

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

ENVIRONMENTAL MONITORING REPORT NO. 2

For The Period

1 July - 30 September 1997

Prepared by

**Air Products and Chemicals, Inc.
Allentown, Pennsylvania**

and

**Eastman Chemical Company
Kingsport, Tennessee**

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 Publically 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" Publically 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 - NPDES REPORTS FOR WASTEWATER TREATMENT SYSTEM OUTLET STREAM	21
APPENDIX C - AREA NOISE SURVEY - 05 AUGUST 1997	22

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 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) of methanol from coal-derived synthesis gas (syngas) was designed, constructed, and is operating 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 tons-per-day (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 (H₂ Gas), Carbon Monoxide Gas (CO Gas), and Balanced Gas) are 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) (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 separate Topical Report (during Year 1 of the operation of the demonstration unit) provides this information, and a summary is available in the Year 1 Annual Environmental Monitoring Report (EMR). 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.

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

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.

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. 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 during the first year of operation of 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 during the first year of operation of the LPMEOH™ Demonstration Unit.

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 during the first year of operation of 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 - July/September 1997

Operation Start	Operation End	Operating Hours	Shutdown Hours	Reason for Shutdown
7/1/97 00:01	7/8/97 17:10	185.2	8.7	Syngas Unavailable to LPMEOH™ Demonstration Unit
7/9/97 01:50	7/29/97 00:25	478.6	68.3	Fix C-06 Flange Leak
7/31/97 20:40	8/12/97 21:05	288.4	51.2	Fix C-06 Flange Leak
8/15/97 00:15	8/31/97 13:30	397.3	10.0	Syngas Unavailable to LPMEOH™ Demonstration Unit
8/31/97 23:30	9/5/97 14:40	111.2	20.0	Syngas Unavailable to LPMEOH™ Demonstration Unit
9/6/97 10:40	9/6/97 10:40	0.0	149.3	* Low Catalyst Activity
9/12/97 16:00	9/29/97 18:30	410.5	29.5	G-03 Electrical Tie-in and Eastman Guard Bed Change
9/30/97 23:59	9/30/97 23:59	0.0		End of Reporting Period
Total Operating Hours			1871.1	
Syngas Available Hours			2169.3	
Plant Availability, %			86.3	

* Syngas became available, but Demonstration Unit would not restart because of low catalyst activity. Demonstration Unit was restarted after addition of one fresh batch of catalyst.

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. 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)

No activity occurred during the reporting period. The next report on Leak Detection and Repair is anticipated for December of 1997.

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 will record the exposure level to particulate emissions that is encountered by a LPMEOH™ operations person during the catalyst charging process. This study was reported in Environmental Monitoring Report No. 1. If there are any additional tests performed during the catalyst charging process, the results will be included in a future Report.

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 B. 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. Almost 4,600,000 gallons (15.1 tons) of methanol (Refined and Crude Grades) were produced during the reporting period.

8.2 Oil/Water Separator

During the reporting period, about 27,000 pounds of oil were removed from the Oil/Water Separator. This material is presently stored in drums awaiting final disposition by incineration for energy recovery.

8.3 Compressor and Pump Lubricants

No material was generated during the reporting period.

8.4 Spent Catalyst Slurry

No material 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

A noise survey of the entire LPMEOH™ Demonstration Unit was conducted during the reporting period. This was performed in addition to the specific noise survey of the 29K-01 Recycle Compressor (as described in the Environmental Monitoring Plan and reported in Environmental Monitoring Report No. 1) to determine if warning signs should be posted on the perimeter of areas where noise levels are 85 dBA or greater. The results of this survey are included in Appendix C. Site personnel agreed to post signs around the entire LPMEOH™ Demonstration Unit due to the excess noise levels around the Recycle Compressor and equipment in the purification area.

Table 8-1**Synthesis Gas Use and Methanol Production - July/September 1997
LPMEOH™ Demonstration Unit**

	July 1997	August 1997	Sept. 1997	Total
Consumption, KSCF				
Balanced Gas	502,224.0	439,085.0	310,615.0	1,251,924.0
CO Gas	0.0	26,527.0	0.0	26,527.0
H ₂ Gas	0.0	0.0	0.0	0.0
Production, Tons				
Crude Methanol	1,389.6	2,039.6	705.5	4,134.7
Refined Methanol	4,537.7	3,800.3	2,654.3	10,992.3
Total Purge Gas, KSCF	64,543.0	84,593.0	49,734.0	198,870.0

9. Compliance

9.1 Compliance with Permit Limits

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

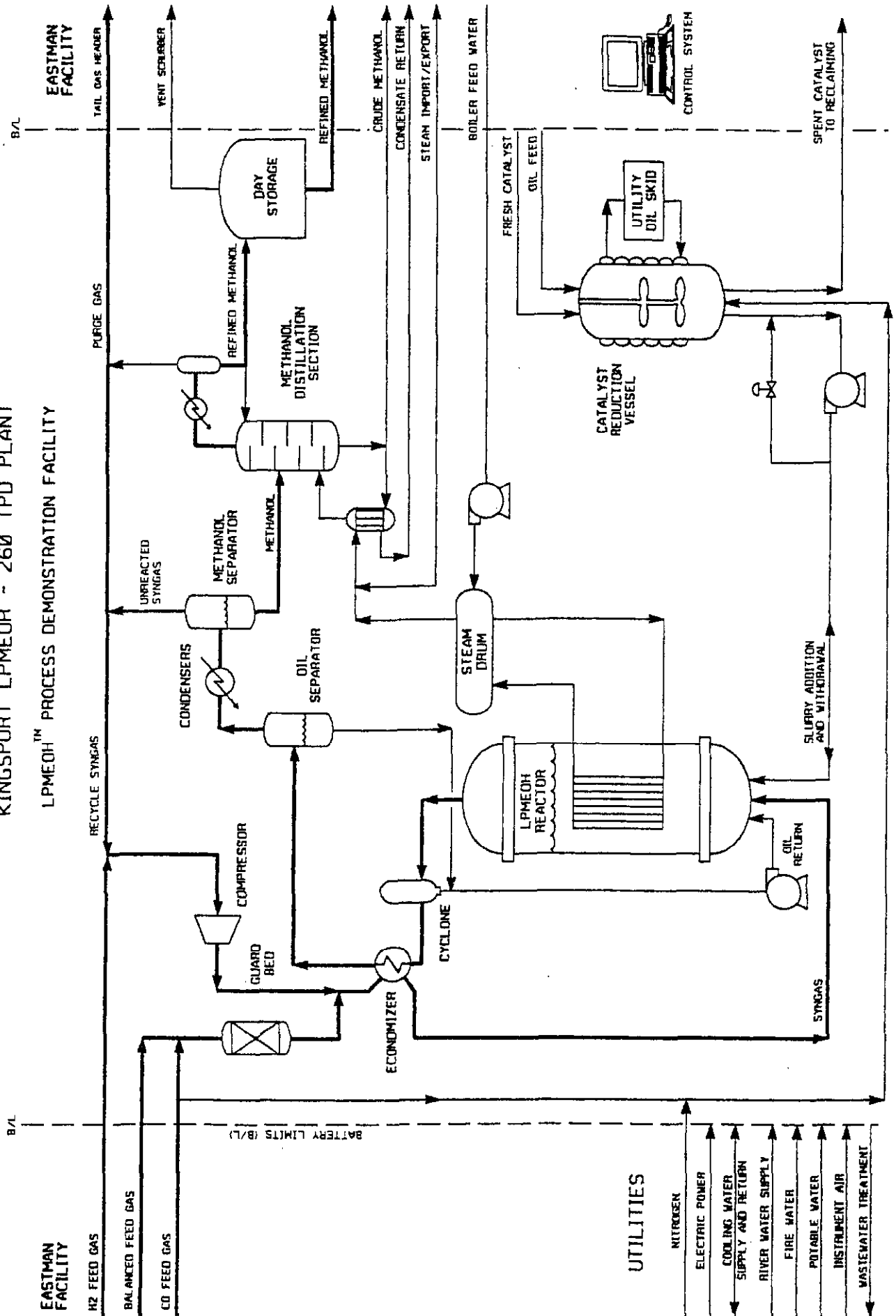
10. Problems and Recommendations

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 - NPDES REPORTS FOR WASTEWATER TREATMENT SYSTEM
OUTLET STREAM**

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)
 DISCHARGE MONITORING REPORT (DMR)
 MAJOR (SUBR 06)
 F - FINAL
 INDUSTRIAL PROCESS WASTEWATER EFFLUENT

FORM APPROVED OMB No. 2040-0004
 *** NO DISCHARGE [] ***
 NOTE: Read instructions before completing this form.

002 G
 DISCHARGE NUMBER

TN0002640
 PERMIT NUMBER

MONITORING PERIOD
 FROM 97-07-01 TO 97-07-31

PARAMETER (32-37)	SAMPLE MEASUREMENT REQUIREMENT	(3 Card Only) (46-53)		Loading Unit	Quantity or (54-61)		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					
PH		.....	.....		6.5	7.8	.....	.....	(12)	0	Continuous	N/A
00400 1 0 0 EFFLUENT GROSS VALUE		.....	.....		6.0	9.0	.....	.....	SU	0	CONTINUOUS	RECORDER
SOLIDS, TOTAL SUSPENDED		.....	.....	(26)	.....	.....	.....	.....	.....	0	31/31	Composite
00530 1 0 0 EFFLUENT GROSS VALUE		.....	.....	LBS/DAY	.....	.....	.....	.....	.....	0	DAILY	COMPOSITE
NITROGEN, AMMONIA TOTAL (AS N)		.....	.....	(26)	.....	.....	.....	.....	(19)	0	31/31	Composite
00610 2 0 0 EFFLUENT NET VALUE		.....	.....	LBS/DAY	.....	.....	.....	.....	.....	0	DAILY	COMPOSITE
CYANIDE, TOTAL (AS CN)		.....	.....	(26)	.....	.....	.....	.....	(19)	0	1/7	Grab
00720 2 0 0 EFFLUENT NET VALUE		.....	.....	LBS/DAY	.....	.....	.....	.....	.....	0	WEEKLY	GRAB
CHROMIUM, TOTAL (AS CR)		.....	.....	(26)	.....	.....	.....	.....	(19)	0	1/7	Composite
01034 2 0 0 EFFLUENT NET VALUE		.....	.....	LBS/DAY	.....	.....	.....	.....	.....	0	WEEKLY	COMPOSITE
COPPER, TOTAL (AS CU)		.....	.....	(26)	.....	.....	.....	.....	(19)	0	1/7	Composite
01042 2 0 0 EFFLUENT NET VALUE		.....	.....	LBS/DAY	.....	.....	.....	.....	.....	0	WEEKLY	COMPOSITE
LEAD, TOTAL (AS PB)		.....	.....	(26)	.....	.....	.....	.....	(19)	0	1/7	Composite
01051 2 0 0 EFFLUENT NET VALUE		.....	.....	LBS/DAY	.....	.....	.....	.....	.....	0	WEEKLY	COMPOSITE
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	TELEPHONE												
H. H. Holliman, President	(423) 229-2000												
Tennessee Eastman Division	AREA CODE NUMBER												
TYPED OR PRINTED	97 - 08 - 12												
	YEAR MO DAY												

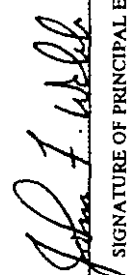
I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC 1001 AND 31 USC 1315. (PENALTIES UNDER THESE STATUTES MAY INCLUDE FINES UP TO \$10,000 AND OR MAXIMUM IMPRISONMENT OF BETWEEN 6 MONTHS AND 5 YEARS.)

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

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.

MONITORING PERIOD
 FROM 97-07-01 TO 97-07-31

*** 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 (64-67)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)			
	Average	Maximum	Minimum	Maximum		Average	Maximum	Minimum	Maximum	Unit							
NICKEL, TOTAL (AS NI)	5.80	7.63	.....	0.026	(26)	.....	0.034	0.026	0.034	(19)	0	1/7	Composite		
01067 2 0 0 EFFLUENT NET VALUE	422.84	995.80	.....	1.890	LBS/DAY	.....	3.980	1.890	3.980	MG/L	0	WEEKLY	COMPOSITE		
ZINC, TOTAL (AS ZN)	<6.52	9.14	.....	<0.030	(26)	.....	0.040	<0.030	0.040	(19)	0	1/7	Composite		
01092 2 0 0 EFFLUENT NET VALUE	188.00	317.76	.....	0.835	LBS/DAY	.....	1.270	0.835	1.270	MG/L	0	WEEKLY	COMPOSITE		
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	25.38	32.91	.....	.....	(03)	.....	.....	.....	.....	.....	0	CONTINUOUS	N/A	
50050 1 0 0 EFFLUENT GROSS VALUE	REPORT	REPORT	.....	REPORT	MGD	.....	.....	.....	.....	.....	0	CONTINUOUS	RECORDER	
BOD, CARBONACEOUS 05 DAY, 20C	893	1,650	.....	.....	(26)	.....	.....	.....	.....	.....	0	31/31	Composite	
80082 2 W 0 EFFLUENT NET VALUE	4000	8500	.....	.....	LBS/DAY	.....	.....	.....	.....	.....	0	DAILY	COMPOSITE	
SAMPLE MEASUREMENT																	
PERMIT REQUIREMENT																	
SAMPLE MEASUREMENT																	
PERMIT REQUIREMENT																	
SAMPLE MEASUREMENT																	
PERMIT REQUIREMENT																	
SAMPLE MEASUREMENT																	
PERMIT REQUIREMENT																	
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 3 YEARS.)																	
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER  H. H. Holliman, President												TELEPHONE (423) 229-2000		DATE 97-08-12			
Tennessee Eastman Division TYPED OR PRINTED												OFFICER OR AUTHORIZED AGENT		AREA CODE NUMBER (423) 229-2000		YEAR MO DAY 97-08-12	

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.)

MAJOR (SUBR 06)
F - FINAL

(NPDES)

(DMR)

DISCHARGE MONITORING REPORT

DISCHARGE NUMBER

PERMIT NUMBER

002 G

INDUSTRIAL PROCESS WASTEWATER EFFLUENT

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

MONITORING PERIOD

FROM 97-08-01 TO 97-08-31

REMITTEE NAME/ADDRESS:
EASTMAN DIVISION
VISION OF EASTMAN CHEMICAL CO.
PO BOX 1993
KINGSPORT, TN 37662-5393
Facility: TN EASTMAN - KINGSPORT
Location: SULLIVAN COUNTY TN 37662-5393

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 (62-69)	Frequency of analysis (64-68)	Sample Type (69-70)
	Average	Maximum	Maximum	Unit	Minimum	Unit	Minimum	Average	Maximum	Unit	Maximum	Unit			
400 1 0 0 EFFLUENT GROSS VALUE	.....	.....	.....		6.8		.....	.....	.....	7.9	(12)	0	Continuous	N/A
SLIDS, TOTAL SUSPENDED	.....	.....	.....		6.0 MINIMUM		.....	.....	.....	MAXIMUM	SU	0	CONTINUOUS	RECORDER
530 1 0 0 EFFLUENT GROSS VALUE	2.371	7.629	35964	(26)	.....		.....	.....	.....	.....	.....	0	31/31	Composite
TROGEN, AMMONIA TOTAL (AS N)	11111	.....	DAILY MAX	LBS/DAY	.....		.....	.....	.....	.....	.....	0	DAILY	COMPOSITE
610 2 0 0 EFFLUENT NET VALUE	56	158	12000	(26)	.....		0.2	30.5	1	61	(19)	0	31/31	Composite
YANIDE, TOTAL (AS CN)	6000	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	DAILY	COMPOSITE
720 2 0 0 EFFLUENT NET VALUE	BDL	BDL	104.83	(26)	.....		BDL	0.058	0.419	BDL	(19)	0	1/7	Grab
HYDROMIUM, TOTAL (AS CR)	14.51	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	GRAB
1034 2 0 0 EFFLUENT NET VALUE	3.74	5.06	25.02	(26)	.....		0.016	0.050	0.020	0.100	(19)	0	1/7	Composite
OPPER, TOTAL (AS CU)	12.51	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
1042 2 0 0 EFFLUENT NET VALUE	<2.15	6.60	172.64	(26)	.....		<0.009	0.050	0.026	0.100	(19)	0	1/7	Composite
LEAD, TOTAL (AS PB)	12.51	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
1051 2 0 0 EFFLUENT NET VALUE	BDL	BDL	172.64	(26)	.....		BDL	0.172	0.590	BDL	(19)	0	1/7	Composite
AME/TITLE PRINCIPAL EXECUTIVE OFFICER	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
H. H. Holliman, President	BDL	BDL	172.64	(26)	.....		BDL	0.172	0.590	BDL	(19)	0	WEEKLY	COMPOSITE
ennessee Eastman Division	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
TYPED OR PRINTED	BDL	BDL	172.64	(26)	.....		BDL	0.172	0.590	BDL	(19)	0	WEEKLY	COMPOSITE
OFFICER OR AUTHORIZED AGENT	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
SIGNATURE OF PRINCIPAL EXECUTIVE	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
Area Code Number	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
Year	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
MO	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE
DAY	43.03	DAILY MAX	DAILY MAX	LBS/DAY	.....		MON AVG	DAILY MAX	.....	.....	MG/L	0	WEEKLY	COMPOSITE

John F. Webb
SIGNATURE OF PRINCIPAL EXECUTIVE

OFFICER OR AUTHORIZED AGENT

(423) 229-2000
AREA CODE NUMBER

97 - 09 - 10
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.

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

MONITORING PERIOD
 FROM 97 - 09 - 01 TO 97 - 09 - 30

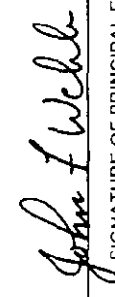
PARAMETER (32-37)	MEASUREMENT REQUIREMENT	(3 Card Only) (46-53)		Loading Unit	(4 Card Only) (38-45)		Quality or (46-53)		Concentration (54-61)	NO EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	Maximum		Minimum	Maximum	Average	Maximum					Unit
PH	SAMPLE MEASUREMENT PERMIT	*****	*****		6.8	8.2	*****	*****	8.2	0	Continuous	N/A
00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT PERMIT	*****	*****	****	6.0	9.0	*****	*****	9.0	0	CONTINUOUS	RECORDER
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT PERMIT	3.661	7.707	(26)	*****	*****	*****	*****	*****	0	30/30	Composite
00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT PERMIT	11111	35954	DAILY MAX	*****	*****	*****	*****	*****	0	DAILY	COMPOSITE
NITROGEN, AMMONIA TOTAL (AS N)	SAMPLE MEASUREMENT PERMIT	<229	1,749	(26)	*****	*****	*****	*****	8	0	30/30	Composite
00610 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT PERMIT	6000	12000	DAILY MAX	*****	*****	*****	*****	61	0	DAILY	COMPOSITE
CYANIDE, TOTAL (AS CN)	SAMPLE MEASUREMENT PERMIT	BDL	BDL	(26)	*****	*****	*****	*****	BDL	0	1/7	Grab
00720 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT PERMIT	14.51	104.83	DAILY MAX	*****	*****	*****	*****	0.419	0	WEEKLY	GRAB
CHROMIUM, TOTAL (AS CR)	SAMPLE MEASUREMENT PERMIT	2.94	4.99	(26)	*****	*****	*****	*****	0.019	0	1/7	Composite
01034 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT PERMIT	12.51	25.02	DAILY MAX	*****	*****	*****	*****	0.100	0	WEEKLY	COMPOSITE
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT PERMIT	<1.13	2.49	(26)	*****	*****	*****	*****	0.009	0	1/7	Composite
01042 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT PERMIT	12.51	25.02	DAILY MAX	*****	*****	*****	*****	0.100	0	WEEKLY	COMPOSITE
LEAD, TOTAL (AS PB)	SAMPLE MEASUREMENT PERMIT	BDL	BDL	(26)	*****	*****	*****	*****	BDL	0	1/7	Composite
01051 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT PERMIT	43.03	172.64	DAILY MAX	*****	*****	*****	*****	0.590	0	1/7	Composite
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. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)</p>											
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER	<p><i>John F. Webb</i></p> <p>SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER</p>											
OFFICER OR AUTHORIZED AGENT	<p>(423) 229-2000</p> <p>AREA CODE NUMBER</p> <p>97 - 10 - 13</p> <p>YEAR MO DAY</p>											

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 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 - 09 - 01 TO 97 - 09 - 30

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	MON AVG	Maximum	DAILY MAX		Minimum	Average	Maximum	Unit	MON AVG	DAILY MAX				Unit
NICKEL, TOTAL (AS NI)	5.75	422.84	9.64	995.80	(26)	*****	0.025	0.036	0.039	0.060	(19)	0	1/7	Composite	
01067 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	DAILY MAX	LBS/DAY	*****	MON AVG	3.980	MON AVG	DAILY MAX	MG/L	0	WEEKLY	COMPOSITE	
ZINC, TOTAL (AS ZN)	8.94	158.00	13.02	317.75	(26)	*****	0.039	0.060	0.635	1.270	(19)	0	1/7	Composite	
01092 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	DAILY MAX	LBS/DAY	*****	MON AVG	1.270	MON AVG	DAILY MAX	MG/L	0	WEEKLY	COMPOSITE	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	27.76	REPORT	34.97	REPORT	(03)	*****	*****	*****	*****	*****		0	Continuous	N/A	
50050 1 0 0 EFFLUENT GROSS VALUE	MON AVG	REPORT	REPORT	DAILY MAX	MGD	*****	*****	*****	*****	*****	****	0	CONTINUOUS	RECORDER	
BOD, CARBONACEOUS 05 DAY, 20C	1.691	6000	5,504	13000	(26)	*****	*****	*****	*****	*****	****	0	30/30	Composite	
80082 2 W 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	DAILY MAX	LBS/DAY	*****	*****	*****	*****	*****	****	0	DAILY	COMPOSITE	
SAMPLE MEASUREMENT PERMIT REQUIREMENT															
SAMPLE MEASUREMENT PERMIT REQUIREMENT															
SAMPLE MEASUREMENT PERMIT REQUIREMENT															
SAMPLE MEASUREMENT PERMIT REQUIREMENT															
SAMPLE MEASUREMENT PERMIT REQUIREMENT															
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 33 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 												TELEPHONE (423) 229-2000		DATE 97 - 10 - 13	
TYPED OR PRINTED Tennessee Eastman Division H. H. Holliman, President												AREA CODE NUMBER (423) 229-2000		YEAR MO DAY 97 - 10 - 13	

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

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

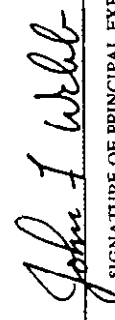
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 MAJOR (SUBR 06)
 F - FINAL
 PROCESSED WW QUARTERLY REPORT
 EFFLUENT

FORM APPROVED
 OMB No. 2040-0004

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

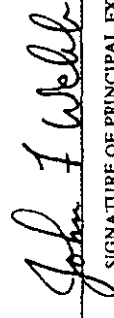
TN002640		002 Q	
PERMIT NUMBER		DISCHARGE NUMBER	

MONITORING PERIOD			
FROM	97 - 07 - 01	TO	97 - 09 - 30

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	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	Maximum			Minimum	Maximum	Average	Maximum				Unit	Unit
CARBON TETRACHLORIDE	SAMPLE MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
32102 2 0 0	PERMIT REQUIREMENT	4.50	9.51	LBS/DAY	BDL	BDL	0.018	0.038	MG/L	0	QUARTERLY	GRAB
EFFLUENT NET VALUE		MON AVG	DAILY MAX		BDL	BDL	MON AVG	DAILY MAX				
1,2-DICHLOROETHANE	SAMPLE MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
32103 2 0 0	PERMIT REQUIREMENT	17.01	52.79	LBS/DAY	BDL	BDL	0.068	0.211	MG/L	0	QUARTERLY	GRAB
EFFLUENT NET VALUE		MON AVG	DAILY MAX		BDL	BDL	MON AVG	DAILY MAX				
CHLOROFORM	SAMPLE MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
32106 2 0 0	PERMIT REQUIREMENT	5.25	11.51	LBS/DAY	BDL	BDL	0.021	0.046	MG/L	0	QUARTERLY	GRAB
EFFLUENT NET VALUE		MON AVG	DAILY MAX		BDL	BDL	MON AVG	DAILY MAX				
TOLUENE	SAMPLE MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
34010 2 0 0	PERMIT REQUIREMENT	5.51	20.02	LBS/DAY	BDL	BDL	0.026	0.080	MG/L	0	QUARTERLY	GRAB
EFFLUENT NET VALUE		MON AVG	DAILY MAX		BDL	BDL	MON AVG	DAILY MAX				
ACENAPHTHYLENE	SAMPLE MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
34200 2 0 0	PERMIT REQUIREMENT	2.00	4.06	LBS/DAY	BDL	BDL	0.008	0.016	MG/L	0	QUARTERLY	GRAB
EFFLUENT NET VALUE		MON AVG	DAILY MAX		BDL	BDL	MON AVG	DAILY MAX				
ACENAPHTHENE	SAMPLE MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
34206 2 0 0	PERMIT REQUIREMENT	5.50	14.7	LBS/DAY	BDL	BDL	0.022	0.059	MG/L	0	QUARTERLY	GRAB
EFFLUENT NET VALUE		MON AVG	DAILY MAX		BDL	BDL	MON AVG	DAILY MAX				
ACRYLONITRILE	SAMPLE MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
34215 2 0 0	PERMIT REQUIREMENT	24.02	60.55	LBS/DAY	BDL	BDL	0.096	0.242	MG/L	0	QUARTERLY	GRAB
EFFLUENT NET VALUE		MON AVG	DAILY MAX		BDL	BDL	MON AVG	DAILY MAX				
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER H. H. Holliman, President Tennessee Eastman Division TYPED OR PRINTED											SIGNATURE OF PRINCIPAL EXECUTIVE  OFFICER OR AUTHORIZED AGENT	
AREA CODE NUMBER (423) 229-2000											YEAR MO DAY 97 - 10 - 13	

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

MONITORING PERIOD
 FROM 97 - 07 - 01 TO 97 - 09 - 30

PARAMETER (32-37)	SAMPLE MEASUREMENT PERMIT REQUIREMENT	(3 Card Only) (46-53)		Loading Unit	(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		Minimum	Average	Maximum	Unit			
ANTHRACENE	MEASUREMENT	.....	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34220 2 0 0	PERMIT REQUIREMENT	0.25	0.41	LBS/DAY	.....	DAILY MAX	0.001	0.002	0	QUARTERLY	GRAB
BENZENE, DISSOLVED	MEASUREMENT	.....	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34235 2 0 0	PERMIT REQUIREMENT	9.26	34.03	LBS/DAY	.....	DAILY MAX	0.037	0.136	0	QUARTERLY	GRAB
BENZO (K) FLUORANTHENE	MEASUREMENT	.....	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34242 2 0 0	PERMIT REQUIREMENT	2.00	4.06	LBS/DAY	.....	DAILY MAX	0.008	0.016	0	QUARTERLY	GRAB
BENZO (A) PYRENE	MEASUREMENT	.....	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34247 2 0 0	PERMIT REQUIREMENT	2.00	4.06	LBS/DAY	.....	DAILY MAX	0.008	0.016	0	QUARTERLY	GRAB
CHLOROBENZENE	MEASUREMENT	.....	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34301 2 0 0	PERMIT REQUIREMENT	3.75	7.01	LBS/DAY	.....	DAILY MAX	0.015	0.028	0	QUARTERLY	GRAB
CHRYSENE	MEASUREMENT	.....	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34320 2 0 0	PERMIT REQUIREMENT	0.25	0.41	LBS/DAY	.....	DAILY MAX	0.001	0.002	0	QUARTERLY	GRAB
DIETHYL PHTHALATE	MEASUREMENT	.....	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34336 2 0 0	PERMIT REQUIREMENT	20.27	60.79	LBS/DAY	.....	DAILY MAX	0.081	0.203	0	QUARTERLY	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER H. H. Holliman, President Tennessee Eastman Division TYPED OR PRINTED OFFICER OR AUTHORIZED AGENT SIGNATURE OF PRINCIPAL EXECUTIVE 											
										(423) 229-2000	97 - 10 - 13
										TELEPHONE	AREA CODE NUMBER

COMMENT AND EXPLANATION OF ANY VIOLATIONS
 In addition to taking reasonable steps to prevent instances of noncompliance through the implementation of SPCC and SPC-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
 KINGSPOST, TN 37662-5393
 Facility: TN EASTMAN - KINGSPOST
 Location: SULLIVAN COUNTY TN 37662-5393

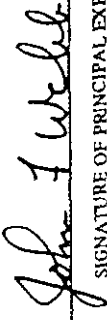
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)
 002 Q
 DISCHARGE NUMBER

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

FORM APPROVED
 OMB No. 2040-0004

MONITORING PERIOD
 FROM 97-07-01 TO 97-09-30

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

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	PERMIT	Maximum	MON AVG		Minimum	Average	Maximum	Unit							
DIMETHYL PHTHALATE	SAMPLE MEASUREMENT	.....	BDL	BDL	.....	(26)	.....	.....	.....	.....	BDL	(19)	0	1/Quarter	Grab
34341 2 0 0	PERMIT REQUIREMENT	4.76	11.76	DAILY MAX	.....	LBS/DAY	.....	0.019	MON AVG	.....	0.047	MG/L	0	QUARTERLY	GRAB
FLUORANTHENE	SAMPLE MEASUREMENT	.....	BDL	BDL	.....	(26)	.....	.....	.....	.....	BDL	(19)	0	1/Quarter	Grab
34376 2 0 0	PERMIT REQUIREMENT	6.26	17.01	DAILY MAX	.....	LBS/DAY	.....	0.025	MON AVG	.....	0.068	MG/L	0	QUARTERLY	GRAB
FLUORENE	SAMPLE MEASUREMENT	.....	BDL	BDL	.....	(26)	.....	.....	.....	.....	BDL	(19)	0	1/Quarter	Grab
34381 2 0 0	PERMIT REQUIREMENT	0.25	0.41	DAILY MAX	.....	LBS/DAY	.....	0.001	MON AVG	.....	0.002	MG/L	0	QUARTERLY	GRAB
HEXACHLOROBUTADIENE	SAMPLE MEASUREMENT	.....	BDL	BDL	.....	(26)	.....	.....	.....	.....	BDL	(19)	0	1/Quarter	Grab
34391 2 0 0	PERMIT REQUIREMENT	5.00	12.26	DAILY MAX	.....	LBS/DAY	.....	0.020	MON AVG	.....	0.049	MG/L	0	QUARTERLY	GRAB
HEXACHLOROETHANE	SAMPLE MEASUREMENT	.....	BDL	BDL	.....	(26)	.....	.....	.....	.....	BDL	(19)	0	1/Quarter	Grab
34396 2 0 0	PERMIT REQUIREMENT	5.25	13.51	DAILY MAX	.....	LBS/DAY	.....	0.021	MON AVG	.....	0.054	MG/L	0	QUARTERLY	GRAB
METHYL CHLORIDE	SAMPLE MEASUREMENT	.....	BDL	BDL	.....	(26)	.....	.....	.....	.....	BDL	(19)	0	1/Quarter	Grab
34418 2 0 0	PERMIT REQUIREMENT	21.52	47.54	DAILY MAX	.....	LBS/DAY	.....	0.086	MON AVG	.....	0.190	MG/L	0	QUARTERLY	GRAB
METHYLENE CHLORIDE	SAMPLE MEASUREMENT	.....	BDL	BDL	.....	(26)	.....	.....	.....	.....	BDL	(19)	0	1/Quarter	Grab
34423 2 0 0	PERMIT REQUIREMENT	10.01	22.27	DAILY MAX	.....	LBS/DAY	.....	0.040	MON AVG	.....	0.089	MG/L	0	QUARTERLY	GRAB
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 53 USC 13119. (PENALTIES UNDER THESE STATUTES MAY INCLUDE FINES UP TO \$10,000 AND/OR MAXIMUM IMPRISONMENT OF BETWEEN 6 MONTHS AND 3 YEARS.)																	
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	97 - 10 - 13	YEAR MO DAY

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.)

MAJOR (SUBR 06)
F - FINAL

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

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

PROCESSED VWV QUARTERLY REPORT
EFFLUENT

002 Q
DISCHARGE NUMBER

002 Q
DISCHARGE NUMBER

MONITORING PERIOD
FROM 97-07-01 TO 97-09-30

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

PARAMETER (12-37)	(3 Card Only) (46-53)			Loading Unit	(4 Card Only) (38-45)			Quality or Average (46-53)	Concentration (54-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
	Average	Maximum	Minimum		Minimum	Maximum	Unit						
NITROBENZENE	.....	BDL	.....	(26)	.....	BDL	.....	.....	BDL	0	1/Quarter	Grab
34447 2 0 0 EFFLUENT NET VALUE	5.76 MON AVG	17.01 DAILY MAX	.....	LBS/DAY	.....	.....	0.027 MON AVG	.....	0.068 DAILY MAX	0	QUARTERLY	GRAB
PHENANTHRENE	.....	BDL	.....	(26)	.....	BDL	.....	.....	BDL	0	1/Quarter	Grab
34461 2 0 0 EFFLUENT NET VALUE	0.25 MON AVG	0.41 DAILY MAX	.....	LBS/DAY	.....	.....	0.001 MON AVG	.....	0.002 DAILY MAX	0	QUARTERLY	GRAB
PYRENE	.....	BDL	.....	(26)	.....	BDL	.....	.....	BDL	0	1/Quarter	Grab
34469 2 0 0 EFFLUENT NET VALUE	0.25 MON AVG	0.41 DAILY MAX	.....	LBS/DAY	.....	.....	0.001 MON AVG	.....	0.002 DAILY MAX	0	QUARTERLY	GRAB
TETRACHLOROETHYLENE	.....	0.77	.....	(26)	.....	0.77	.....	.....	0.003	0	1/Quarter	Grab
34475 2 0 0 EFFLUENT NET VALUE	5.50 MON AVG	14.01 DAILY MAX	.....	LBS/DAY	.....	.....	0.022 MON AVG	.....	0.056 DAILY MAX	0	QUARTERLY	GRAB
1,1 - DICHLOROETHANE	.....	BDL	.....	(26)	.....	BDL	.....	.....	BDL	0	1/Quarter	Grab
34486 2 0 0 EFFLUENT NET VALUE	5.50 MON AVG	14.76 DAILY MAX	.....	LBS/DAY	.....	.....	0.022 MON AVG	.....	0.059 DAILY MAX	0	QUARTERLY	GRAB
1,1 - DICHLOROETHYLENE	.....	BDL	.....	(26)	.....	BDL	.....	.....	BDL	0	1/Quarter	Grab
34601 2 0 0 EFFLUENT NET VALUE	4.00 MON AVG	5.26 DAILY MAX	.....	LBS/DAY	.....	.....	0.016 MON AVG	.....	0.025 DAILY MAX	0	QUARTERLY	GRAB
1,1,1 - TRICHLOROETHANE	.....	BDL	.....	(26)	.....	BDL	.....	.....	BDL	0	1/Quarter	Grab
34506 2 0 0 EFFLUENT NET VALUE	5.25 MON AVG	13.51 DAILY MAX	.....	LBS/DAY	.....	.....	0.021 MON AVG	.....	0.054 DAILY MAX	0	QUARTERLY	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	Signature: <i>John F. Will</i> SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OFFICER OR AUTHORIZED AGENT												
H. H. Holliman, President													
Tennessee Eastman Division													
TYPED OR PRINTED													
COMMENT AND EXPLANATION OF ANY VIOLATIONS													
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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.)													
AREA CODE NUMBER	(423) 229-2000												
YEAR MO DAY	97 - 10 - 13												

NOTE: Read instructions before completing this form.

MONITORING PERIOD FROM 97-07-01 TO 97-09-30

PARAMETER (32-37)	(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 (64-69)	Sample Type (69-70)
	Average	Maximum		Minimum	Average	Maximum	Unit	Unit				
1,1,2 - TRICHLOROETHANE	BDL	BDL	(26)	BDL	BDL	BDL	(19)	BDL	(19)	0	1/Quarter	Grab
34511 2 0 0 EFFLUENT NET VALUE	5.25 MON AVG	13.51 DAILY MAX	LBS/DAY	BDL	BDL	0.021 MON AVG	MG/L	0.054 DAILY MAX	MG/L	0	QUARTERLY	GRAB
BENZO (A) ANTHRACENE	BDL	BDL	(26)	BDL	BDL	BDL	(19)	BDL	(19)	0	1/Quarter	Grab
34526 2 0 0 EFFLUENT NET VALUE	2.00 MON AVG	4.06 DAILY MAX	LBS/DAY	BDL	BDL	0.008 MON AVG	MG/L	0.016 DAILY MAX	MG/L	0	QUARTERLY	GRAB
1,2 - DICHLOROBENZENE	BDL	BDL	(26)	BDL	BDL	BDL	(19)	BDL	(19)	0	1/Quarter	Grab
34536 2 0 0 EFFLUENT NET VALUE	19.27 MON AVG	40.78 DAILY MAX	LBS/DAY	BDL	BDL	0.077 MON AVG	MG/L	0.163 DAILY MAX	MG/L	0	QUARTERLY	GRAB
1,2 - DICHLOROPROPANE	BDL	BDL	(26)	BDL	BDL	BDL	(19)	BDL	(19)	0	1/Quarter	Grab
34541 2 0 0 EFFLUENT NET VALUE	38.28 MON AVG	57.55 DAILY MAX	LBS/DAY	BDL	BDL	0.153 MON AVG	MG/L	0.230 DAILY MAX	MG/L	0	QUARTERLY	GRAB
1,2 - TRANS - DICHLOROETHYLENE	BDL	BDL	(26)	BDL	BDL	BDL	(19)	BDL	(19)	0	1/Quarter	Grab
34546 2 0 0 EFFLUENT NET VALUE	6.25 MON AVG	13.51 DAILY MAX	LBS/DAY	BDL	BDL	0.021 MON AVG	MG/L	0.054 DAILY MAX	MG/L	0	QUARTERLY	GRAB
1,2,4 - TRICHLORO - BENZENE	BDL	BDL	(26)	BDL	BDL	BDL	(19)	BDL	(19)	0	1/Quarter	Grab
34551 2 0 0 EFFLUENT NET VALUE	17.01 MON AVG	36.03 DAILY MAX	LBS/DAY	BDL	BDL	0.068 MON AVG	MG/L	0.140 DAILY MAX	MG/L	0	QUARTERLY	GRAB
1,3 - DICHLOROPROPENE, TOTAL WEIGHT	BDL	BDL	(26)	BDL	BDL	BDL	(19)	BDL	(19)	0	1/Quarter	Grab
34561 2 0 0 EFFLUENT NET VALUE	7.25 MON AVG	11.01 DAILY MAX	LBS/DAY	BDL	BDL	0.029 MON AVG	MG/L	0.044 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: <i>John I. Webb</i>												
OFFICER OR AUTHORIZED AGENT												
TELEPHONE												
AREA CODE NUMBER (423) 229-2000												
YEAR MO DAY 97 - 10 - 13												

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)

DISCHARGE MONITORING REPORT (DMR)
 002 Q
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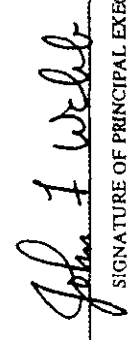
MAJOR (SUBR 06)
 F - FINAL
 PROCESSED WW QUARTERLY REPORT
 EFFLUENT

FORM APPROVED
 OMB No. 2040-0004

*** NO DISCHARGE [] ***

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MONITORING PERIOD
 FROM 97-07-01 TO 97-09-30

PARAMETER (32-37)	SAMPLE MEASUREMENT	(3 Card Only) (46-53)		Loading Unit	(4 Card Only) (38-45)		Quality or Average (46-53)	Concentration (46-61)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	Maximum		Minimum	Maximum		Unit				
1,3 - DICHLOROBENZENE	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	7.76 MON AVG	11.01 DAILY MAX	LBS/DAY	BDL	BDL	0.031 MON AVG	0.044 DAILY MAX	MGL		QUARTERLY	GRAB
1,4 - DICHLOROBENZENE	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	3.75 MON AVG	7.01 DAILY MAX	LBS/DAY	BDL	BDL	0.015 MON AVG	0.028 DAILY MAX	MGL		QUARTERLY	GRAB
2 - CHLOROPHENOL	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	7.76 MON AVG	24.52 DAILY MAX	LBS/DAY	BDL	BDL	0.031 MON AVG	0.098 DAILY MAX	MGL		QUARTERLY	GRAB
2 - NITROPHENOL	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	10.26 MON AVG	17.26 DAILY MAX	LBS/DAY	BDL	BDL	0.041 MON AVG	0.069 DAILY MAX	MGL		QUARTERLY	GRAB
2,4 - DICHLOROPHENOL	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	9.76 MON AVG	28.02 DAILY MAX	LBS/DAY	BDL	BDL	0.039 MON AVG	0.112 DAILY MAX	MGL		QUARTERLY	GRAB
2,4 - DIMETHYLPHENOL	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	4.50 MON AVG	9.01 DAILY MAX	LBS/DAY	BDL	BDL	0.018 MON AVG	0.036 DAILY MAX	MGL		QUARTERLY	GRAB
2,4 - DINITROTOLUENE	MEASUREMENT	BDL	BDL	(26)	BDL	BDL	BDL	BDL	(19)	0	1/Quarter	Grab
	PERMIT REQUIREMENT	28.27 MON AVG	71.31 DAILY MAX	LBS/DAY	BDL	BDL	0.113 MON AVG	0.286 DAILY MAX	MGL		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												
TELEPHONE (423) 229-2000 AREA CODE NUMBER												
DATE 97 - 10 - 13 YEAR MO DAY												

(Reference all attachments here)

COMMENT AND EXPLANATION OF ANY VIOLATIONS

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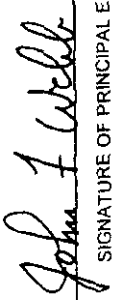
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PARAMETER (32-37)	SAMPLE MEASUREMENT	(3 Card Only) (46-53)		Quantity or Loading (54-61)		(4 Card Only) (38-45)		Quality or Concentration (46-53)		NO. EX (62-63)	Frequency of analysis (64-68)	Sample Type (69-70)
		Average	MON AVG	Maximum	DAILY MAX	Minimum	Unit	Average	Maximum				Unit
2,4 - DINITROPHENOL	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
	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
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
2,6 - DINITROTOLUENE	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	PERMIT REQUIREMENT	63.80 MON AVG	160.38 DAILY MAX	.....	LBS/DAY	.....	0.541 DAILY MAX	0.255 MON AVG	0.541 DAILY MAX	0	QUARTERLY	GRAB
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
4 - NITROPHENOL	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	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
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34646 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	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
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
4,6 - DINITRO - O - CRESOL	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	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
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34667 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	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
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
PHENOL, SINGLE COMPOUND	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	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
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
34694 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	PERMIT REQUIREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
34696 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	PERMIT REQUIREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
ETHYL BENZENE	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
	PERMIT REQUIREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	1/Quarter	Grab
	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
37371 2 0 0 EFFLUENT NET VALUE	SAMPLE MEASUREMENT	.....	BDL	BDL	(26)	.....	BDL	.....	BDL	0	QUARTERLY	GRAB
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	H. H. Holliman, President Tennessee Eastman Division SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER <i>John I. Wells</i> OFFICER OR AUTHORIZED AGENT											
TELEPHONE	(423) 229-2000											
AREA CODE NUMBER	97 - 10 - 13											
YEAR MO DAY	97 - 10 - 13											

COMMENT AND EXPLANATION OF ANY VIOLATIONS
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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	Average	Maximum	Unit	Minimum	Maximum	Minimum	Maximum	Unit	Minimum	Maximum				
BIS (2-ETHYLHEXYL) PHTHALATE	25.77	1.14	69.81	BDL	(26)	*****	*****	0.004	0.103	(19)	0.004	0.279	0	1/Quarter	Grab	
39100 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	BDL	LBS/DAY	*****	*****	DAILY MAX	MON AVG	MG/L	DAILY MAX	DAILY MAX	0	QUARTERLY	GRAB	
DI-N-BUTYL PHTHALATE	6.76	BDL	14.26	BDL	(26)	*****	*****	BDL	0.027	(19)	0.057	0.057	0	1/Quarter	Grab	
39110 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	BDL	LBS/DAY	*****	*****	DAILY MAX	MON AVG	MG/L	DAILY MAX	DAILY MAX	0	QUARTERLY	GRAB	
VINYL CHLORIDE	26.02	BDL	67.05	BDL	(26)	*****	*****	BDL	0.104	(19)	0.268	0.268	0	1/Quarter	Grab	
39175 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	BDL	LBS/DAY	*****	*****	DAILY MAX	MON AVG	MG/L	DAILY MAX	DAILY MAX	0	QUARTERLY	GRAB	
TRICHLOROETHYLENE	5.25	BDL	13.51	BDL	(26)	*****	*****	BDL	0.021	(19)	0.054	0.054	0	1/Quarter	Grab	
39180 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	BDL	LBS/DAY	*****	*****	DAILY MAX	MON AVG	MG/L	DAILY MAX	DAILY MAX	0	QUARTERLY	GRAB	
HEXACHLOROENZENE	0.05	BDL	0.09	BDL	(26)	*****	*****	BDL	0.000186	(19)	0.000372	0.000372	0	1/Quarter	Grab	
39700 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	BDL	LBS/DAY	*****	*****	DAILY MAX	MON AVG	MG/L	DAILY MAX	DAILY MAX	0	QUARTERLY	GRAB	
3,4 BENZOFLUORANTHENE	2.00	BDL	4.06	BDL	(26)	*****	*****	BDL	0.008	(19)	0.016	0.016	0	1/Quarter	Grab	
79531 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	BDL	LBS/DAY	*****	*****	DAILY MAX	MON AVG	MG/L	DAILY MAX	DAILY MAX	0	QUARTERLY	GRAB	
CHLOROETHANE	26.02	1.20	67.05	BDL	(26)	*****	*****	BDL	0.104	(19)	0.268	0.268	0	1/Quarter	Grab	
85811 2 0 0 EFFLUENT NET VALUE	MON AVG	DAILY MAX	DAILY MAX	BDL	LBS/DAY	*****	*****	DAILY MAX	MON AVG	MG/L	DAILY MAX	DAILY MAX	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																
													TELEPHONE (423) 229-2000		AREA CODE NUMBER 97-10-13	

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 SPC-C-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.)

APPENDIX C - AREA NOISE SURVEY - 05 AUGUST 1997

Title: Area Noise Survey in Plant 29 (Liquid Phase Methanol Plant) -
Posting of Noise Caution Signs

Abstract: Summary of area noise measurements taken for the purpose
of determining high noise areas.

Recommendation: Post noise caution signs at the locations determined
during the noise survey.

On August 5, 1997, noise measurements were taken in Plant 29 to
determine whether specific areas are required to be posted as "high
noise" areas in accordance with Employee Relations Guideline IH-720-
1-B, "Employee Hearing Conservation". This guideline specifies that
noise warning signs be posted at appropriate locations on the perimeter
of areas where noise levels are 85 dBA or greater.

Noise measurements taken outside of B-486 and at various locations
throughout floors 1-10 are listed below.

Location		dBA
Outside	B-486, West Side, Ground Level	83-92
"	" " " , North of 29KM-01 (5 ft distance)	92
"	" " " , South of 29KM-01 (5 ft distance)	91
"	" " " , West of 29KM-01 (5 ft distance)	88
"	" " " , East of 29KM-01 (5 ft distance)	88
"	" North Side, 2nd Floor, Near Condensers	80-85
"	" East Side, 3rd Floor, Methanol Condensers	85-90
Inside	B-486, 1st Floor, 29C-10,20 Reboilers	84-88
"	" " 1st Floor, 29C-30	77-81
"	" " 2nd Floor, 29C-01, 29C-10,20	82-88
"	" " 3rd Floor, Catalyst Mix Area	79-80
"	" " 3rd Floor, 29C-01	82-84
"	" " Center of 4th Floor, 29C-01	71
"	" " Center of 5th Floor, 29C-01	79
"	" " Center of 6th Floor, 29C-01	78
"	" " Center of 7th Floor, 29C-01	78
"	" " Center of 8th Floor, 29C-02 Steam Drum	82
"	" " Center of 9th Floor, Steam Header	84
"	" " Center of 10th Floor, 29E-02, 29C-05	76

Locations for noise signs were marked as the noise measurements were
made in Plant 29. HSE and Chemicals Maintenance representatives
assisted in determining sign locations based on these measurements.
It was agreed that due to the predominance of noise levels in excess
of 85 dBA around the compressor, methanol condensers, and reboilers
inside B-426, the entire Plant 29 complex will be considered a "high
noise" area.

Steve L. Drushel