stationary and transportation applications. The project may also demonstrate the production of dimethyl ether (DME) as a mixed coproduct with methanol, if laboratory- and pilot-scale research and market verification studies show promising results. If implemented, the DME would be produced during the last six months of the four-year demonstration period.

The LPMEOH™ process is the product of a cooperative development effort by Air Products and the DOE in a program that started in 1981. It was successfully piloted at a 10-TPD rate in the DOE-owned experimental unit at Air Products' LaPorte, Texas, site. This Demonstration Project is the culmination of that extensive cooperative development effort.

2. Project Description

The demonstration unit, which occupies an area of 0.6 acre, is integrated into the existing 4,000-acre Eastman complex located in Kingsport, Tennessee. The Eastman complex employs approximately 10,000 people. In 1983, Eastman constructed a coal gasification facility utilizing Texaco technology. The syngas generated by this gasification facility is used to produce carbon monoxide and methanol. Both of these products are used to produce methyl acetate and ultimately cellulose acetate and acetic acid. The availability of this highly reliable coal gasification facility was the major factor in selecting this location for the LPMEOH™ Process Demonstration. Three different feed gas streams (hydrogen gas or H₂ Gas, carbon monoxide gas or CO Gas, and Balanced Gas) will be diverted from existing operations to the LPMEOH™ Demonstration Unit, thus providing the range of syngas ratios (hydrogen to carbon monoxide) needed to meet the technical objectives of the Demonstration Project.

For descriptive purposes and for design and construction scheduling, the project has been divided into four major process areas with their associated equipment:

- *Reaction Area* - Syngas preparation and methanol synthesis reaction equipment.
- *Purification Area* - Product separation and purification equipment.
- *Catalyst Preparation Area* - Catalyst and slurry preparation and disposal equipment.
- *Storage/Utility Area* - Methanol product, slurry, and oil storage equipment.

The physical appearance of this facility closely resembles the adjacent Eastman process plants, including process equipment in steel structures.

- *Reaction Area*

The reaction area includes feed gas compressors, catalyst guard beds, the reactor, a steam drum, separators, heat exchangers, and pumps. The equipment is supported by a matrix of structural steel. The most salient feature is the reactor, since with supports, it is approximately 84-feet tall.

- *Purification Area*

The purification area features two distillation columns with supports; one is approximately 82-feet tall, and the other 97-feet tall. These vessels resemble the columns of the surrounding process areas. In addition to the columns, this area includes the associated reboilers, condensers, air coolers, separators, and pumps.

- *Catalyst Preparation Area*

The catalyst preparation area consists of a building with a roof and partial walls, in which the catalyst preparation vessels, slurry handling equipment, and spent slurry disposal equipment are housed. In addition, a hot oil utility system is included in the area.

- *Storage/Utility Area*

The storage/utility area includes two diked lot-tanks for methanol, two tanks for oil storage, a slurry holdup tank, a trailer loading/unloading area, and an underground oil/water separator. A vent stack for safety relief devices is located in this area.

3. Process Description

The LPMEOH™ Demonstration Unit is integrated with Eastman's coal gasification facility. A simplified process flow diagram is included in Appendix A. Syngas is introduced into the slurry reactor, which contains a slurry of liquid mineral oil with suspended solid particles of catalyst. The syngas dissolves through the mineral oil, contacts the catalyst, and reacts to form methanol. The heat of reaction is absorbed by the slurry and is removed from the slurry by steam coils. The methanol vapor leaves the reactor, is condensed to a liquid, sent to the distillation columns for removal of higher alcohols, water, and other impurities, and is then stored in the day tanks for sampling before being sent to Eastman's methanol storage. Most of the unreacted syngas is recycled back to the reactor with the syngas recycle

compressor, improving cycle efficiency. The methanol will be used for downstream feedstocks and in off-site fuel testing to determine its suitability as a transportation fuel and as a fuel for stationary applications in the power industry.

Demonstration Test Plan

Following the start-up of the LPMEOH™ Demonstration Unit, a four-year test plan is being performed by Air Products and Eastman. The goals of the Test Plan are structured to meet the commercialization objectives for the LPMEOH™ Process. Excerpts from *Commercialization Objectives from the program Statement of Work* are included here to provide the global perspective of the Demonstration Plan:

"Primary Objective

The primary objective of the Project is to demonstrate the commercial scale production of methanol using the LPMEOH™ Process...

The LPMEOH™ Process technology is expected to be commercialized as part of an IGCC electric power generation system. Therefore, the Project incorporates the commercially important aspects of the operation of the LPMEOH™ Process which would enhance IGCC power generation. These important aspects of LPMEOH™ Process integrations are:

- *The coproduction of electric power and of high value liquid transportation fuels and/or chemical feedstocks from coal. This coproduction requires that the partial conversion of synthesis gas to storable liquid products be demonstrated.*
- *Using an energy load following operating concept which allows conversion of off-peak energy, at attendant low value, into peak energy commanding a higher value. The load-following concept makes use of gasifier capacity that is under utilized during low-demand periods by using the LPMEOH™ Process to convert the excess synthesis gas to a storable liquid fuel for use in electric power generation during the peak energy periods. This operating concept requires that on/off and synthesis gas load following capabilities be demonstrated...*

During operation, the instrumentation system will allow for the collection of *engineering data, analysis and reporting which will be done by on-site technical personnel. Typical reporting will include on-stream factors, material and energy balances, reactor and equipment performance, comparison with laboratory and LaPorte Alternative Fuels Development Unit (AFDU) results, conversion efficiencies and catalyst activity...*

Secondary Objective

A secondary objective of the Project is to demonstrate the production of DME (Dimethyl ether) as a mixed coproduct with methanol...

Subject to Design Verification Testing (DVT), the Partnership proposes to enhance the Project by including the demonstration of the slurry reactor's capability to produce DME as a mixed co-product with methanol...

DVT is required to address issues such as catalyst activity and stability and to provide data for engineering design and demonstration decision making...

At the conclusion of the DVT Steps, a joint Partnership/DOE decision will be made regarding continuation of the methanol/DME demonstration. Timing of the final decision must ensure that the necessary design, procurement, construction and commissioning can be completed to allow for (Phase 3, Task 2.2) operation at the end of the primary LPMEOH™ process demonstration period."

The full Demonstration Test Plan (issued September 1996) provides details in the strategy and conditions to be tested during the four-year operating period.

4. Environmental Monitoring Plan (EMP) Description

Air Products Liquid Phase Conversion Company, L.P., has constructed and is operating the 260 ton-per-day Liquid Phase Methanol (LPMEOH™) Demonstration Unit at the Eastman Chemical facility in Kingsport, Tennessee. As specified in the Cooperative Agreement, the Partnership developed an Environmental Monitoring Plan (EMP) (issued August 1996) which describes in detail the environmental monitoring activities to be performed during the operation of the LPMEOH™ Demonstration Unit. The purpose of the EMP is to: 1) document the extent of compliance monitoring activities, i.e., those activities required to meet permit requirements, 2) confirm the specific environmental impacts predicted in the National Environmental Policy Act documentation, and 3) establish an information base for the assessment of the environmental performance of the technology for future commercialization.

The EMP describes three categories of environmental monitoring which are performed as a result of the operation of the LPMEOH™ Demonstration Unit. Details of streams internal to the demonstration unit are available in the Technical Progress Reports for the Project.

4.1 Eastman Reporting of Publicly Available Technical Data

As defined in the Statement of Work for the Demonstration Project, Eastman will provide data on three areas of operation of the Chemicals-from-Coal complex (refer to Table 4.1 for a breakdown of the streams to be monitored):

- 1) Gasifier material balance data
- 2) 10C-30 Guard Bed operating data
- 3) Wastewater and alcohols to wastewater treatment system

This technical information provides information from Eastman's existing facilities to provide an overall assessment of the LPMEOH™ technology. A Special Topical Report will provide this information. Updates, if any, are included in Quarterly EMRs if a significant change occurs.

4.2 Compliance Monitoring

Four areas of compliance monitoring have been identified to satisfy the permit requirements for the demonstration unit (Table 4.2):

- 1) Combined Vapor Flow from Demonstration Unit to Boiler
- 2) Fugitive Emissions
- 3) Particulate Emissions
- 4) Wastewater Treatment System Outlet Stream

Each of these sources is monitored at a frequency mandated by the relevant permit or industrial hygiene practice. The EMRs will include the results of any compliance monitoring generated during the reporting period.

4.3 Supplemental Monitoring

Three areas of supplemental monitoring have been identified in the EMP (Table 4.3):

Summary of Major Material Balance Streams for Demonstration Unit

The major feed streams (CO Gas, H₂ Gas, Balanced Gas) and product flows (Refined Grade Methanol, Crude Grade Methanol, Main Plant Purge) are provided as a summary table of the cumulative stream flows for the reporting period.

Solid/Liquid Discharges

Four other streams can be generated from the demonstration unit:

- 1) Compressor and Pump Lubricants
- 2) Oil Recovered in Oil/Water Separator
- 3) Spent Catalyst
- 4) 29C-40 Guard Bed Adsorbent

Any quantities generated during the reporting period are included in the EMR.

Noise

The EMP identified that a noise survey around the 29K-01 Recycle Compressor was planned during the initial start-up of the demonstration unit.

TABLE 4.1

LPMEOH™ DEMONSTRATION UNIT

**PUBLICLY AVAILABLE TECHNICAL DATA FROM EASTMAN
CHEMICALS-FROM-COAL COMPLEX**

Environmental Media

General Parameters

Coal	Pressure, Temperature, Coal Analysis
Oxygen to Gasifier	Pressure, Temperature, %O ₂
Water to Gasifier	Pressure, Temperature
Waste Water from Gasifier	Pressure, Temperature, Total Organic Carbon
Clean Synthesis Gas from Gasifier	Pressure, Temperature, Flow
Sulfur Recovered from Gasifier	Pressure, Temperature, Flow, %S
Carbon Dioxide from Gasifier	Pressure, Temperature, Flow, %CO ₂
Slag from Gasifier	Pressure, Temperature, Flow
Balanced Gas from 10C-30 Guard Bed	Pressure, Temperature, Flow, Composition
Wastewater and Alcohols to Wastewater Treatment System	Flow, Composition, BOD

TABLE 4.2

LPMEOH™ DEMONSTRATION UNIT

COMPLIANCE MONITORING

Environmental Media

General Parameters

Combined Vapor Flow from Demonstration
Unit to Boiler

Composition

Fugitive Emissions

Leak Detection and Repair (LDAR)
Report, Volatile Organic Carbon (VOC),
Background Ambient CO Concentration

Particulate Emissions

Threshold Limit Value (TLV)

Wastewater Treatment System Outlet
Stream

Flow, Total Organic Carbon, pH

TABLE 4.3

**LPMEOH™ DEMONSTRATION UNIT
SUPPLEMENTAL MONITORING**

<u>Environmental Media</u>	<u>General Parameters</u>
CO Gas to LPMEOH™ Demonstration Unit	Cumulative Flow for Quarter
H ₂ Gas to LPMEOH™ Demonstration Unit	Cumulative Flow for Quarter
Balanced Gas to LPMEOH™ Demonstration Unit	Cumulative Flow for Quarter
Main Vapor Purge from LPMEOH™ Demonstration Unit	Cumulative Flow for Quarter
Refined Grade Methanol	Cumulative Flow for Quarter
Crude Grade Methanol	Cumulative Flow for Quarter
Compressor and Pump Lubricants	Weight or Volume
Oil Recovered in Oil/Water Separator	Weight or Volume
Spent Catalyst	Weight, Weight% Solids
29C-40 Guard Bed Adsorbent	Weight or Volume
Noise Survey for 29K-01 Recycle Compressor	dBa

5. Project Summary

Synthesis gas was first introduced to the LPMEOH™ Demonstration Unit on 02 April 1997. The nameplate capacity of 80,000 gallons of methanol per day (260 tons-per-day) was achieved on 06 April 1997. During the reporting period, availability for the LPMEOH™ Demonstration Unit was 100%, as the plant continued to operate through the longest continuous campaign to date (67 days) as of 30 September 1998. Table 5.1 summarizes the onstream time and outages of the LPMEOH™ Demonstration Unit during the reporting period.

6. Updates on Eastman “Chemicals-from Coal” Facility Publicly Available Technical Data

6.1 Gasifier Facility

As defined in Section 7.1 of the Environmental Monitoring Plan, publicly available technical data from the Eastman “Chemicals-from-Coal” facility, which includes data on the streams associated with the Gasifier facility, will be issued in a Special Topical Report. If a significant change in gasifier facility operation (e.g., feedstock change, equipment modifications or additions, etc.) occurs, then an update will be provided in a future EMR.

6.2 10C-30 Catalyst Guard Bed

As defined in Section 7.1 of the Environmental Monitoring Plan, publicly available technical data on the trace impurities entering and leaving the Catalyst Guard Bed will be issued in a Special Topical Report.

During the reporting period, there was no change of adsorbent or process change related to the operation of the 10C-30 Catalyst Guard Bed. If a significant change occurs, then an update will be provided in a future EMR.

6.3 Wastewater and Alcohols to Wastewater Treatment System

The report on publicly available technical data from the Eastman “Chemicals-from-Coal” facility, which includes data on the streams associated with the wastewater and alcohols to the Wastewater Treatment System, will be issued in a Special Topical Report. This will consist of a comparison of the flow, composition, and BOD load of this stream before and after the addition of the LPMEOH™ Demonstration Unit.

Table 5.1

Summary of LPMEOH™ Demonstration Plant Onstream Time and Outages - July/September 1998

Operation Start	Operation End	Operating Hours	Shutdown Hours	Reason for Shutdown
7/1/98 00:01	7/14/98 12:45	324.7	258.5	Syngas Outage End of Reporting Period
7/25/98 07:12	9/30/98 23:59	1624.8		
Total Operating Hours			1949.5	
Syngas Available Hours			1949.5	
Plant Availability, %			100.00	

7. Compliance Monitoring

7.1 Combined Vapor Flow from Demonstration Unit to Boiler

A sample of the header gas from the LPMEOH™ Demonstration Unit must be analyzed as part of the Boiler and Industrial Furnace regulations within RCRA. Sampling is currently required every three years. During the development of the EMP, it was anticipated that the new tie-in from the LPMEOH™ Demonstration Unit to the Eastman fuel header would require testing as a new source. After the EMP was published, it was determined that the new tie-in was not considered a significant change and did not require testing. Therefore, with the current sampling schedule, the next sample will be taken in February of 2000.

No activity occurred during the reporting period.

7.2 Fugitive Emissions

7.2.1 Leak Detection and Repair (LDAR)

Appendix B contains the latest report on Leak Detection and Repair at the LPMEOH™ Demonstration Unit. All items (valves, pump seals, fittings) which were found to exceed the allowable leakage rate (as measured by concentration levels in air) were able to be repaired by Eastman.

7.2.2 Ambient Carbon Monoxide Background Concentration

This one-time study was completed in June of 1998, and documents the concentration of CO that is encountered by a LPMEOH™ operations person during the course of a normal day of plant operations. The report on this study is included in Environmental Monitoring Report No. 5. Both the time-weighted average and the peak values for CO were below the established limits by the Tennessee Operational Health and Safety Administration.

7.3 Particulate Emissions

This one-time study was completed in July of 1997, and documents the exposure level to particulate emissions that is encountered by a LPMEOH™ operations person during the catalyst charging process. The report on this study is included in Environmental Monitoring Report No. 1. Some engineering modifications to the catalyst loading system are planned to reduce the dust concentration and potential personnel exposure.

7.4 Wastewater Treatment System Outlet Stream

The reports on the outfall from the Wastewater Treatment System (Discharge Number 002) for the reporting period is attached in Appendix C. There were no permit excursions.

A process stream within the existing Eastman facility which is impacted by the operation of the LPMEOH™ Demonstration Unit contains the byproduct alcohols and water which are

generated in parallel with the production of methanol. This stream is sent to the Eastman Wastewater Treatment System. As noted in Section 6.3, a comparison of the flow, composition, and BOD load of this stream before and after the addition of the LPMEOH™ Demonstration Unit will be included in a Special Topical Report on publicly available technical data from the Eastman "Chemicals-from-Coal" facility.

8. Supplemental Monitoring

8.1 Total Synthesis Gas Use and Methanol Production

Table 8.1 contains the summary of the major process flows to and from the LPMEOH™ Demonstration Unit for the reporting period. Approximately 5,420,000 gallons (17,900 tons) of methanol (Refined and Crude Grades) were produced during the reporting period.

8.2 Oil/Water Separator

No oil was removed from the Oil/Water Separator during the reporting period.

8.3 Compressor and Pump Lubricants

No material was generated during the reporting period.

8.4 Spent Catalyst Slurry

No spent catalyst slurry was generated during the reporting period.

8.5 29C-40 Catalyst Guard Bed Spent Adsorbent

No material was generated during the reporting period.

8.6 Noise

The results of noise dosimetry measurements of the entire LPMEOH™ Demonstration Unit were reported in Environmental Monitoring Report No. 1. The results of an area noise survey at each platform of the LPMEOH™ Demonstration Unit and around the 29K-01 Recycle Compressor were reported in Environmental Monitoring Report No. 2. No additional surveys were performed during the reporting period.

Table 8-1**Synthesis Gas Use and Methanol Production - July/September 1998
LPMEOH™ Demonstration Unit**

	July 1998	August 1998	Sept. 1998	Total
Consumption, KSCF				
Balanced Gas	315,892.0	507,659.0	526,903.0	1,350,454.0
CO Gas	0.0	0.0	121.0	121.0
H ₂ Gas	0.0	0.0	0.0	0.0
Production, Tons				
Crude Methanol	1,194.9	2,079.8	2,449.6	5,724.2
Refined Methanol	2,963.9	4,720.9	4,487.4	12,172.2
Total Purge Gas, KSCF	41,323.0	49,739.0	65,132.0	156,194.0

9. Compliance

9.1 Compliance with Permit Limits

There were no excursions outside permit limits associated with the operation of the LPMEOH™ Demonstration Unit.

10. Problems and Recommendations

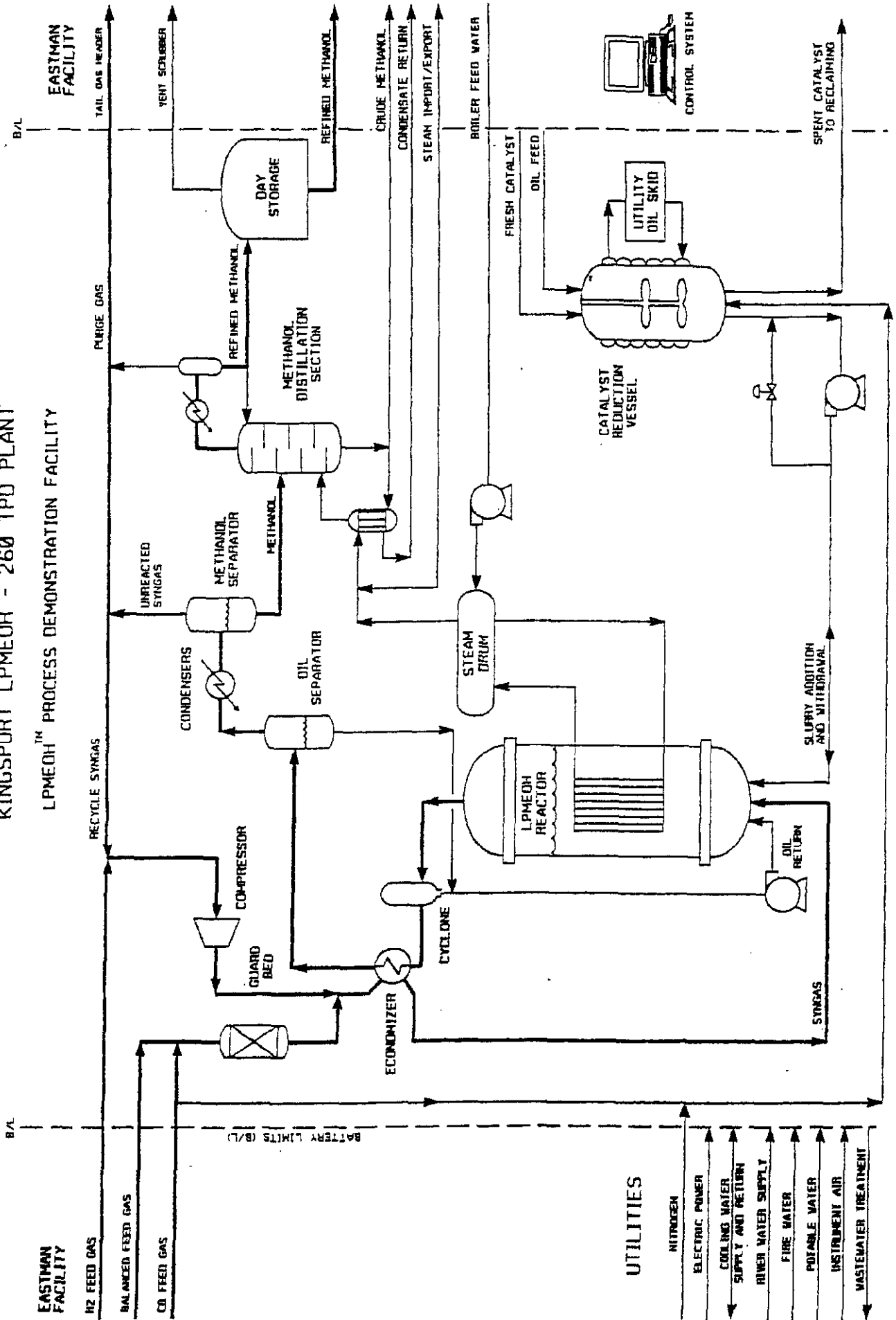
There have been no significant problems arising in the environmental area.

APPENDICES

APPENDIX A - SIMPLIFIED PROCESS FLOW DIAGRAM

SIMPLIFIED PROCESS DIAGRAM KINGSFORT LPMEOH - 260 TPD PLANT

LPMEOH™ PROCESS DEMONSTRATION FACILITY



APPENDIX B - LEAK DETECTION AND REPAIR REPORT

SEMI ANNUAL
40 CFR Part 63 SubPart H -- Semi-Annual Monitoring Summary
EASTMAN CHEMICAL
P.O. Box 511
Kingsport, TN 37662

Period: 01/01/1998 to 06/30/1998

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: VALVES

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
01/01/1998	03/31/1998	0	0	N/A	0	0

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: PUMPS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
01/01/1998	01/31/1998	11	0	0.00	0	0
02/01/1998	02/28/1998	11	0	0.00	0	0
03/01/1998	03/31/1998	11	0	0.00	0	0
04/01/1998	04/30/1998	11	0	0.00	0	0
05/01/1998	05/31/1998	11	1	9.09	0	0
06/01/1998	06/30/1998	11	0	0.00	0	0

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: COMPRESSORS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
-----------------	---------------	------------------	-------------------	--------------------	----------------------	--------------------------

*** No COMPRESSORs In CMPU ***

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: AGITATORS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
-----------------	---------------	------------------	-------------------	--------------------	----------------------	--------------------------

* * * No AGITATORSs In CPU * * *

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: CONNECTORS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
04/01/1997	03/31/1998	528	0	0.00	0	0

End Of Report - (ver. 2.4)

40CFR Part 63 SubPart H - Semi Annual Delayed Repairs Report
EASTMAN CHEMICAL
P.O. Box 511
Kingsport, TN 37662

Period: 01/01/1998 to 06/30/1998

PROCESS UNIT: METHANOL 29

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COMPONENT TAG	DRAWING NUMBER	COMPONENT CLASS	INSPECTION DATE
------------------	-------------------	--------------------	--------------------

REASON FOR DELAYED REPAIR

=====

* * * No delayed repairs logged for period. * * *

End Of Report

40 CFR Part 63 SubPart H -- Semi-Annual Exempt Compressor Report
EASTMAN CHEMICAL
P.O. Box 511
Kingsport, TN 37662

Period: 01/01/1998 to 06/30/1998

PROCESS UNIT: METHANOL 29

INSPECTION DATE	DRAWING NUMBER	COMPONENT TAG	BACK- GROUND	TEST READING	NET READING	TEST RESULT
--------------------	-------------------	------------------	-----------------	-----------------	----------------	----------------

* * * No Exempt Compressors In CPU * * *

End Of Report

40 CFR Part 63 SubPart H -- Semi-Annual Pressure Relief Device Report
EASTMAN CHEMICAL
P.O. Box 511
Kingsport, TN 37662

Period: 01/01/1998 to 06/30/1998

PROCESS UNIT: METHANOL 29

INSPECTION DATE	DRAWING NUMBER	COMPONENT TAG	BACK- GROUND	TEST READING	NET READING	TEST RESULT
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* * * No Pressure Relief Devices In CPMU * * *

End Of Report

40 CFR Part 63 SubPart H -- Semi-Annual Closed Vent System Report
EASTMAN CHEMICAL
P.O. Box 511
Kingsport, TN 37662

Period: 01/01/1998 to 06/30/1998

PROCESS UNIT: METHANOL 29

INSPECTION DATE	DRAWING NUMBER	COMPONENT TAG	BACK- GROUND	TEST READING	NET READING	TEST RESULT
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* * * No Data Logged For CLOSED VENT SYSTEMS * * *

End Of Report

**APPENDIX C - NPDES REPORTS FOR WASTEWATER TREATMENT SYSTEM
OUTLET STREAM**

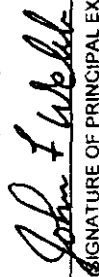
PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O. BOX 1993
 KINGSPOET, TN 37662-5393
 Facility: TN EASTMAN - KINGSPOET
 Location: SULLIVAN COUNTY TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 MAJOR (SUBR 06)
 DISCHARGE MONITORING REPORT (DMR)
 002 G
 DISCHARGE NUMBER
 F - FINAL

INDUSTRIAL PROCESS WASTEWATER EFFLUENT
MONITORING PERIOD
 FROM 98-07-01 TO 98-07-31

** NO DISCHARGE **

FORM APPROVED
OMB NO. 2040-0004

PARAMETER (32-37)	(3 Card Only) (46-53)			(4 Card Only) (38-45)			Quantity or Concentration (54-61)			NO. EX (62-63)	Frequency of Analysis (64-66)	Sample Type (69-70)
	AVERAGE	MAXIMUM	UNIT	MINIMUM	AVERAGE	UNIT	MAXIMUM	UNIT				
PH	MEASUREMENT	*****	*****	7.0	*****	*****	(12)	7.8	(12)	0	Continuous	N/A
00400 1 0 0	PERMIT REQUIREMENT	*****	*****	6.0	*****	*****	SU	9.0	SU	0	CONTINUOUS	RECORDER
SOLIDS, TOTAL SUSPENDED	MEASUREMENT	1,749	2,916	*****	*****	*****	(26)	*****	(19)	0	31/31	Composite
00530 1 0 0	PERMIT REQUIREMENT	11111	36954	*****	*****	*****	LBS/DAY	*****	*****	0	DAILY	COMPOSITE
NITROGEN, AMMONIA TOTAL (AS N)	MEASUREMENT	< 37	160	*****	*****	*****	(26)	1	(19)	0	31/31	Composite
00610 2 0 0	PERMIT REQUIREMENT	6000	12000	*****	*****	*****	LBS/DAY	61	MG/L	0	DAILY	COMPOSITE
EFFLUENT NET VALUE	MEASUREMENT	BDL	BDL	*****	*****	*****	(26)	BDL	(19)	0	1/7	Grab
CYANIDE, TOTAL (AS CN)	PERMIT REQUIREMENT	14.51	104.83	*****	*****	*****	LBS/DAY	0.419	MG/L	0	WEEKLY	GRAB
00720 2 0 0	MEASUREMENT	< 2.45	3.20	*****	*****	*****	(26)	0.012	(19)	0	1/7	Composite
CHROMIUM, TOTAL (AS CR)	PERMIT REQUIREMENT	12.51	2502	*****	*****	*****	LBS/DAY	0.050	MG/L	0	WEEKLY	COMPOSITE
01034 2 0 0	MEASUREMENT	1.49	3.11	*****	*****	*****	(26)	0.007	(19)	0	1/7	Composite
EFFLUENT NET VALUE	PERMIT REQUIREMENT	12.51	2502	*****	*****	*****	LBS/DAY	0.050	MG/L	0	WEEKLY	COMPOSITE
LEAD, TOTAL (AS PB)	MEASUREMENT	BDL	BDL	*****	*****	*****	(26)	BDL	(19)	0	1/7	Composite
01051 2 0 0	PERMIT REQUIREMENT	43.03	172.64	*****	*****	*****	LBS/DAY	0.172	MG/L	0	WEEKLY	COMPOSITE
EFFLUENT NET VALUE	MEASUREMENT	43.03	172.64	*****	*****	*****	(26)	0.172	MG/L	0	1/7	Composite
NAME / TITLE PRINCIPAL EXECUTIVE OFFICER											TELEPHONE	DATE
H. H. Holliman, President											(423) 229-2000	98 - 08 - 10
Tennessee Eastman Division											AREA CODE NUMBER	YEAR MO DAY
TYPED OR PRINTED											OFFICER OR AUTHORIZED AGENT	AREA CODE NUMBER
SIGNATURE OF PRINCIPAL EXECUTIVE											OFFICER OR AUTHORIZED AGENT	AREA CODE NUMBER
											OFFICER OR AUTHORIZED AGENT	AREA CODE NUMBER

NOTE: Read instructions before completing this form.

COMMENT AND EXPLANATION OF ANY VIOLATIONS
 In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant instance occurs, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.

EPA FORM 3320-1 (REV. 9-88) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

(Reference all attachments here)

CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECT SUPERVISION AND IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED BASED ON MY KNOWLEDGE OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O. BOX 1993
 KINGSPOST, TN 37662-5393
 Facility: TN EASTMAN - KINGSPOST
 Location: SULLIVAN COUNTY TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 MAJOR (SUBR 06)
 DISCHARGE MONITORING REPORT (DMR)
 002 G
 DISCHARGE NUMBER
 TN0002640
 PERMIT NUMBER

FORM APPROVED
 OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER
 EFFLUENT
 F - FINAL

MONITORING PERIOD
 FROM 98 - 08 - 01 TO 98 - 08 - 31

** NO DISCHARGE **

PARAMETER (32-37)	SAMPLE MEASUREMENT PERMIT REQUIREMENT	Quantity or Loading (3 Card Only)		Quantity or Concentration (4 Card Only)		NO. EX (62-63)	Frequency of Analysis (64-68)	Sample Type (69-70)
		AVERAGE (46-53)	MAXIMUM (54-61)	MINIMUM (38-45)	AVERAGE (46-53)			
PH	MEASUREMENT PERMIT REQUIREMENT	*****	*****	6.8	*****	0	Continuous	N/A
00400 1 0 0 EFFLUENT GROSS VALUE	MEASUREMENT PERMIT REQUIREMENT	*****	*****	6.0	*****	0	CONTINUOUS	RECORDER
SOLIDS, TOTAL SUSPENDED	MEASUREMENT PERMIT REQUIREMENT	4.288	10.667	(26)	*****	0	31/31	Composite
00530 1 0 0 EFFLUENT GROSS VALUE	MEASUREMENT PERMIT REQUIREMENT	11111 MON AVG	35954 DAILY MAX	LBS/DAY	*****	0	DAILY	COMPOSITE
NITROGEN, AMMONIA TOTAL (AS N)	MEASUREMENT PERMIT REQUIREMENT	< 80	204	(26)	*****	0	31/31	Composite
00610 2 0 0 EFFLUENT NET VALUE	MEASUREMENT PERMIT REQUIREMENT	6000 MON AVG	12000 DAILY MAX	LBS/DAY	*****	0	DAILY	COMPOSITE
CYANIDE, TOTAL (AS CN)	MEASUREMENT PERMIT REQUIREMENT	BDL	BDL	(26)	*****	0	1/7	Grab
00720 2 0 0 EFFLUENT NET VALUE	MEASUREMENT PERMIT REQUIREMENT	14.61 MON AVG	104.83 DAILY MAX	LBS/DAY	*****	0	WEEKLY	GRAB
CHROMIUM, TOTAL (AS CR)	MEASUREMENT PERMIT REQUIREMENT	3.34	4.75	(26)	*****	0	1/7	Composite
01034 2 0 0 EFFLUENT NET VALUE	MEASUREMENT PERMIT REQUIREMENT	12.67 MON AVG	25.02 DAILY MAX	LBS/DAY	*****	0	WEEKLY	COMPOSITE
COPPER, TOTAL (AS CU)	MEASUREMENT PERMIT REQUIREMENT	2.78	4.05	(26)	*****	0	1/7	Composite
01042 2 0 0 EFFLUENT NET VALUE	MEASUREMENT PERMIT REQUIREMENT	12.61 MON AVG	25.02 DAILY MAX	LBS/DAY	*****	0	WEEKLY	COMPOSITE
LEAD, TOTAL (AS PB)	MEASUREMENT PERMIT REQUIREMENT	BDL	BDL	(26)	*****	0	1/7	Composite
01051 2 0 0 EFFLUENT NET VALUE	MEASUREMENT PERMIT REQUIREMENT	43.03 MON AVG	172.64 DAILY MAX	LBS/DAY	*****	0	WEEKLY	COMPOSITE
NAME / TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE		OFFICER OR AUTHORIZED AGENT		TELEPHONE		DATE
H. H. Hoffiman, President		<i>John F. Webb</i>				(423) 229-2000		98 - 09 - 14
Tennessee Eastman Division						AREA CODE NUMBER		YEAR MO DAY
TYPED OR PRINTED								

NOTE: Read instructions before completing this form.

CERTY UNDER PENALTY OF LAW THAT THE INFORMATION AND ALL ATTACHMENTS WERE PREPARED UNDER THE CONTROL OF AN EMPLOYEE OF THE FACILITY AND THAT THE INFORMATION IS TRUE AND CORRECT. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPROVEMENT FOR KNOWING VIOLATIONS.

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant instance occurs, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.

EPA FORM 3320-1 (REV 9-88) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

Forms by WidespreadChem(707)944-0943, 0011090.v5.01.4/1/98

PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O. BOX 1993
 KINGSPOET, TN 37662-5393
 Facility: TN EASTMAN - KINGSPORT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 MAJOR (SUBR 06)
 F - FINAL

FORM APPROVED
 OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER
 EFFLUENT

FROM 98-08-01 TO 98-08-31 ** NO DISCHARGE **

Location: SULLIVAN COUNTY TN 37662-5393

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	(3 Card Only) (46-53)			(4 Card Only) (38-45)			Quantity or (54-61)			Concentration (54-61)			NO. EX (62-63)	Frequency of Analysis (64-68)	Sample Type (69-70)
	AVERAGE	MAXIMUM	UNIT	MINIMUM	AVERAGE	MAXIMUM	UNIT	MINIMUM	AVERAGE	MAXIMUM	UNIT				
NICKEL, TOTAL (AS NI)	4.87	7.36	(26)	*****	0.023	0.037	(19)	*****	0.037	0.037	(19)	0	1/7	Composite	
01067 2 0 0 EFFLUENT NET VALUE	422.84 MON AVG	995.80 DAILY MAX	LBS/DAY	*****	1.590 MON AVG	3.980 DAILY MAX	MG/L	*****	3.980	3.980	MG/L	0	WEEKLY	COMPOSITE	
ZINC, TOTAL (AS ZN)	19.28	29.47	(26)	*****	0.093	0.150	(19)	*****	0.150	0.150	(19)	0	1/7	Composite	
01092 2 0 0 EFFLUENT NET VALUE	158.00 MON AVG	317.75 DAILY MAX	LBS/DAY	*****	0.535 MON AVG	1.270 DAILY MAX	MG/L	*****	1.270	1.270	MG/L	0	WEEKLY	COMPOSITE	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	26.39	33.01	(03)	*****	*****	*****		*****	*****	*****		0	Continuous	N/A	
50050 1 0 0 EFFLUENT GROSS VALUE	REPORT MON AVG	REPORT DAILY MAX	MGD	*****	*****	*****		*****	*****	*****		0	CONTINUOUS	RECORDER	
BOD, CARBONACEOUS 05 DAY, 20C	1.572	2.721	(26)	*****	*****	*****		*****	*****	*****		0	31/31	Composite	
80082 2 W 0 EFFLUENT NET VALUE	4000 MON AVG	8500 DAILY MAX	LBS/DAY	*****	*****	*****		*****	*****	*****		0	DAILY	COMPOSITE	
SAMPLE MEASUREMENT															
PERMIT REQUIREMENT															
SAMPLE MEASUREMENT															
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SAMPLE MEASUREMENT															
PERMIT REQUIREMENT															
SAMPLE MEASUREMENT															
PERMIT REQUIREMENT															

NAME / TITLE PRINCIPAL EXECUTIVE OFFICER
 H. H. Holliman, President
 Tennessee Eastman Division

TELEPHONE
 (423) 229-2000

DATE
 98 - 09 - 14

OFFICER OR AUTHORIZED AGENT
 John F. Welch
 SIGNATURE OF PRINCIPAL EXECUTIVE

AREA CODE NUMBER
 (423) 229-2000

YEAR MO DAY
 98 - 09 - 14

FORMS BY: WinflowChem707864-0845.pml 10/90 v5 01/4/96

COMMENT AND EXPLANATION OF ANY VIOLATIONS
 (Reference all attachments here)

In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant instance occurs, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.

EPA FORM 3320-1 (REV 9-88) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE 3 OF 6

PERMITTEE NAME/ADDRESS:

TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O. BOX 1993

KINGSPORT, TN 37662-5393

Facility: TN EASTMAN - KINGSPORT

Location: SULLIVAN COUNTY TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

TN0002640
 PERMIT NUMBER

002 G
 DISCHARGE NUMBER

FORM APPROVED
 OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER
 EFFLUENT

MONITORING PERIOD

FROM 98-09-01 TO 98-09-30

** NO DISCHARGE [] **

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	(3 Card Only) (46-53)		(4 Card Only) (38-45)		Quantity or (46-53)		Concentration (54-61)		NO. EX (62-63)	Frequency of Analysis (64-68)	Sample Type (69-70)	
	AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MINIMUM	MAXIMUM	UNIT					
PH	MEASUREMENT	*****	6.9	*****	*****	*****	7.5	(12)	0	Continuous	N/A	
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	*****	6.0	*****	*****	*****	9.0 MAXIMUM	SU	0	CONTINUOUS	RECORDER	
SOLIDS, TOTAL SUSPENDED	MEASUREMENT	2,577	*****	*****	*****	*****	*****	*****	0	30/30	Composite	
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	11,111 MON AVG	*****	*****	*****	*****	*****	*****	0	DAILY	COMPOSITE	
NITROGEN, AMMONIA TOTAL (AS N)	MEASUREMENT	63	185	*****	*****	*****	1	(19)	0	30/30	Composite	
00610 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	6000 MON AVG	*****	*****	*****	*****	61 DAILY MAX	MG/L	0	DAILY	COMPOSITE	
CYANIDE, TOTAL (AS CN)	MEASUREMENT	BDL	BDL	*****	*****	*****	BDL	(19)	0	1/7	Grab	
00720 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	14.61 MON AVG	*****	*****	*****	*****	0.419 DAILY MAX	MG/L	0	WEEKLY	GRAB	
CHROMIUM, TOTAL (AS CR)	MEASUREMENT	4.55	9.79	*****	*****	*****	0.047	(19)	0	1/7	Composite	
01034 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	12.51 MON AVG	*****	*****	*****	*****	0.100 DAILY MAX	MG/L	0	WEEKLY	COMPOSITE	
COPPER, TOTAL (AS CU)	MEASUREMENT	< 2.75	5.16	*****	*****	*****	0.025	(19)	0	1/7	Composite	
01042 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	12.61 MON AVG	*****	*****	*****	*****	0.100 DAILY MAX	MG/L	0	WEEKLY	COMPOSITE	
LEAD, TOTAL (AS PB)	MEASUREMENT	BDL	BDL	*****	*****	*****	BDL	(19)	0	1/7	Composite	
01051 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	43.03 MON AVG	*****	*****	*****	*****	0.890 DAILY MAX	MG/L	0	WEEKLY	COMPOSITE	
NAME / TITLE PRINCIPAL EXECUTIVE OFFICER H. H. Holliman, President Tennessee Eastman Division											TELEPHONE	DATE
TYPED OR PRINTED OFFICER OR AUTHORIZED AGENT											(423) 229-2000	98 - 10 - 09
COMMENT AND EXPLANATION OF ANY VIOLATIONS In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant instance occurs, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.											AREA CODE NUMBER	YEAR MO DAY
(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)											88888888	88 10 09

Forms by VHS/DocChem/707864-0645/p001/086-yd 01-4/09

FORM APPROVED OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER EFFLUENT

MONITORING PERIOD FROM 98-09-01 TO 98-09-30

NOTE: Read instructions before completing this form.

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MONITORING PERIOD FROM 98-09-01 TO 98-09-30

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FORM APPROVED OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER EFFLUENT

MONITORING PERIOD FROM 98-09-01 TO 98-09-30

NOTE: Read instructions before completing this form.

FORM APPROVED OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER EFFLUENT

MONITORING PERIOD FROM 98-09-01 TO 98-09-30

NOTE: Read instructions before completing this form.

FORM APPROVED OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER EFFLUENT

MONITORING PERIOD FROM 98-09-01 TO 98-09-30

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FORM APPROVED OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER EFFLUENT

MONITORING PERIOD FROM 98-09-01 TO 98-09-30

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FORM APPROVED OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER EFFLUENT

MONITORING PERIOD FROM 98-09-01 TO 98-09-30

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FORM APPROVED OMB No. 2040-0004

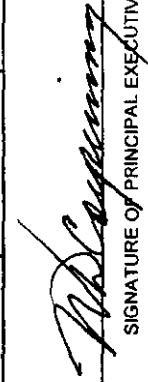
PERMITTEE NAME/ADDRESS: NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) FORM APPROVED
 TN EASTMAN DIVISION DISCHARGE MONITORING REPORT (DMR) MAJOR (SUBR 06) OMB No. 2040-0004
 DIVISION OF EASTMAN CHEMICAL CO. TNO002640 002 G
 P.O. BOX 1993 PERMIT NUMBER DISCHARGE NUMBER
 KINGSPOST, TN 37662-5393 FROM 98-09-01 TO 98-09-30
 Facility: TN EASTMAN - KINGSPOST MONITORING PERIOD
 Location: SULLIVAN COUNTY TN 37662-5393 FROM 98-09-01 TO 98-09-30
 INDUSTRIAL PROCESS WASTEWATER EFFLUENT
 ** NO DISCHARGE **

PARAMETER (32-37)	(3 Card Only) (46-53)			(4 Card Only) (38-45)			Quantity or Concentration (54-61)			NO. EX (62-63)	Frequency of Analysis (64-68)	Sample Type (69-70)
	AVERAGE	MAXIMUM	UNIT	MINIMUM	AVERAGE	UNIT	MAXIMUM	UNIT				
NICKEL, TOTAL (AS NI)	4.73	7.69	(26)	*****	0.025	0.045	(19)	0	1/7	Composite		
01067 2 0 0 EFFLUENT NET VALUE	122.84 MON AVG	393.00 DAILY MAX	LBS/DAY	*****	1.690 MON AVG	3.980 DAILY MAX	MGL	0	WEEKLY	COMPOSITE		
ZINC, TOTAL (AS ZN)	9.25	12.52	(26)	*****	0.048	0.061	(19)	0	1/7	Composite		
01082 2 0 0 EFFLUENT NET VALUE	18000 MON AVG	31775 DAILY MAX	LBS/DAY	*****	0.635 MON AVG	1.270 DAILY MAX	MGL	0	WEEKLY	COMPOSITE		
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	22.62	24.75	(03)	*****	*****	*****		0	Continuous	N/A		
50050 1 0 0 EFFLUENT GROSS VALUE	REPORT MON AVG	REPORT DAILY MAX	MGD	*****	*****	*****	****	0	CONTINUOUS	RECORDER		
BOD, CARBONACEOUS 05 DAY, 20C	924	1,780	(26)	*****	*****	*****		0	30/30	Composite		
80082 2 W 0 EFFLUENT NET VALUE	4000 MON AVG	8500 DAILY MAX	LBS/DAY	*****	*****	*****	****	0	DAILY	COMPOSITE		
MEASUREMENT												
PERMIT REQUIREMENT												
MEASUREMENT												
PERMIT REQUIREMENT												
MEASUREMENT												
PERMIT REQUIREMENT												

NAME / TITLE: H. H. Holliman, President
 Tennessee Eastman Division
 TYPED OR PRINTED: _____
 COMMENT AND EXPLANATION OF ANY VIOLATIONS: _____
 (Reference all attachments here)
 In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant instance occurs, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.
 EPA FORM 3320-1 (REV. 9-88) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

*** NO DISCHARGE ***
 NOTE: Read instructions before completing this form.

MONITORING PERIOD
 FROM 98 - 07 - 01 TO 98 - 09 - 30

PARAMETER (32-37)	MEASUREMENT REQUIREMENT	(3 Card Only) (46-53)		Quantity or (54-61)		Loading Unit	(4 Card Only) (38-45)		Quality or (46-53)		Concentration (54-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	Maximum	Minimum	Maximum		Minimum	Maximum	Average	Maximum	Unit	Unit			
CARBON TETRACHLORIDE	SAMPLE MEASUREMENT	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	4.60 MON AVG	9.51 DAILY MAX	*****	*****	LBS/DAY	*****	*****	0.018 MON AVG	*****	0.038 DAILY MAX	MG/L	*****	QUARTERLY	GRAB
1,2-DICHLOROETHANE	SAMPLE MEASUREMENT	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	17.00 MON AVG	57.79 DAILY MAX	*****	*****	LBS/DAY	*****	*****	0.068 MON AVG	*****	0.211 DAILY MAX	MG/L	*****	QUARTERLY	GRAB
CHLOROFORM	SAMPLE MEASUREMENT	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	5.25 MON AVG	11.51 DAILY MAX	*****	*****	LBS/DAY	*****	*****	0.021 MON AVG	*****	0.046 DAILY MAX	MG/L	*****	QUARTERLY	GRAB
TOLUENE	SAMPLE MEASUREMENT	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	6.51 MON AVG	26.02 DAILY MAX	*****	*****	LBS/DAY	*****	*****	0.026 MON AVG	*****	0.080 DAILY MAX	MG/L	*****	QUARTERLY	GRAB
ACENAPHTHYLENE	SAMPLE MEASUREMENT	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	2.00 MON AVG	4.06 DAILY MAX	*****	*****	LBS/DAY	*****	*****	0.008 MON AVG	*****	0.016 DAILY MAX	MG/L	*****	QUARTERLY	GRAB
34200 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	5.90 MON AVG	14.76 DAILY MAX	*****	*****	LBS/DAY	*****	*****	0.022 MON AVG	*****	0.059 DAILY MAX	MG/L	*****	QUARTERLY	GRAB
ACRYLONITRILE	SAMPLE MEASUREMENT	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	24.02 MON AVG	60.55 DAILY MAX	*****	*****	LBS/DAY	*****	*****	0.096 MON AVG	*****	0.242 DAILY MAX	MG/L	*****	QUARTERLY	GRAB
IDENTIFY UNDER PENALTY OF LAW THAT HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 31 USC 1319. (PENALTIES UNDER THESE STATUTES MAY INCLUDE FINES UP TO \$10,000 AND OR MAXIMUM IMPRISONMENT OF BETWEEN 6 MONTHS AND 5 YEARS)															
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER  OFFICER OR AUTHORIZED AGENT															
AREA CODE NUMBER (423) 229-2000 YEAR MO DAY 98 - 10 - 09															

COMMENT AND EXPLANATION OF ANY VIOLATIONS
 (Reference all attachments here)
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 EPA FORM 3320-1 (REV. 9-88) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O. BOX 1993
 KINGSPORT, TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 MAJOR (SUBR 06)
 F - FINAL
 PROCESSED WW QUARTERLY REPORT
 EFFLUENT

FORM APPROVED
 OMB No. 2040-0004

002 Q
 DISCHARGE NUMBER

TN0002640
 PERMIT NUMBER

MONITORING PERIOD
 FROM 98-07-01 TO 98-09-30

Facility: TN EASTMAN - KINGSPORT
 Location: SULLIVAN COUNTY TN 37662-5393

*** NO DISCHARGE [] ***
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT	(3 Card Only) (46-53)			Quantity or Loading (54-61)			(4 Card Only) (38-45)			Quality or Concentration (46-53)			NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	Maximum	Unit	Average	Minimum	Maximum	Unit	Average	Minimum	Maximum	Unit				
34220 2 0 0 EFFLUENT NET VALUE BENZENE, DISSOLVED	PERMIT REQUIREMENT	0.025 MON AVG	BDL DAILY MAX	(26) LBS/DAY	0.001 MON AVG	0.002 DAILY MAX	(19) MG/L	0.001 MON AVG	0.002 DAILY MAX	(19) MG/L	0	1/Quarter	Grab			
34235 2 0 0 EFFLUENT NET VALUE BENZO (K) FLUORANTHENE	PERMIT REQUIREMENT	0.037 MON AVG	BDL DAILY MAX	(26) LBS/DAY	0.037 MON AVG	0.136 DAILY MAX	(19) MG/L	0.037 MON AVG	0.136 DAILY MAX	(19) MG/L	0	1/Quarter	Grab			
34242 2 0 0 EFFLUENT NET VALUE BENZO (A) PYRENE	PERMIT REQUIREMENT	2.00 MON AVG	4.06 DAILY MAX	(26) LBS/DAY	0.008 MON AVG	0.016 DAILY MAX	(19) MG/L	0.008 MON AVG	0.016 DAILY MAX	(19) MG/L	0	1/Quarter	Grab			
34247 2 0 0 EFFLUENT NET VALUE CHLOROBENZENE	PERMIT REQUIREMENT	2.00 MON AVG	4.06 DAILY MAX	(26) LBS/DAY	0.008 MON AVG	0.016 DAILY MAX	(19) MG/L	0.008 MON AVG	0.016 DAILY MAX	(19) MG/L	0	1/Quarter	Grab			
34301 2 0 0 EFFLUENT NET VALUE CHRYSENE	PERMIT REQUIREMENT	7.01 MON AVG	BDL DAILY MAX	(26) LBS/DAY	0.015 MON AVG	0.028 DAILY MAX	(19) MG/L	0.015 MON AVG	0.028 DAILY MAX	(19) MG/L	0	1/Quarter	Grab			
34320 2 0 0 EFFLUENT NET VALUE DIETHYL PHTHALATE	PERMIT REQUIREMENT	0.025 MON AVG	BDL DAILY MAX	(26) LBS/DAY	0.001 MON AVG	0.002 DAILY MAX	(19) MG/L	0.001 MON AVG	0.002 DAILY MAX	(19) MG/L	0	1/Quarter	Grab			
34336 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	20.27 MON AVG	50.79 DAILY MAX	(26) LBS/DAY	0.081 MON AVG	0.203 DAILY MAX	(19) MG/L	0.081 MON AVG	0.203 DAILY MAX	(19) MG/L	0	1/Quarter	Grab			
<p>I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 31 USC 1319 (PENALTIES UNDER THESE STATUTES MAY INCLUDE FINES UP TO \$10,000 AND OR MAXIMUM IMPRISONMENT OF BETWEEN 6 MONTHS AND 3 YEARS.)</p>																
<p>H. H. Holliman, President Tennessee Eastman Division TYPED OR PRINTED</p>																
<p>SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OFFICER OR AUTHORIZED AGENT</p>																
<p>AREA CODE NUMBER (423) 229-2000 YEAR MO DAY 98 - 10 - 09</p>																

COMMENT AND EXPLANATION OF ANY VIOLATIONS
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PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O. BOX 1993
 KINGSPOST, TN 37662-5393

Facility: TN EASTMAN - KINGSPORT
 Location: SULLIVAN COUNTY TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 002 Q
 DISCHARGE NUMBER

MAJOR (SUBR 06)
 F - FINAL
 PROCESSED WW QUARTERLY REPORT
 EFFLUENT

FORM APPROVED
 OMB No. 2040-0004

*** NO DISCHARGE ***

NOTE: Read instructions before completing this form.

MONITORING PERIOD
 FROM 98 - 07 - 01 TO 98 - 09 - 30

PARAMETER (32-37)	SAMPLE MEASUREMENT	(3 Card Only) (48-53)		Quantity or (54-61)		Loading Unit	(4 Card Only) (38-49)		Quality or (46-53)		Concentration (54-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)		
		Average	Maximum	Average	Maximum		Minimum	Average	Maximum	Unit							
34341 2 0 0 EFFLUENT NET VALUE FLUORANTHENE	PERMIT REQUIREMENT	BDL	BDL	BDL	BDL	(26)	BDL	BDL	0.019 MON AVG	0.047 DAILY MAX	(19)	0	1/Quarter	Grab			
34376 2 0 0 EFFLUENT NET VALUE FLUORENE	PERMIT REQUIREMENT	BDL	BDL	BDL	BDL	(26)	BDL	BDL	0.025 MON AVG	0.068 DAILY MAX	(19)	0	1/Quarter	Grab			
34381 2 0 0 EFFLUENT NET VALUE HEXACHLOROBUTADIENE	PERMIT REQUIREMENT	BDL	BDL	BDL	BDL	(26)	BDL	BDL	0.001 MON AVG	0.002 DAILY MAX	(19)	0	1/Quarter	Grab			
34391 2 0 0 EFFLUENT NET VALUE HEXACHLOROETHANE	PERMIT REQUIREMENT	BDL	BDL	BDL	BDL	(26)	BDL	BDL	0.020 MON AVG	0.049 DAILY MAX	(19)	0	1/Quarter	Grab			
34396 2 0 0 EFFLUENT NET VALUE METHYL CHLORIDE	PERMIT REQUIREMENT	BDL	BDL	BDL	BDL	(26)	BDL	BDL	0.021 MON AVG	0.054 DAILY MAX	(19)	0	1/Quarter	Grab			
34418 2 0 0 EFFLUENT NET VALUE METHYLENE CHLORIDE	PERMIT REQUIREMENT	BDL	BDL	BDL	BDL	(26)	BDL	BDL	0.086 MON AVG	0.190 DAILY MAX	(19)	0	1/Quarter	Grab			
34423 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	BDL	BDL	BDL	BDL	(26)	BDL	BDL	0.040 MON AVG	0.089 DAILY MAX	(19)	0	1/Quarter	Grab			
TYPED OR PRINTED NAME/TITLE PRINCIPAL EXECUTIVE OFFICER H. H. Holliman, President Tennessee Eastman Division SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OFFICER OR AUTHORIZED AGENT																	
														(423) 229-2000	AREA CODE NUMBER	98 - 10 - 09	YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS
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PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O BOX 1993

KINGSPORT, TN 37662-5393
 Facility: TN EASTMAN - KINGSPORT
 Location: SULLIVAN COUNTY TN 37662-5393

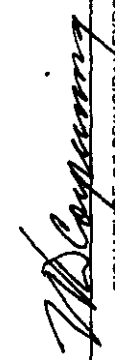
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 002 Q
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MAJOR (SUBR 06)
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 EFFLUENT

FORM APPROVED
 OMB No. 2040-0004

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MONITORING PERIOD
 FROM 98 - 07 - 01 TO 98 - 09 - 30

PARAMETER (32-37)	MEASUREMENT REQUIREMENT	(3 Card Only) (46-53)		Quantity or (54-61)	Loading Unit	(4 Card Only) (38-45)		Quality or (46-53)		Concentration (54-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)	
		Average	Minimum			Maximum	Maximum	Average	Maximum	Unit					
NITROBENZENE	SAMPLE MEASUREMENT	BDL	BDL	BDL	(26)	BDL	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab	
34447 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	0.076 MON AVG	1.701 DAILY MAX	0.027 MON AVG	LBS/DAY	0.001 MON AVG	0.068 DAILY MAX	0.027 MON AVG	0.068 DAILY MAX	0.068 DAILY MAX	MG/L	0	QUARTERLY	GRAB	
PHENANTHRENE	SAMPLE MEASUREMENT	BDL	BDL	BDL	(26)	BDL	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab	
34461 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	BDL	BDL	BDL	LBS/DAY	BDL	BDL	BDL	BDL	BDL	MG/L	0	QUARTERLY	GRAB	
PYRENE	SAMPLE MEASUREMENT	BDL	BDL	BDL	(26)	BDL	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab	
34469 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	0.026 MON AVG	0.41 DAILY MAX	0.001 MON AVG	LBS/DAY	0.001 MON AVG	0.002 DAILY MAX	0.001 MON AVG	0.002 DAILY MAX	0.002 DAILY MAX	MG/L	0	QUARTERLY	GRAB	
TETRACHLOROETHYLENE	SAMPLE MEASUREMENT	BDL	BDL	BDL	(26)	BDL	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab	
34475 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	5.50 MON AVG	14.01 DAILY MAX	0.022 MON AVG	LBS/DAY	0.022 MON AVG	0.066 DAILY MAX	0.022 MON AVG	0.066 DAILY MAX	0.066 DAILY MAX	MG/L	0	QUARTERLY	GRAB	
1,1 - DICHLOROETHANE	SAMPLE MEASUREMENT	BDL	BDL	BDL	(26)	BDL	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab	
34496 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	5.50 MON AVG	14.01 DAILY MAX	0.022 MON AVG	LBS/DAY	0.022 MON AVG	0.066 DAILY MAX	0.022 MON AVG	0.066 DAILY MAX	0.066 DAILY MAX	MG/L	0	QUARTERLY	GRAB	
1,1 - DICHLOROETHYLENE	SAMPLE MEASUREMENT	BDL	BDL	BDL	(26)	BDL	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab	
34501 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	4.00 MON AVG	6.26 DAILY MAX	0.016 MON AVG	LBS/DAY	0.016 MON AVG	0.025 DAILY MAX	0.016 MON AVG	0.025 DAILY MAX	0.025 DAILY MAX	MG/L	0	QUARTERLY	GRAB	
1,1,1 - TRICHLOROETHANE	SAMPLE MEASUREMENT	BDL	BDL	BDL	(26)	BDL	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab	
34506 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	5.25 MON AVG	13.61 DAILY MAX	0.021 MON AVG	LBS/DAY	0.021 MON AVG	0.064 DAILY MAX	0.021 MON AVG	0.064 DAILY MAX	0.064 DAILY MAX	MG/L	0	QUARTERLY	GRAB	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER H. H. Holliman, President Tennessee Eastman Division TYPED OR PRINTED SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT 															
												(423) 229-2000	AREA CODE NUMBER	98 - 10 - 09	YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS
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 DIVISION OF EASTMAN CHEMICAL CO.
 P O BOX 1993
 KINGSPOST, TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 002 Q
 DISCHARGE NUMBER

MAJOR (SUBR 06)
 F - FINAL
 PROCESSED WW QUARTERLY REPORT
 EFFLUENT

FORM APPROVED
 OMB NO.2040-0004

Facility: TN EASTMAN - KINGSPORT
 Location: SULLIVAN COUNTY TN 37662-5393

MONITORING PERIOD
 FROM 98 - 07 - 01 TO 98 - 09 - 30

*** NO DISCHARGE [] ***
 NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT REQUIREMENT	(3 Card Only) (46-53)		Quantity or (54-61)		Loading		(4 Card Only) (38-45)		Quality or (46-53)		Concentration (54-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	Maximum	Maximum	Unit	Minimum	Average	Maximum	Unit	Minimum	Average	Maximum	Unit			
1,1,2 - TRICHLOROETHANE	SAMPLE MEASUREMENT	*****	BDL	BDL	(26)	*****	BDL	*****	BDL	*****	BDL	BDL	0	1/Quarter	Grab	
34511 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	625 MON AVG	105 DAILY MAX	105 DAILY MAX	LBS/DAY	*****	BDL	*****	BDL	0.021 MON AVG	0.054 DAILY MAX	0.054 DAILY MAX	0	QUARTERLY	GRAB	
BENZO (A) ANTHRACENE	SAMPLE MEASUREMENT	*****	BDL	BDL	(26)	*****	BDL	*****	BDL	*****	BDL	BDL	0	1/Quarter	Grab	
34526 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	200 MON AVG	400 DAILY MAX	400 DAILY MAX	LBS/DAY	*****	BDL	*****	BDL	0.008 MON AVG	0.016 DAILY MAX	0.016 DAILY MAX	0	QUARTERLY	GRAB	
1,2 - DICHLOROBENZENE	SAMPLE MEASUREMENT	*****	BDL	BDL	(26)	*****	BDL	*****	BDL	*****	BDL	BDL	0	1/Quarter	Grab	
34636 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	19.27 MON AVG	40.76 DAILY MAX	40.76 DAILY MAX	LBS/DAY	*****	BDL	*****	BDL	0.077 MON AVG	0.163 DAILY MAX	0.163 DAILY MAX	0	QUARTERLY	GRAB	
1,2 - DICHLOROPROPANE	SAMPLE MEASUREMENT	*****	BDL	BDL	(26)	*****	BDL	*****	BDL	*****	BDL	BDL	0	1/Quarter	Grab	
34641 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	38.28 MON AVG	67.55 DAILY MAX	67.55 DAILY MAX	LBS/DAY	*****	BDL	*****	BDL	0.153 MON AVG	0.230 DAILY MAX	0.230 DAILY MAX	0	QUARTERLY	GRAB	
1,2 - TRANS - DICHLOROETHYLENE	SAMPLE MEASUREMENT	*****	BDL	BDL	(26)	*****	BDL	*****	BDL	*****	BDL	BDL	0	1/Quarter	Grab	
34546 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	625 MON AVG	1315 DAILY MAX	1315 DAILY MAX	LBS/DAY	*****	BDL	*****	BDL	0.021 MON AVG	0.054 DAILY MAX	0.054 DAILY MAX	0	QUARTERLY	GRAB	
1,2,4 - TRICHLORO - BENZENE	SAMPLE MEASUREMENT	*****	BDL	BDL	(26)	*****	BDL	*****	BDL	*****	BDL	BDL	0	1/Quarter	Grab	
34551 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	17.01 MON AVG	17.01 DAILY MAX	17.01 DAILY MAX	LBS/DAY	*****	BDL	*****	BDL	0.043 MON AVG	0.140 DAILY MAX	0.140 DAILY MAX	0	QUARTERLY	GRAB	
1,3 - DICHLOROPROPENE, TOTAL WEIGHT	SAMPLE MEASUREMENT	*****	BDL	BDL	(26)	*****	BDL	*****	BDL	*****	BDL	BDL	0	1/Quarter	Grab	
34561 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	128 MON AVG	130 DAILY MAX	130 DAILY MAX	LBS/DAY	*****	BDL	*****	BDL	0.029 MON AVG	0.044 DAILY MAX	0.044 DAILY MAX	0	QUARTERLY	GRAB	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	<p>H. H. Holliman, President</p> <p>Tennessee Eastman Division</p> <p>TYPED OR PRINTED</p>															
COMMENT AND EXPLANATION OF ANY VIOLATIONS	<p>(Reference all attachments here)</p> <p>In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant instance occurs, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.</p> <p>EPA FORM 3320-1 (REV. 9-88) Previous editions may be used.</p>															
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER	<p><i>H. H. Holliman</i></p> <p>OFFICER OR AUTHORIZED AGENT</p>															
AREA CODE NUMBER	(423) 229-2000															
YEAR MO DAY	98 - 10 - 09															

PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO
 P.O BOX 1993
 KINGSPORT, TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)

MAJOR (SUBR 06)
 F - FINAL
 PROCESSED WW QUARTERLY REPORT
 EFFLUENT

FORM APPROVED
 OMB No.2040-0004

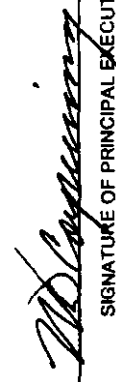
Facility: TN EASTMAN - KINGSPORT
 Location: SULLIVAN COUNTY TN 37662-5393

TN002640
 PERMIT NUMBER

002 Q
 DISCHARGE NUMBER

MONITORING PERIOD
 FROM 98-07-01 TO 98-09-30

*** NO DISCHARGE [] ***
 NOTE: Read instructions before completing this form.

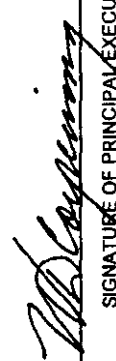
PARAMETER (32-37)	MEASUREMENT	(3 Card Only) (46-53)		Quantity or Loading (54-61)		(4 Card Only) (38-45)		Quality or Concentration (46-53) (54-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	Maximum	Unit	Unit	Minimum	Average	Maximum	Unit			
1,3 - DICHLOROBENZENE	SAMPLE MEASUREMENT	776	BDL	(26)	BDL	(26)	BDL	(19)	BDL	0	1/Quarter	Grab
34566 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	MON AVG	14.01 DAILY MAX	LBS/DAY	BDL	LBS/DAY	0.031 DAILY MAX	MG/L	0.044 DAILY MAX	0	QUARTERLY	GRAB
1,4 - DICHLOROBENZENE	SAMPLE MEASUREMENT	375	BDL	(26)	BDL	(26)	BDL	(19)	BDL	0	1/Quarter	Grab
34571 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	MON AVG	7.01 DAILY MAX	LBS/DAY	BDL	LBS/DAY	0.015 DAILY MAX	MG/L	0.028 DAILY MAX	0	QUARTERLY	GRAB
2 - CHLOROPHENOL	SAMPLE MEASUREMENT	776	BDL	(26)	BDL	(26)	BDL	(19)	BDL	0	1/Quarter	Grab
34586 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	MON AVG	24.52 DAILY MAX	LBS/DAY	BDL	LBS/DAY	0.031 DAILY MAX	MG/L	0.098 DAILY MAX	0	QUARTERLY	GRAB
2 - NITROPHENOL	SAMPLE MEASUREMENT	1026	BDL	(26)	BDL	(26)	BDL	(19)	BDL	0	1/Quarter	Grab
34591 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	MON AVG	17.26 DAILY MAX	LBS/DAY	BDL	LBS/DAY	0.041 DAILY MAX	MG/L	0.069 DAILY MAX	0	QUARTERLY	GRAB
2,4 - DICHLOROPHENOL	SAMPLE MEASUREMENT	976	BDL	(26)	BDL	(26)	BDL	(19)	BDL	0	1/Quarter	Grab
34601 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	MON AVG	28.02 DAILY MAX	LBS/DAY	BDL	LBS/DAY	0.039 DAILY MAX	MG/L	0.112 DAILY MAX	0	QUARTERLY	GRAB
2,4 - DIMETHYLPHENOL	SAMPLE MEASUREMENT	450	BDL	(26)	BDL	(26)	BDL	(19)	BDL	0	1/Quarter	Grab
34606 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	MON AVG	9.01 DAILY MAX	LBS/DAY	BDL	LBS/DAY	0.018 DAILY MAX	MG/L	0.036 DAILY MAX	0	QUARTERLY	GRAB
2,4 - DINITROTOLUENE	SAMPLE MEASUREMENT	2827	BDL	(26)	BDL	(26)	BDL	(19)	BDL	0	1/Quarter	Grab
34611 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	MON AVG	71.31 DAILY MAX	LBS/DAY	BDL	LBS/DAY	0.113 DAILY MAX	MG/L	0.285 DAILY MAX	0	QUARTERLY	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER												
H. H. Hoffiman, President												
Tennessee Eastman Division												
TYPED OR PRINTED												
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT												
 SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT												
AREA CODE NUMBER (423) 229-2000												
TELEPHONE												
DATE 98-10-09												
YEAR MO DAY 98 10 09												

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant instance occurs, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.

EPA FORM 3320-1 (REV. 9-88) Previous editions may be used.

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PARAMETER (32-37)	SAMPLE MEASUREMENT	(3 Card Only) (46-53)		Loading Unit	(4 Card Only) (58-65)		MONITORING PERIOD		NO. EX (62-63)	Frequency of analysis (64-66)	Sample Type (68-70)
		Average	Maximum		Minimum	Quality or Average (46-53)	Concentration Maximum (54-61)	FROM			
2,4-DINITROPHENOL	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	*****	BDL	0	1/Quarter	Grab
34616 2 0 0	PERMIT REQUIREMENT	17.76 MON AVG	30.77 DAILY MAX	LBS/DAY	*****	0.123 DAILY MAX	0.071 MON AVG	0.123 DAILY MAX	0	QUARTERLY	GRAB
2,6-DINITROTOLUENE	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	*****	BDL	0	1/Quarter	Grab
34626 2 0 0	PERMIT REQUIREMENT	63.80 MON AVG	190.38 DAILY MAX	LBS/DAY	*****	0.641 DAILY MAX	0.255 MON AVG	0.641 DAILY MAX	0	QUARTERLY	GRAB
4-NITROPHENOL	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	*****	BDL	0	1/Quarter	Grab
34646 2 0 0	PERMIT REQUIREMENT	18.01 MON AVG	31.02 DAILY MAX	LBS/DAY	*****	0.124 DAILY MAX	0.072 MON AVG	0.124 DAILY MAX	0	QUARTERLY	GRAB
4,6-DINITRO-O-CRESOL	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	*****	BDL	0	1/Quarter	Grab
34657 2 0 0	PERMIT REQUIREMENT	19.52 MON AVG	69.31 DAILY MAX	LBS/DAY	*****	0.277 DAILY MAX	0.078 MON AVG	0.277 DAILY MAX	0	QUARTERLY	GRAB
PHENOL, SINGLE COMPOUND	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	*****	BDL	0	1/Quarter	Grab
34694 2 0 0	PERMIT REQUIREMENT	3.75 MON AVG	6.51 DAILY MAX	LBS/DAY	*****	0.026 DAILY MAX	0.015 MON AVG	0.026 DAILY MAX	0	QUARTERLY	GRAB
NAPHTHALENE	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	*****	BDL	0	1/Quarter	Grab
34696 2 0 0	PERMIT REQUIREMENT	5.50 MON AVG	14.76 DAILY MAX	LBS/DAY	*****	0.059 DAILY MAX	0.022 MON AVG	0.059 DAILY MAX	0	QUARTERLY	GRAB
ETHYL BENZENE	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	*****	BDL	0	1/Quarter	Grab
37371 2 0 0	PERMIT REQUIREMENT	8.01 MON AVG	27.02 DAILY MAX	LBS/DAY	*****	0.108 DAILY MAX	0.032 MON AVG	0.108 DAILY MAX	0	QUARTERLY	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	H. H. Hoffiman, President Tennessee Eastman Division SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT 										
										TELEPHONE	DATE
										(423) 229-2000	98 - 10 - 09
										AREA CODE NUMBER	YEAR, MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS
 (Reference all attachments here)

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(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O BOX 1993
 KINGSPORT, TN 37662-5393

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)

MAJOR (SUBR 06)
 F - FINAL
 PROCESSED WW QUARTERLY REPORT
 EFFLUENT

FORM APPROVED
 OMB No. 2040-0004

Facility: TN EASTMAN - KINGSPORT
 Location: SULLIVAN COUNTY TN 37662-5393

*** NO DISCHARGE [] ***

NOTE: Read instructions before completing this form.

002 Q	DISCHARGE NUMBER
TN0002640	PERMIT NUMBER

MONITORING PERIOD	
FROM 98 - 07 - 01	TO 98 - 09 - 30

PARAMETER (32-37)	(3 Card Only) (46-53)		Quantity or (54-61)		Loading		(4 Card Only) (98-105)		Quality or (46-53)		Concentration (54-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
	Average	Maximum	Average	Maximum	Unit	Unit	Minimum	Average	Maximum	Unit	Unit				
BIS (2 - ETHYLHEXYL) PHTHALATE	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	(19)	BDL	0	1/Quarter	Grab	
39100 2 0 0 EFFLUENT NET VALUE	26.77 MON AVG	69.81 DAILY MAX	*****	*****	LBS/DAY	*****	0.103 MON AVG	0.279 DAILY MAX	*****	MG/L	*****	0	QUARTERLY	GRAB	
DI - N - BUTYL PHTHALATE	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	(19)	BDL	0	1/Quarter	Grab	
39110 2 0 0 EFFLUENT NET VALUE	17.0 MON AVG	7.0 DAILY MAX	*****	*****	LBS/DAY	*****	0.027 MON AVG	0.057 DAILY MAX	*****	MG/L	*****	0	QUARTERLY	GRAB	
VINYL CHLORIDE	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	(19)	BDL	0	1/Quarter	Grab	
39175 2 0 0 EFFLUENT NET VALUE	28.02 MON AVG	67.05 DAILY MAX	*****	*****	LBS/DAY	*****	0.104 MON AVG	0.268 DAILY MAX	*****	MG/L	*****	0	QUARTERLY	GRAB	
TRICHLOROETHYLENE	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	(19)	BDL	0	1/Quarter	Grab	
39180 2 0 0 EFFLUENT NET VALUE	5.26 MON AVG	13.51 DAILY MAX	*****	*****	LBS/DAY	*****	0.021 MON AVG	0.054 DAILY MAX	*****	MG/L	*****	0	QUARTERLY	GRAB	
HEXACHLOROBENZENE	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	(19)	BDL	0	1/Quarter	Grab	
39700 2 0 0 EFFLUENT NET VALUE	0.05 MON AVG	0.09 DAILY MAX	*****	*****	LBS/DAY	*****	0.000186 MON AVG	0.000372 DAILY MAX	*****	MG/L	*****	0	QUARTERLY	GRAB	
3,4 BENZOFUORANTHENE	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	(19)	BDL	0	1/Quarter	Grab	
79531 2 0 0 EFFLUENT NET VALUE	2.00 MON AVG	4.06 DAILY MAX	*****	*****	LBS/DAY	*****	0.008 MON AVG	0.016 DAILY MAX	*****	MG/L	*****	0	QUARTERLY	GRAB	
CHLOROETHANE	*****	BDL	*****	BDL	(26)	*****	*****	*****	*****	(19)	BDL	0	1/Quarter	Grab	
95811 2 0 0 EFFLUENT NET VALUE	26.02 MON AVG	67.05 DAILY MAX	*****	*****	LBS/DAY	*****	0.104 MON AVG	0.268 DAILY MAX	*****	MG/L	*****	0	QUARTERLY	GRAB	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	<p>H. H. Holliman, President</p> <p>Tennessee Eastman Division</p> <p>TYPED OR PRINTED</p>														
OFFICER OR AUTHORIZED AGENT	<p><i>[Signature]</i></p> <p>SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER</p>														
AREA CODE NUMBER	(423) 229-2000														
YEAR MO DAY	98 - 10 - 09														

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