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Commercial-Scale Demonstration of the Liquid Phase Methanol (LPMEOHTM) Process

**Quarterly Report
October 1 - December 31, 1997**

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For
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Office of Fossil Energy
Federal Energy Technology Center
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ACRONYMS AND DEFINITIONS

Acurex	-	Acurex Environmental Corporation
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-FETC	-	The DOE's Federal Energy Technology Center (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
SL/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
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 12,000 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. The publically available technical data will be provided in Environmental Monitoring Report (EMR) No. 4. 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

<u>Environmental Media</u>	<u>General Parameters</u>
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

Environmental Media**General Parameters**

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 November and December of 1997, the initial charge of catalyst slurry was drained from the LPMEOH™ Reactor, and a startup charge of fresh catalyst was activated and brought onstream. A 31-day continuous operating campaign was completed on 03 November 1997. 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

The report on 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 EMR No. 4 for the LPMEOH™ Demonstration Unit.

6.2 10C-30 Catalyst Guard Bed

The report on publicly available technical data from the Eastman "Chemicals-from-Coal" facility, which includes data on the streams around and the operation of the 10C-30 Catalyst Guard Bed, will be issued in EMR No. 4 for the LPMEOH™ Demonstration Unit.

During the reporting period, the adsorbent in the 10C-30 Catalyst Guard Bed was removed and replaced with fresh material. The quantities of adsorbent which were removed from the 10C-30 for disposal (and placed into drums) were 75 cubic feet of manganese oxide and 155 cubic feet of zinc oxide. Equivalent quantities of fresh adsorbent were added to the vessel. This material was sent to Eastman's onsite incinerator for disposal.

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 EMR No. 4 for the LPMEOH™ Demonstration Unit. 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 Unit Onstream time and Outages - October/December 1997

Operation Start	Operation End	Operating Hours	Shutdown Hours	Reason for Shutdown
10/1/97 00:01	10/1/97 00:01	0.0	51.5	G-03 Electrical Tie-in and Eastman Guard Bed Change
10/3/97 03:30	11/3/97 14:50	756.3	1112.0	End of Catalyst Run
12/19/97 22:50	12/31/97 23:59	289.1		End of Reporting Period
Total Operating Hours				1045.5
Syngas Available Hours				1097.0 *
Plant Availability, %				95.3 *

* Excluding catalyst changeout to restart test program.

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 two reports on Leak Detection and Repair at the LPMEOH™ Demonstration Unit. Due to the April 1997 start-up date, there is some overlap between these reports. All items (valves, pump seals, fittings) which were found to exceed the allowable leakage rate (as measured by concentration levels in air) were repaired by Eastman.

7.2.2 Ambient Carbon Monoxide Background Concentration

This one-time study will record the concentration of CO that is encountered by a LPMEOH™ operations person during the course of a normal day of plant operations.

No activity occurred during the reporting period. The ambient CO background concentration study is scheduled to be performed during the first quarter of calendar year 1998.

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. The annual EMR will contain a comparison of the flow, composition, and BOD load of this stream before and after the addition of the LPMEOH™ Demonstration Unit.

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 2,400,000 gallons (8,000 tons) of methanol (Refined and Crude Grades) were produced during the reporting period.

8.2 Oil/Water Separator

Since the startup of the LPMEOH™ Demonstration Unit in April of 1997, about 24,000 pounds of oil have been removed from the Oil/Water Separator. This material has been incinerated for energy recovery.

8.3 Compressor and Pump Lubricants

No material was generated during the reporting period.

8.4 Spent Catalyst Slurry

A total of 90,800 pounds of methanol synthesis catalyst was removed from the LPMEOH™ reactor (drained into drums) during the outage between 03 November and 19 December 1997. This material is presently stored on site, and arrangements are being made to ship this material to the off-site catalyst reclaimer.

8.5 29C-40 Catalyst Guard Bed Spent Adsorbent

During the reporting period, the adsorbent in the 29C-40 Catalyst Guard Bed was removed and replaced with fresh material. Approximately 6,300 pounds of activated carbon was removed from the vessel (placed into drums), and an equivalent quantity of fresh material was added. The spent activated carbon is presently stored on site, and will be sent offsite for disposal during the first quarter of calendar year 1998.

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

Table 8-1

**Synthesis Gas Use and Methanol Production - October/December 1997
LPMEOH™ Demonstration Unit**

	October 1997	November 1997	December 1997	Total
Consumption, KSCF				
Balanced Gas	345,581.0	34,073.0	240,468.0	620,122.0
CO Gas	0.0	0.6	0.0	0.6
H ₂ Gas	0.0	0.0	0.0	0.0
Production, Tons				
Crude Methanol	928.1	60.1	1,325.0	2,313.3
Refined Methanol	3,629.6	337.6	1,697.4	5,664.6
 Total Purge Gas, KSCF	 45,727.0	 5,425.0	 20,657.0	 71,809.0

Recycle Compressor were reported in Environmental Monitoring Report No. 2. No additional surveys were performed during the reporting period.

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

APPENDIX B - LEAK DETECTION AND REPAIR REPORTS

Reporting Period 01 April - 30 September 1997 (10 pages)

Reporting Period 01 July - 31 December 1997 (10 pages)

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

Printed: 11/06/1997 at 13:38:54
Period: 04/01/1997 to 09/30/1997

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: VALVES

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
04/01/1997	06/30/1997	259	0	0.00	0	0
07/01/1997	09/30/1997	254	0	0.00	0	0

40 CFR Part 63 SubPart H -- Semi-Annual Monitoring Summary

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PROCESS UNIT: METHANOL 29

COMPONENT CLASS: PUMPS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
04/01/1997	04/30/1997	12	1	9.09	0	0
05/01/1997	05/31/1997	11	0	0.00	0	0
06/01/1997	06/30/1997	11	0	0.00	0	0
07/01/1997	07/31/1997	11	2	18.18	0	0
08/01/1997	08/31/1997	11	2	18.18	0	0
09/01/1997	09/30/1997	11	0	0.00	0	0

40 CFR Part 63 SubPart H -- Semi-Annual Monitoring Summary

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PROCESS UNIT: METHANOL 29

COMPONENT CLASS: COMPRESSORS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
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*** No COMPRESSORS Identified on Unit METHANOL 29 ***

40 CFR Part 63 SubPart H -- Semi-Annual Monitoring Summary

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PROCESS UNIT: METHANOL 29

COMPONENT CLASS: AGITATORS

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

* * * No AGITATORSs Identified on Unit METHANOL 29 * * *

40 CFR Part 63 SubPart H -- Semi-Annual Monitoring Summary

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PROCESS UNIT: METHANOL 29

COMPONENT CLASS: CONNECTORS

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

* * * The end date of the monitoring period for CONNECTORS

In Unit METHANOL 29 falls outside the specified period. * * *

* * * The closest monitoring period for CONNECTORS

In Unit METHANOL 29 is 04/01/1997 --> 03/31/1998 * * *

* * * The following is the current status of this monitoring period. * * *

04/01/1997	03/31/1998	515	0		0	0
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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

Printed: 11/06/1997 at 13:39:53
Period: 04/01/1997 to 09/30/1997

PROCESS UNIT: METHANOL 29

COMPONENT TAG	DRAWING NUMBER	COMPONENT CLASS	INSPECTION DATE
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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

Printed: 11/06/1997 at 13:40:25
Period: 04/01/1997 to 09/30/1997

PROCESS UNIT: METHANOL 29

INSPECTION DATE	DRAWING NUMBER	COMPONENT TAG	BACK- GROUND	TEST READING	NET READING	TEST RESULT
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* * * No Compressors Identified on Unit METHANOL 29 * * *

End Of Report

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

Printed: 11/06/1997 at 13:40:58
Period: 04/01/1997 to 09/30/1997

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 Identified on Unit METHANOL 29 * * *

End Of Report

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

Printed: 11/06/1997 at 13:41:29
Period: 04/01/1997 to 09/30/1997

PROCESS UNIT: METHANOL 29

INSPECTION DATE	DRAWING NUMBER	COMPONENT TAG	BACK- GROUND	TEST READING	NET READING	TEST RESULT
06/03/1997	29F-B-003	291686V2	4	24	20	pass
06/03/1997	29F-B-003	291765V1	4	147	143	pass
06/03/1997	29F-B-003	291963V1	6	12	6	pass
08/14/1997	29F-B-003	291963V1	4	142	138	pass
08/14/1997	29F-B-003	291688F1	4	24	20	pass
08/14/1997	29F-B-003	291688F2	4	24	20	pass
08/14/1997	29F-B-003	291764F3	4	15	11	pass
08/14/1997	29F-B-003	291764S4	4	15	11	pass
08/14/1997	29F-B-003	291764S6	4	17	13	pass
08/14/1997	29F-B-003	291764V5	4	18	14	pass
08/14/1997	29F-B-003	29G105F1	4	21	17	pass
08/14/1997	29F-B-003	29G105F2	4	24	20	pass
08/14/1997	29F-B-003	29G105F4	4	20	16	pass
08/14/1997	29F-B-003	29G105V3	4	20	16	pass
09/15/1997	29F-B-003	291686F1	4	25	21	pass
09/15/1997	29F-B-003	291686F5	4	12	8	pass
09/15/1997	29F-B-003	291686F5	6	1046	1040	fail
09/15/1997	29F-B-003	291686I4	5	150	145	pass
09/15/1997	29F-B-003	291686S3	4	9	5	pass
09/15/1997	29F-B-003	291687F1	4	22	18	pass
09/15/1997	29F-B-003	291764V7	4	6	2	pass
09/22/1997	29F-B-003	291686F5	4	63	59	pass

End Of Report

40 CFR Part 63 SubPart H Inventory Update Report
EASTMAN CHEMICAL
P.O. Box 511
Kingsport, TN 37662

Printed: 11/06/1997 at 13:42:37
Period: 04/01/1997 to 09/30/1997

PROCESS UNIT: METHANOL 29

COMPONENT CLASS	ADDED	REMOVED
END CAPS FOR OPEN ENDED LINES	0	0
CLOSED VENT SYS/CTRL DEVICE	20	9
CONNECTOR	8	1
INSTRUMENTATION SYSTEMS	0	0
PUMP	0	1
VALVE	8	2
PRODUCT ACCUMULATOR VESSEL	6	0

End Of Report

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

Period: 07/01/1997 to 12/31/1997

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: VALVES

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
07/01/1997	09/30/1997	254	0	0.00	0	0
10/01/1997	12/31/1997	239	0	0.00	0	0

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: PUMPS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
07/01/1997	07/31/1997	11	2	18.18	0	0
08/01/1997	08/31/1997	11	2	18.18	0	0
09/01/1997	09/30/1997	11	0	0.00	0	0
10/01/1997	10/31/1997	11	0	0.00	0	0
11/01/1997	11/30/1997	11	0	0.00	0	0
12/01/1997	12/31/1997	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
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* * * 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
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* * * No AGITATORSs In CMPU * * *

PROCESS UNIT: METHANOL 29

COMPONENT CLASS: CONNECTORS

PERIOD START	PERIOD END	NUMBER TESTED	NUMBER LEAKERS	PERCENT LEAKERS	NUMBER UNREPAIRED	NUMBER NOT REPAIRABLE
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*** No Data Logged For Connectors ***

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: 07/01/1997 to 12/31/1997

PROCESS UNIT: METHANOL 29

COMPONENT TAG	DRAWING NUMBER	COMPONENT CLASS	INSPECTION DATE
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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: 07/01/1997 to 12/31/1997

PROCESS UNIT: METHANOL 29

INSPECTION DATE	DRAWING NUMBER	COMPONENT TAG	BACK- GROUND	TEST READING	NET READING	TEST RESULT
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* * * No Exempt Compressors In CMPU * * *

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: 07/01/1997 to 12/31/1997

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 CPU * * *

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: 07/01/1997 to 12/31/1997

PROCESS UNIT: METHANOL 29

INSPECTION DATE	DRAWING NUMBER	COMPONENT TAG	BACK- GROUND	TEST READING	NET READING	TEST RESULT
08/14/1997	29F-B-003	291963V1	4	142	138	pass
08/14/1997	29F-B-003	291688F1	4	24	20	pass
08/14/1997	29F-B-003	291688F2	4	24	20	pass
08/14/1997	29F-B-003	291764F3	4	15	11	pass
08/14/1997	29F-B-003	291764S4	4	15	11	pass
08/14/1997	29F-B-003	291764S6	4	17	13	pass
08/14/1997	29F-B-003	291764V5	4	18	14	pass
08/14/1997	29F-B-003	29G105F1	4	21	17	pass
08/14/1997	29F-B-003	29G105F2	4	24	20	pass
08/14/1997	29F-B-003	29G105F4	4	20	16	pass
08/14/1997	29F-B-003	29G105V3	4	20	16	pass
09/15/1997	29F-B-003	291686F1	4	25	21	pass
09/15/1997	29F-B-003	291686F5	4	12	8	pass
09/15/1997	29F-B-003	291686F5	6	1046	1040	fail
09/15/1997	29F-B-003	291686I4	5	150	145	pass
09/15/1997	29F-B-003	291686S3	4	9	5	pass
09/15/1997	29F-B-003	291687F1	4	22	18	pass
09/15/1997	29F-B-003	291764V7	4	6	2	pass
09/22/1997	29F-B-003	291686F5	4	63	59	pass

End Of Report

40 CFR Part 63 SubPart H Inventory Update Report
EASTMAN CHEMICAL
P.O. Box 511
Kingsport, TN 37662

Period: 07/01/1997 to 12/31/1997

PROCESS UNIT: METHANOL 29

COMPONENT CLASS	ADDED	REMOVED
END CAPS FOR OPEN ENDED LINES	0	0
CLOSED VENT SYS/CTRL DEVICE	0	1
CONNECTOR	12	0
INSTRUMENTATION SYSTEMS	0	0
PUMP	0	0
VALVE	2	1
PRODUCT ACCUMULATOR VESSEL	0	0

End Of Report

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

PARAMETER (32-37)		(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	Unit	Average	Maximum	Unit	Minimum	Average	Maximum	Unit	Minimum	Average	Maximum	Unit							
PH		SAMPLE MEASUREMEN																				
00400 1 0 0		PERMIT																				
EFFLUENT GROSS VALUE		REQUIREMENT																				
SOLIDS, TOTAL		SAMPLE																				
SUSPENDED		MEASUREMEN																				
00530 1 0 0		PERMIT																				
EFFLUENT GROSS VALUE		REQUIREMENT																				
NITROGEN, AMMONIA		SAMPLE																				
TOTAL (AS N)		MEASUREMEN																				
00610 2 0 0		PERMIT																				
EFFLUENT NET VALUE		REQUIREMENT																				
CYANIDE, TOTAL (AS CN)		SAMPLE																				
00720 2 0 0		MEASUREMEN																				
EFFLUENT NET VALUE		PERMIT																				
CHROMIUM, TOTAL (AS CR)		REQUIREMENT																				
01034 2 0 0		SAMPLE																				
EFFLUENT NET VALUE		MEASUREMEN																				
COPPER, TOTAL (AS CU)		PERMIT																				
01042 2 0 0		REQUIREMENT																				
EFFLUENT NET VALUE		SAMPLE																				
LEAD, TOTAL (AS PB)		MEASUREMEN																				
01051 2 0 0		PERMIT																				
EFFLUENT NET VALUE		REQUIREMENT																				
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER																						
H. H. Holliman, President																						
Tennessee Eastman Division																						
TYPED OR PRINTED																						
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.																						
SIGNATURE OF PRINCIPAL EXECUTIVE		John F. Webb																				
OFFICER OR AUTHORIZED AGENT																						
AREA CODE NUMBER		(423) 229-2000																				
YEAR MO DAY		97 - 11 - 12																				

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

MAJOR

(SUBR 06)

F - FINAL

INDUSTRIAL PROCESS WASTEWATER
EFFLUENT

FORM APPROVED

OMB No 2040-0004

*** NO DISCHARGE [] ***

NOTE: Read instructions before completing this form.

MONITORING PERIOD

FROM 97 - 10 - 01 TO 97 - 10 - 31

PARAMETER (32-37)	X	(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	Average	Maximum		Minimum	Maximum	Average	Maximum	Unit				
NICKEL, TOTAL (AS NI)	SAMPLE MEASUREMENT	5.67	6.68	(26)	*****	0.025	0.031	(19)	0	1/7	Composite				
01067 2 0 0	PERMIT REQUIREMENT	422.84	995.80	LBS/DAY	*****	1.690	3.980	MG/L	0	WEEKLY	COMPOSITE				
ZINC, TOTAL (AS ZN)	SAMPLE MEASUREMENT	7.72	9.19	(26)	*****	0.034	0.041	(19)	0	1/7	Composite				
01092 2 0 0	PERMIT REQUIREMENT	158.00	317.75	LBS/DAY	*****	0.635	1.270	MG/L	0	WEEKLY	COMPOSITE				
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	26.37	37.08	(03)	*****	*****	*****	*****	0	CONTINUOUS	N/A				
50050 1 0 0	PERMIT REQUIREMENT	REPORT	REPORT	MGD	*****	*****	*****	*****	0	CONTINUOUS	RECORDER				
EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1,074	1,909	(26)	*****	*****	*****	*****	0	3/1/31	Composite				
BOD, CARBONACEOUS 05 DAY, 20C	PERMIT REQUIREMENT	6000	13000	LBS/DAY	*****	*****	*****	*****	0	DAILY	COMPOSITE				
80082 2 W 0	SAMPLE MEASUREMENT														
EFFLUENT NET VALUE	PERMIT REQUIREMENT														
	SAMPLE MEASUREMENT														
	PERMIT REQUIREMENT														
	SAMPLE MEASUREMENT														
	PERMIT REQUIREMENT														
	SAMPLE MEASUREMENT														
	PERMIT REQUIREMENT														
	SAMPLE MEASUREMENT														
	PERMIT REQUIREMENT														
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE										DATE			
H. H. Holliman, President															
Tennessee Eastman Division		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT										AREA CODE NUMBER	YEAR	MO	DAY
TYPED OR PRINTED												(423) 229-2000	97	11	12

I CERTIFY UNDER PENALTY OF LAW THAT I 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 1191. (PENALTIES UNDER THESE STATUTES MAY INCLUDE FINES UP TO \$10,000 AND OR MAXIMUM IMPRISONMENT OF BETWEEN 6 MONTHS AND 5 YEARS.)

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.)

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

DISCHARGE MONITORING REPORT (DMR)

(SUBR 06)

OMB No. 2040-0004

DIVISION OF EASTMAN CHEMICAL CO.
P O BOX 1993
KINGSPORT, TN 37662-5393
Facility: TN EASTMAN - KINGSPORT
Location: SULLIVAN COUNTY TN 37662

TN0002640
PERMIT N

002 G
DISCHARGE NUMBER

F - FINAL

INDUSTRIAL PROCESS WASTEWATER
EFFLUENT

MONITORING PERIOD

MONITORING PERIOD		
FROM	97 - 11 - 01	TO 97 - 11 - 30

*** NO DISCHARGE [] ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(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	Unit	Minimum		Average	Maximum	Unit								
PH	SAMPLE MEASUREMENT	*****	*****					6.8	*****	*****	8.4	(12)	0	Continuous	N/A		
	PERMIT REQUIREMENT	*****	*****	****				6.0 MINIMUM	*****	*****	9.0 MAXIMUM	SU			CONTINUOUS	RECORDER	
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	839	2,230	(26)				*****	*****	*****	*****		0	30/30	Composite	COMPOSITE	
	PERMIT REQUIREMENT	11111 MON AVG	35954 DAILY MAX	LBS/DAY				*****	*****	*****	*****	****		DAILY	COMPOSITE	COMPOSITE	
NITROGEN, AMMONIA TOTAL (AS N)	SAMPLE MEASUREMENT	<31	91	(26)				*****	<0.1	0.4	0.4	(19)	0	30/30	Composite	COMPOSITE	
	PERMIT REQUIREMENT	6000 MON AVG	12000 DAILY MAX	LBS/DAY				*****	30.5 MON AVG	61 DAILY MAX	61 DAILY MAX	MG/L		DAILY	COMPOSITE	COMPOSITE	
CYANIDE, TOTAL (AS CN)	SAMPLE MEASUREMENT	BDL	BDL	(26)				*****	BDL	BDL	BDL	(19)	0	1/7	Grab	Grab	
	PERMIT REQUIREMENT	14.51 MON AVG	104.83 DAILY MAX	LBS/DAY				*****	0.058 MON AVG	0.419 DAILY MAX	0.419 DAILY MAX	MG/L		WEEKLY	GRAB	GRAB	
CHROMIUM, TOTAL (AS CR)	SAMPLE MEASUREMENT	3.17	3.85	(26)				*****	0.013	0.015	0.015	(19)	0	1/7	Composite	Composite	
	PERMIT REQUIREMENT	12.51 MON AVG	25.02 DAILY MAX	LBS/DAY				*****	0.050 MON AVG	0.100 DAILY MAX	0.100 DAILY MAX	MG/L		WEEKLY	COMPOSITE	COMPOSITE	
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT	<0.94	1.39	(26)				*****	<0.004	0.006	0.006	(19)	0	1/7	Composite	Composite	
	PERMIT REQUIREMENT	12.51 MON AVG	25.02 DAILY MAX	LBS/DAY				*****	0.050 MON AVG	0.100 DAILY MAX	0.100 DAILY MAX	MG/L		WEEKLY	COMPOSITE	COMPOSITE	
LEAD, TOTAL (AS PB)	SAMPLE MEASUREMENT	BDL	BDL	(26)				*****	BDL	BDL	BDL	(19)	0	1/7	Composite	Composite	
	PERMIT REQUIREMENT	43.03 MON AVG	172.64 DAILY MAX	LBS/DAY				*****	0.172 MON AVG	0.690 DAILY MAX	0.690 DAILY MAX	MG/L		WEEKLY	COMPOSITE	COMPOSITE	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	John F Wells SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT																
H. H. Holliman, President	(423) 229-2000 AREA CODE NUMBER 97 - 12 - 10 YEAR MO DAY																
Tennessee Eastman Division	TYPED OR PRINTED																

(Reference all attachments here)

COMMENT AND EXPLANATION OF ANY VIOLATIONS

in addition to taking reasonable steps to prevent noncompliance through the implementation of SPCC and SPCC-type plans, employee training, etc. when a potentially significant

in addition to taking reasonable steps to prevent instances of harassment from occurring, we notify the Division and provide information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the instance.

Previous editions may be used.

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

PAGE 2 OF 6

FORM APPROVED
OMB No. 2040-0004

INDUSTRIAL PROCESS WASTEWATER
EFFLUENT

Location: SUI IVAN COUNTY TN 37662-5393

FROM	97 - 12 - 01	TO	97 - 12 - 31
------	--------------	----	--------------

*** NO DISCHARGE | ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(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	Maximum	Unit		Minimum	Average	Maximum	Unit					
NICKEL, TOTAL (AS NI)	SAMPLE MEASUREMENT	<3.36	4.91	(26)		*****	<0.015	0.024	(19)		0	1/7	Composite		
01067 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	422.84 MON AVG	995.80 DAILY MAX	LBS/DAY		*****	MON AVG	DAILY MAX	MG/L			WEEKLY	COMPOSITE		
ZINC, TOTAL (AS ZN)	SAMPLE MEASUREMENT	7.63	9.86	(26)		*****	0.035	0.047	(19)		0	1/7	Composite		
01092 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	158.00 MON AVG	317.75 DAILY MAX	LBS/DAY		*****	MON AVG	DAILY MAX	MG/L			WEEKLY	COMPOSITE		
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	25.74	30.87	(03)		*****	*****	*****			0	Continuous	N/A		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MON AVG	REPORT DAILY MAX	MGD		*****	*****	*****	****			CONTINUOUS	RECORDER		
BOD, CARBONACEOUS 05 DAY, 20C	SAMPLE MEASUREMENT	612	1,436	(26)		*****	*****	*****			0	31/31	Composite		
80082 2 W 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	6000 MON AVG	13000 DAILY MAX	LBS/DAY		*****	*****	*****	****			DAILY	COMPOSITE		
	SAMPLE MEASUREMENT														
	PERMIT REQUIREMENT														
	SAMPLE MEASUREMENT														
	PERMIT REQUIREMENT														
	SAMPLE MEASUREMENT														
	PERMIT REQUIREMENT														
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		I CERTIFY UNDER PENALTY OF LAW THAT I 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.)										TELEPHONE	DATE		
H. H. Holliman, President		John T Webb SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT										(423) 229-2000	98 - 01 - 13		
Tennessee Eastman Division												AREA CODE NUMBER	YEAR MO DAY		

COMMENT AND EXPLANATION OF ANY VIOLATIONS

In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of controls and other measures, 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

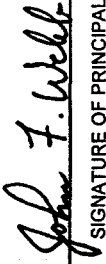
PERMITTEE NAME/ADDRESS:
 TN EASTMAN DIVISION
 DIVISION OF EASTMAN CHEMICAL CO.
 P.O BOX 1993
 KINGSPOUT, TN 37662-5393
 Facility: TN EASTMAN - KINGSPOUT
 Location: SULLIVAN COUNTY TN 37662-5393

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.

PARAMETER (32-37)	SAMPLE MEASUREMENT	(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	Maximum	Minimum		Average	Maximum	Unit	Unit					
CARBON TETRACHLORIDE															
32102 2 0 0	PERMIT REQUIREMENT	4.50	BDL	BDL		(26)			0.018	0.038		0	2/Quarter	Grab	
EFFLUENT NET VALUE		MON AVG	DAILY MAX	DAILY MAX		LBS/DAY			MON AVG	DAILY MAX	MG/L		QUARTERLY	GRAB	
1,2-DICHLOROETHANE															
32103 2 0 0	PERMIT REQUIREMENT	17.01	BDL	BDL		(26)			0.068	0.214		0	2/Quarter	Grab	
EFFLUENT NET VALUE		MON AVG	DAILY MAX	DAILY MAX		LBS/DAY			MON AVG	DAILY MAX	MG/L		QUARTERLY	GRAB	
CHLOROFORM															
32106 2 0 0	PERMIT REQUIREMENT	6.25	BDL	BDL		(26)			0.021	0.046		0	2/Quarter	Grab	
EFFLUENT NET VALUE		MON AVG	DAILY MAX	DAILY MAX		LBS/DAY			MON AVG	DAILY MAX	MG/L		QUARTERLY	GRAB	
TOLUENE															
34010 2 0 0	PERMIT REQUIREMENT	6.51	BDL	BDL		(26)			0.026	0.080		0	2/Quarter	Grab	
EFFLUENT NET VALUE		MON AVG	DAILY MAX	DAILY MAX		LBS/DAY			MON AVG	DAILY MAX	MG/L		QUARTERLY	GRAB	
ACENAPHTHYLENE															
34200 2 0 0	PERMIT REQUIREMENT	2.00	BDL	BDL		(26)			0.008	0.016		0	2/Quarter	Grab	
EFFLUENT NET VALUE		MON AVG	DAILY MAX	DAILY MAX		LBS/DAY			MON AVG	DAILY MAX	MG/L		QUARTERLY	GRAB	
ACENAPHTHENE															
34205 2 0 0	PERMIT REQUIREMENT	5.50	BDL	BDL		(26)			0.022	0.059		0	2/Quarter	Grab	
EFFLUENT NET VALUE		MON AVG	DAILY MAX	DAILY MAX		LBS/DAY			MON AVG	DAILY MAX	MG/L		QUARTERLY	GRAB	
ACRYLONITRILE															
34215 2 0 0	PERMIT REQUIREMENT	24.02	BDL	BDL		(26)			0.096	0.242		0	2/Quarter	Grab	
EFFLUENT NET VALUE		MON AVG	DAILY MAX	DAILY MAX		LBS/DAY			MON AVG	DAILY MAX	MG/L		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															
TELEPHONE (423) 229-2000 AREA CODE NUMBER															
98 - 01 - 13 YEAR MO DAY															

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.

(Reference all attachments here)
 (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE 1 OF 8

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)
 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 97 - 10 - 01 TO 97 - 12 - 31

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

PARAMETER (32-37)	SAMPLE MEASUREMENT	(3 Card Only) (46-53)		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	Average	Maximum	Minimum	Maximum	Unit			
34220 2 0 0 EFFLUENT NET VALUE BENZENE, DISSOLVED	PERMIT REQUIREMENT	0.25 MON AVG	0.41 DAILY MAX	(26) LBS/DAY	*****	0.001 MON AVG	BDL DAILY MAX	*****	BDL DAILY MAX	(19) MG/L	0	2/Quarter	Grab
34235 2 0 0 EFFLUENT NET VALUE BENZO (K) FLUORANTHENE	PERMIT REQUIREMENT	9.26 MON AVG	34.03 DAILY MAX	(26) LBS/DAY	*****	0.037 MON AVG	0.136 DAILY MAX	*****	BDL DAILY MAX	(19) MG/L	0	2/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	*****	BDL DAILY MAX	(19) MG/L	0	2/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	*****	BDL DAILY MAX	(19) MG/L	0	2/Quarter	Grab
34301 2 0 0 EFFLUENT NET VALUE CHRYSENE	PERMIT REQUIREMENT	3.75 MON AVG	7.01 DAILY MAX	(26) LBS/DAY	*****	0.015 MON AVG	0.028 DAILY MAX	*****	BDL DAILY MAX	(19) MG/L	0	2/Quarter	Grab
34320 2 0 0 EFFLUENT NET VALUE DIETHYL PHTHALATE	PERMIT REQUIREMENT	0.25 MON AVG	0.41 DAILY MAX	(26) LBS/DAY	*****	0.001 MON AVG	0.002 DAILY MAX	*****	BDL DAILY MAX	(19) MG/L	0	2/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	*****	0.001 DAILY MAX	(19) MG/L	0	2/Quarter	Grab
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER											TELEPHONE		
H. H. Holliman, President											(423) 229-2000		
Tennessee Eastman Division											98 - 01 - 13		
TYPED OR PRINTED											AREA CODE NUMBER		
COMMENT AND EXPLANATION OF ANY VIOLATIONS											YEAR MO DAY		
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.											98 - 01 - 13		
EPA FORM 3320-1 (REV. 9-88) Previous editions may be used.											98 - 01 - 13		

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
DISCHARGE NUMBER
TN0002640
PERMIT NUMBER

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

FORM APPROVED
OMB No.2040-0004

MONITORING PERIOD
FROM 97 - 10 - 01 TO 97 - 12 - 31

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

PARAMETER (32-37)		(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	Average		Maximum	Unit									
DIMETHYL PHTHALATE	MEASUREMEN	*****	BDL	*****	*****	(26)	*****	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	4.75 MON AVG	11.76 DAILY MAX	*****	*****	LBS/DAY	*****	0.019 MON AVG	0.047 DAILY MAX	*****	MG/L	*****	QUARTERLY	GRAB			
FLUORANTHENE	MEASUREMEN	*****	BDL	*****	*****	(26)	*****	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	6.26 MON AVG	17.01 DAILY MAX	*****	*****	LBS/DAY	*****	0.025 MON AVG	0.068 DAILY MAX	*****	MG/L	*****	QUARTERLY	GRAB			
FLUORENE	MEASUREMEN	*****	BDL	*****	*****	(26)	*****	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	0.25 MON AVG	0.41 DAILY MAX	*****	*****	LBS/DAY	*****	0.001 MON AVG	0.002 DAILY MAX	*****	MG/L	*****	QUARTERLY	GRAB			
HEXACHLOROBUTADIENE	MEASUREMEN	*****	BDL	*****	*****	(26)	*****	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	5.00 MON AVG	12.26 DAILY MAX	*****	*****	LBS/DAY	*****	0.020 MON AVG	0.049 DAILY MAX	*****	MG/L	*****	QUARTERLY	GRAB			
HEXACHLOROETHANE	MEASUREMEN	*****	BDL	*****	*****	(26)	*****	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	5.25 MON AVG	13.51 DAILY MAX	*****	*****	LBS/DAY	*****	0.021 MON AVG	0.054 DAILY MAX	*****	MG/L	*****	QUARTERLY	GRAB			
METHYL CHLORIDE	MEASUREMEN	*****	BDL	*****	*****	(26)	*****	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	21.52 MON AVG	47.54 DAILY MAX	*****	*****	LBS/DAY	*****	0.086 MON AVG	0.190 DAILY MAX	*****	MG/L	*****	QUARTERLY	GRAB			
METHYLENE CHLORIDE	MEASUREMEN	*****	BDL	*****	*****	(26)	*****	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	10.01 MON AVG	22.27 DAILY MAX	*****	*****	LBS/DAY	*****	0.040 MON AVG	0.089 DAILY MAX	*****	MG/L	*****	QUARTERLY	GRAB			
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER <i>John F. White</i> OFFICER OR AUTHORIZED AGENT													TELEPHONE	DATE	
H. H. Holliman, President																	
Tennessee Eastman Division															(423) 229-2000	98 - 01 - 13	
TYPED OR PRINTED		AREA CODE NUMBER													YEAR	MO	DAY

COMMITTEE 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

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

FORM APPROVED
OMB No.2040-0004

MONITORING PERIOD
FROM 97 - 10 - 01 TO 97 - 12 - 31

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

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 8

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 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 97 - 10 - 01 TO 97 - 12 - 31

PARAMETER (32-37)	SAMPLE MEASUREMENT PERMIT 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	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	MON AVG	Maximum	DAILY MAX		Minimum	Average	Maximum	DAILY MAX	Minimum	MON AVG			
NITROBENZENE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL		0	2/Quarter	Grab
34447 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	6.76 MON AVG	17.01 DAILY MAX			LBS/DAY	*****		0.027 MON AVG	0.068 DAILY MAX		MG/L		QUARTERLY	GRAB
PHENANTHRENE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL		0	2/Quarter	Grab
34461 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	0.25 MON AVG	0.41 DAILY MAX			LBS/DAY	*****		0.001 MON AVG	0.002 DAILY MAX		MG/L		QUARTERLY	GRAB
PYRENE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL		0	2/Quarter	Grab
34469 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	0.25 MON AVG	0.41 DAILY MAX			LBS/DAY	*****		0.001 MON AVG	0.002 DAILY MAX		MG/L		QUARTERLY	GRAB
TETRACHLOROETHYLENE	SAMPLE MEASUREMENT	*****		0.82		(26)	*****		*****		0.004		0	2/Quarter	Grab
34475 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	5.50 MON AVG	14.01 DAILY MAX			LBS/DAY	*****		0.022 MON AVG	0.056 DAILY MAX		MG/L		QUARTERLY	GRAB
1,1 - DICHLOROETHANE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL		0	2/Quarter	Grab
34496 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	5.50 MON AVG	14.76 DAILY MAX			LBS/DAY	*****		0.022 MON AVG	0.059 DAILY MAX		MG/L		QUARTERLY	GRAB
1,1 - DICHLOROETHYLENE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL		0	2/Quarter	Grab
34501 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	4.00 MON AVG	6.26 DAILY MAX			LBS/DAY	*****		0.016 MON AVG	0.025 DAILY MAX		MG/L		QUARTERLY	GRAB
1,1,1 - TRICHLOROETHANE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL		0	2/Quarter	Grab
34506 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	5.25 MON AVG	13.51 DAILY MAX			LBS/DAY	*****		0.021 MON AVG	0.054 DAILY MAX		MG/L		QUARTERLY	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER															
H. H. Holliman, President															
Tennessee Eastman Division															
TYPED OR PRINTED															
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER															
OFFICER OR AUTHORIZED AGENT															
AREA CODE NUMBER															
YEAR MO DAY															

(Reference all attachments here)

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.)

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

0002640 PERMIT NUMBER

MONITORING PERIOD FROM 97 - 10 - 01 TO 97 - 12 - 31

*** NO DISCHARGE [] ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(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	Average	Maximum	Unit					
1,1,2 - TRICHLOROETHANE	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	5.25 MON AVG	13.51 DAILY MAX	LBS/DAY	*****	0.021 MON AVG	0.054 DAILY MAX	MG/L			QUARTERLY	GRAB			
BENZO (A) ANTHRACENE	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/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			
1,2 - DICHLOROBENZENE	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	19.27 MON AVG	40.78 DAILY MAX	LBS/DAY	*****	0.077 MON AVG	0.163 DAILY MAX	MG/L			QUARTERLY	GRAB			
1,2 - DICHLOROPROPANE	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	38.28 MON AVG	57.55 DAILY MAX	LBS/DAY	*****	0.153 MON AVG	0.230 DAILY MAX	MG/L			QUARTERLY	GRAB			
1,2 - TRANS - DICHLOROETHYLENE	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	5.25 MON AVG	13.51 DAILY MAX	LBS/DAY	*****	0.021 MON AVG	0.054 DAILY MAX	MG/L			QUARTERLY	GRAB			
1,2,4 - TRICHLORO - BENZENE	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	17.01 MON AVG	35.03 DAILY MAX	LBS/DAY	*****	0.068 MON AVG	0.140 DAILY MAX	MG/L			QUARTERLY	GRAB			
34551 2 0 0	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	7.26 MON AVG	11.01 DAILY MAX	LBS/DAY	*****	0.029 MON AVG	0.044 DAILY MAX	MG/L			QUARTERLY	GRAB			
1,3 - DICHLOROPROPENE, TOTAL WEIGHT	MEASUREMENT	*****		BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab			
	PERMIT REQUIREMENT	7.26 MON AVG	11.01 DAILY MAX	LBS/DAY	*****	0.029 MON AVG	0.044 DAILY MAX	MG/L			QUARTERLY	GRAB			
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE													
H. H. Holliman, President		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT													
Tennessee Eastman Division		(423) 229-2000													
TYPED OR PRINTED		98 - 01 - 13													
		AREA CODE NUMBER													
		YEAR MO DAY													

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.

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

PAGE 5 OF 8

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
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	97 - 10 - 01	TO	97 - 12 - 31

PARAMETER (32-37)	X	(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	MON AVG	Maximum	DAILY MAX		Minimum	Average	MON AVG	Maximum	DAILY MAX				
1,3 - DICHLOROBENZENE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL	(19)	0	2/Quarter	Grab
34566 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	7.76 MON AVG	11.01 DAILY MAX			LBS/DAY	*****		0.031 MON AVG	0.044 DAILY MAX		MG/L		QUARTERLY	GRAB
1,4 - DICHLOROBENZENE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL	(19)	0	2/Quarter	Grab
34571 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	3.75 MON AVG	7.01 DAILY MAX			LBS/DAY	*****		0.015 MON AVG	0.028 DAILY MAX		MG/L		QUARTERLY	GRAB
2 - CHLOROPHENOL	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL	(19)	0	2/Quarter	Grab
34586 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	7.76 MON AVG	24.52 DAILY MAX			LBS/DAY	*****		0.031 MON AVG	0.098 DAILY MAX		MG/L		QUARTERLY	GRAB
2 - NITROPHENOL	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL	(19)	0	2/Quarter	Grab
34591 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	10.26 MON AVG	17.26 DAILY MAX			LBS/DAY	*****		0.041 MON AVG	0.069 DAILY MAX		MG/L		QUARTERLY	GRAB
2,4 - DICHLOROPHENOL	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL	(19)	0	2/Quarter	Grab
34601 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	9.76 MON AVG	28.02 DAILY MAX			LBS/DAY	*****		0.039 MON AVG	0.112 DAILY MAX		MG/L		QUARTERLY	GRAB
2,4 - DIMETHYLPHENOL	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL	(19)	0	2/Quarter	Grab
34606 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	4.60 MON AVG	9.01 DAILY MAX			LBS/DAY	*****		0.018 MON AVG	0.036 DAILY MAX		MG/L		QUARTERLY	GRAB
2,4 - DINITROTOLUENE	SAMPLE MEASUREMENT	*****		BDL		(26)	*****		*****		BDL	(19)	0	2/Quarter	Grab
34611 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	28.27 MON AVG	71.31 DAILY MAX			LBS/DAY	*****		0.113 MON AVG	0.285 DAILY MAX		MG/L		QUARTERLY	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER H. H. Holliman, President Tennessee Eastman Division TYPED OR PRINTED SIGNATURE OF PRINCIPAL EXECUTIVE <i>John F. Webb</i> OFFICER OR AUTHORIZED AGENT															
														TELEPHONE	DATE
														AREA CODE NUMBER	YEAR MO DAY
														(423) 229-2000	98 - 01 - 13

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

TN0002640
PERMIT NUMBER

002 Q
DISCHARGE NUMBER

MAJOR (SUBR 06)
F - FINAL
FORM APPROVED
OMB No. 2040-0004

PROCESSED WW QUARTERLY REPORT
EFFLUENT

*** NO DISCHARGE [] ***

NOTE: Read instructions before completing this form.

MONITORING PERIOD

FROM 97 - 10 - 01 TO 97 - 12 - 31

PARAMETER (32-37)	X	(3 Card Only) (46-53)			Quantity or (54-61)			(4 Card Only) (38-45)			Quality or (46-53)			Concentration (54-61)			Unit	NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	MON AVG	PERMIT	Maximum	DAILY MAX	LBS/DAY	Minimum	Average	MON AVG	PERMIT	Maximum	DAILY MAX	LBS/DAY						
															Sample	MEASUREMENT				
2,4 - DINITROPHENOL																				
34616 2 0 0																				
EFFLUENT NET VALUE																				
2,6 - DINITROTOLUENE																				
34626 2 0 0																				
EFFLUENT NET VALUE																				
4 - NITROPHENOL																				
34646 2 0 0																				
EFFLUENT NET VALUE																				
4,6 - DINITRO - O - CRESOL																				
34657 2 0 0																				
EFFLUENT NET VALUE																				
PHENOL, SINGLE COMPOUND																				
34694 2 0 0																				
EFFLUENT NET VALUE																				
NAPHTHALENE																				
34696 2 0 0																				
EFFLUENT NET VALUE																				
ETHYL BENZENE																				
37371 2 0 0																				
EFFLUENT NET VALUE																				
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		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.																		
SIGNATURE OF PRINCIPAL EXECUTIVE		John F. Weller																		
OFFICER OR AUTHORIZED AGENT		SIGNATURE OF PRINCIPAL EXECUTIVE																		
TELEPHONE		(423) 229-2000																		
DATE		98 - 01 - 13																		
AREA CODE NUMBER		98 - 01 - 13																		
YEAR MO DAY		98 - 01 - 13																		

PARAMETER (32-37)	X	(3 Card Only) (46-53)			Loading (54-61)		(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	Unit	Minimum	Average	Maximum	Unit							
		Average	Maximum	Unit	Minimum	Average	Maximum	Unit								
BIS (2-ETHYLHEXYL) PHTHALATE 39100 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT	*****	0.90	(26)	*****	*****	0.004	(19)	*****	*****	0.004	(19)	0	2/Quarter	Grab	
	PERMIT REQUIREMENT	25.77 MON AVG	69.81 DAILY MAX	LBS/DAY	*****	*****	0.103 DAILY MAX	MG/L	*****	*****	0.279 DAILY MAX	MG/L		QUARTERLY	GRAB	
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab					
DI - N - BUTYL PHTHALATE 39110 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	6.76 MON AVG	14.26 DAILY MAX	LBS/DAY	*****	*****	0.027 DAILY MAX	MG/L	*****	*****	0.057 DAILY MAX	MG/L		QUARTERLY	GRAB	
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab					
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)								
VINYL CHLORIDE 39175 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	26.02 MON AVG	67.05 DAILY MAX	LBS/DAY	*****	*****	0.104 DAILY MAX	MG/L	*****	*****	0.268 DAILY MAX	MG/L		QUARTERLY	GRAB	
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab					
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)								
TRICHLOROETHYLENE 39180 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	5.25 MON AVG	13.51 DAILY MAX	LBS/DAY	*****	*****	0.021 DAILY MAX	MG/L	*****	*****	0.054 DAILY MAX	MG/L		QUARTERLY	GRAB	
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab					
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)								
HEXACHLOROBENZENE 39700 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	0.05 MON AVG	0.09 DAILY MAX	LBS/DAY	*****	*****	0.000186 DAILY MAX	MG/L	*****	*****	0.000372 DAILY MAX	MG/L		QUARTERLY	GRAB	
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab					
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)								
3,4 BENZOFLUORANTHENE 79531 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	2.00 MON AVG	4.06 DAILY MAX	LBS/DAY	*****	*****	0.008 DAILY MAX	MG/L	*****	*****	0.016 DAILY MAX	MG/L		QUARTERLY	GRAB	
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab					
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)								
CHLOROETHANE 85811 2 0 0 EFFLUENT NET VALUE	PERMIT REQUIREMENT	26.02 MON AVG	67.05 DAILY MAX	LBS/DAY	*****	*****	0.104 DAILY MAX	MG/L	*****	*****	0.268 DAILY MAX	MG/L		QUARTERLY	GRAB	
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)	0	2/Quarter	Grab					
	SAMPLE MEASUREMENT	*****	BDL	(26)	*****	*****	BDL	(19)								
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER														TELEPHONE		DATE
H. H. Holliman, President																
Tennessee Eastman Division														(423) 229-2000		98-01-13
TYPED OR PRINTED														AREA CODE NUMBER		YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS
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Signature: *John F. Webb*
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

REFERENCE: *(Reference all attachments here)*

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

PAGE 8 OF 8