PPG INDUSTRIES

PPG INDUSTRIES, INC. INDUSTRIAL CHEMICAL DIVISION P. O. BOX 1000 LAKE CHARLES, LA. 70601

J. R. FARST
Assistant Works Manager

November 17, 1977

Mr. Gus Von Bodungen
Louisiana Air Control Commission
P.O. Box 60630
New Orleans, LA 70160

Re: Permit Application - No. 3 Process Waste Incinerator

Dear Mr. Von Bodungen:

PPG is presently operating two permitted high temperature process waste incinerators for the thermal destruction of liquid and gaseous chlorohydrocarbon waste. PPG plans to install a third incinerator for the purpose of thermal incineration of vinyl chloride monomer (VCM) from the present manufacturing unit and the VCM tank car loading facilities.

The incinerator combustion chamber will operate at 2200°F. The combustion gases will pass through the heat recovery boiler system for energy conservation. The heat recovery boiler system will produce 50,000 lbs/hr of 185 psig steam. The No. 3 Incinerator will operate parallel to the two existing incinerators. Liquid organic waste and gaseous vents from existing operating units will be integrated into the feed system of the new incinerator system.

The incinerator is designed with a primary and secondary scrubbers with adequate column design and packing for gas distribution for scrubbing. The incinerator scrubber system is designed to meet the VCM Federal emissions standards. PPG is installing VCM and chlorohydrocarbon analytical instrumentation for monitoring the secondary scrubber stacks from the No. 3 Incinerator and the No. 1 and 2 incinerators.

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Our proposed application for the No. 3 Incinerator is attached. We are sending only two copies and one EIQ for you and your staff to review. We realize additional copies will be needed for the Commission members as the proposed permit is finalized. C. A. Burns, at 318-882-1200, ext. 2370, will assist you and your staff.

Please be assured of our continued cooperation with your staff and the Commission.

Very truly yours,

JAMES R. FARST

/as
Attachment
cc: C. A. Burns
W. J. Peard
J. E. Wyche III

bcc: T. G. Taylor (letter only)
G. K. Jordan "
J. Arendt "
T. Ziehler "
L. Joiner "
T. C. Jeffery "

APPLICATION FOR APPROVAL OF EMISSIONS

For: Installation of Third Process Waste Incinerator
(Revised April 1, 1975)

Send 14 copies to:

Louisiana Air Control Commission
P. O. Box 60630
New Orleans, Louisiana 70160
Attention: Technical Assistance

1. GENERAL INFORMATION

Name of person or company requesting permit:

PPG Industries, Inc., Chemical Division, U.S.

Address: P.O. Box 1000, Lake Charles, LA 70601

Responsible person and his Title C. A. Burns
Environmental Control Specialist

Date submitted: November, 1977 Telephone No. 318-882-1200

2. GEOGRAPHICAL LOCATION OF PLANT

Description of location of plant or establishment and/or map section showing same:

Chemical Plant, Calcasieu Parish, Louisiana
Section 3 and 4
Township 10-S, Range 9-W
Southwest District, Louisiana

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Show ownership and use of adjoining property on map section or list below.

List any residential areas near the plant or establishment and give distance from the plant or establishment: See Exhibit I - PPG Area Land Allotment - Drawing #32 A-602.7

5. LOUISIANA AIR CONTROL COMMISSION EMISSION INVENTORY QUESTIONNAIRE.

A completed Emission Inventory Questionnaire (copy attached) is required. If a new 6 page questionnaire for this location has been previously submitted, give date of submission June 10, 1977. A completed "revised" Emission Inventory Questionnaire must also be submitted with this application. The Emission Inventory Questionnaire must be completed showing the entire emissions of the facility after modifications and/or additions.

Estimated starting date of construction: March, 1978

Estimated date operation will begin: October 21, 1975

New Facility: Yes

Addition: Yes

"Give a brief description of proposed action and attach such information as flow diagrams, schematic diagrams, drawings, etc. needed to convey an understanding of the processes involved in the plant or establishment."

PPG is installing a third process waste incinerator to be operated parallel with the existing two permitted incinerators. The No. 3 incinerator will give PPG improved flexibility in the thermal decomposition of chlorohydrocarbons from the several operating units; however, the third incinerator system will be the control device for the present vinyl chloride monomer manufacturing and tank car loading facilities. See Exhibit II - Schematic Flow Sheet from the present VCM facility and Exhibit III Schematic flowsheet for the VCM tank car loading facility. The No. 3 incinerator system will have a waste heat boiler for energy conservation. The combustion gases from the incinerator pass through the heat recovery boiler (50 M lb/hr of 165 psig steam)system and exits through a primary (acid absorber) scrubber and thence through the secondary scrubber system.

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4. IDENTIFICATION AND LOCATION OF EMISSION SOURCES

Enclose a sketch showing specific location of point or points of emission. Show approximate distance (in feet) of all such points from property line. (Each emission source shall be numbered consecutively in the year of permit request. For example, the first for which a permit is requested in 1973 would be designated as 1-73. See Exhibit IV - Stack Location from property line.

Identification Number	Name and Description of Source
1-77	No. 3 Incinerator Secondary Scrubber Stack

Identification Number	EMISSION		STACK				
	Rate SCF/SEC	Temp. °F	Exit Velocity Ft./Sec.	Diam. Feet	Elev. Above Grade	Can be Sampled Yes	Can be Sampled No
1-77	285	160	50.9	3'	100	Yes	

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SUMMARY OF EMISSIONS AND THEIR EFFECTS ON AMBIENT AIR

FOR:
☒ Particulate Matter ☐ HC ☒ NO_x ☒ Other HCl & Cl_2 (Check One)
☐ SO_2 ☒ CO

Point Source (indicate # on map) I-77	EMISSIONS lbs/hr: With Control Apparatus*** (Max)	EMISSIONS lbs/hr: Without Control Apparatus	Process Weight tons/hr	Concentration of Pollutant Gases in Discharge Gas: PPM	Concentration of Pollutant Gases in Discharge Gas: ug/m3	Heat Input BTU	Ringelmann Number or Opacity
Particulate	12.4	NA	NA	150*	19.4×10^4	NA	**
CO	4.0	NA	NA	50	6.3×10^4	NA	NA
NO_x	26.3	NA	NA	200	41.1×10^4	NA	NA
HCl	3.0	NA	NA	32.5	5.3×10^4	NA	NA
Cl_2	5.0	NA	NA	25.4	8.0×10^4	NA	NA
Hydrocarbon	1.0	NA	NA	5.5	1.5×10^4	NA	NA

*PPG by wt; NA - Not applicable
** Unable to estimate
*** Manufacturers Engineering estimation

EFFECT ON AMBIENT AIR:
Concentration - 24 Hour Average

	Property Line Maximum PPM	Property Line Maximum ug/m3	Stability Class	Wind Speed m/sec	Max. Ground Level and Locations ** PPM	Max. Ground Level and Locations ** ug/m3	Max. Ground Level and Locations ** Dist.	Stability Class Wind Dir.	Stability Class	Wind Speed m/sec
Part	--	--	--	--	0.08	38	2000 E 0 S	W	A	4
CO	--	--	--	--	0.009	12	2000 E 0 S	W	A	4
NO_x	--	--	--	--	0.17	345	2000 E 0 S	W	A	4
HCl	--	--	--	--	0.002	3	0 W 0 S	W	A	1
Cl_2	--	--	--	--	0.001	4	0W 0 S	W	A	1
HC	--	--	--	--	0.23	517	2000 W 2000 N	SE	D	1

** Coordinates referenced to plant origin. Dispersion calculations by Briggs-Turner Equations. All plants as required by LACC.

5. PROPOSED AIR POLLUTION CONTROL

List the air pollution abatement measures that will be utilized to control the emissions from the sources for the plant or establishment. If no facilities are contemplated, list the steps which will be taken to prevent the emission of sufficient quantities of pollutants to result in undesirable levels. Give the source and then the abatement method for each source. Please include information such as drawings, manufacturer literature, specification, capacities and efficiencies needed for evaluation of such control equipment and techniques used in controlling each source. Please include date that each estimated date operation will begin. Any information about the method used for abating the source will facilitate the evaluation of the application.

Stack No. 1-77 - Process Waste Incinerator. The No. 3 Incinerator will be the control device for the present vinyl chloride monomer (VCM) plant and present VCM tank car loading facilities. The No. 3 Incinerator system will operate parallel to the two existing incinerators. Liquid organic waste from the Bottoms Plant and gaseous waste from the liquid-phase EDC, OHC-EDC, Per/Trichloroethylene, "Tri-Ethane" II, and the VCM will be incinerated. The incinerator unit is being manufactured by Trane Thermal Company, Conchohacken, Pennsylvania. The No. 3 Incinerator operating temperature of the combustion chamber will be 2200° F. and retention time will be a minimum of 0.75 seconds. The combustion air capacity is designed at 750,000 scfh. The No. 3 Incinerator will be equipped with an auxiliary burner for added flexibility in operating the system. The combustion gases from the incinerator pass through the heat recovery boiler system and thence to the scrubbers. The incinerctor will have a primary (acid absorber) scrubber and a secondary scrubber. Each of the scrubbers is designed for adequate gas distribution for scrubbing. Details are shown on Exhibit V, attached. The secondary scrubber will be monitored from the stack with analytical instrumentation for VCM and chlorohydrocarbons and in accordance with requirements of EPA regulations.

Exhibit V - Schematic of No. 3 Process Waste Incinerator System. The combustion of the vent gases from the present VCM facility, i.e., manufacturing unit and VCM tank car loading, is shown as Exhibit VI. The No. 3 Incinerator vent gas flow rate is shown as Exhibit VII.

6. AUTHORITY AND CERTIFICATION

This application is submitted in accordance with the provisions of the Regulations of the Air Control Commission, State of Louisiana.

I, J. R. Farst, certify, under the provisions in Louisiana and United States law which provide criminal penalties for false statements, that this Application for Approval of Emissions, including all attachments thereto, contains information which is true and correct to the best of my knowledge and belief.

PPG Industries, Inc.
Company

J R Farst
Signature of Responsible Officer

P. O. Box 1000, Lake Charles, LA 70602
Address

J. R. Farst
Name of Responsible Officer

Assistant Works Manager
Title of Responsible Officer

882-1200 Ext. 2348
Telephone No.

T. C. Jeffery
Signature of Professional Engineer

STATE OF LOUISIANA
T. C. JEFFERY
REG. No. 5691
REGISTERED PROFESSIONAL ENGINEER IN CHEMICAL ENGINEERING

Thomas C. Jeffery, Manager, Development and Licensing
Name (typed) and Title

5691
Professional Engineering Registration No.

Louisiana
State Registered

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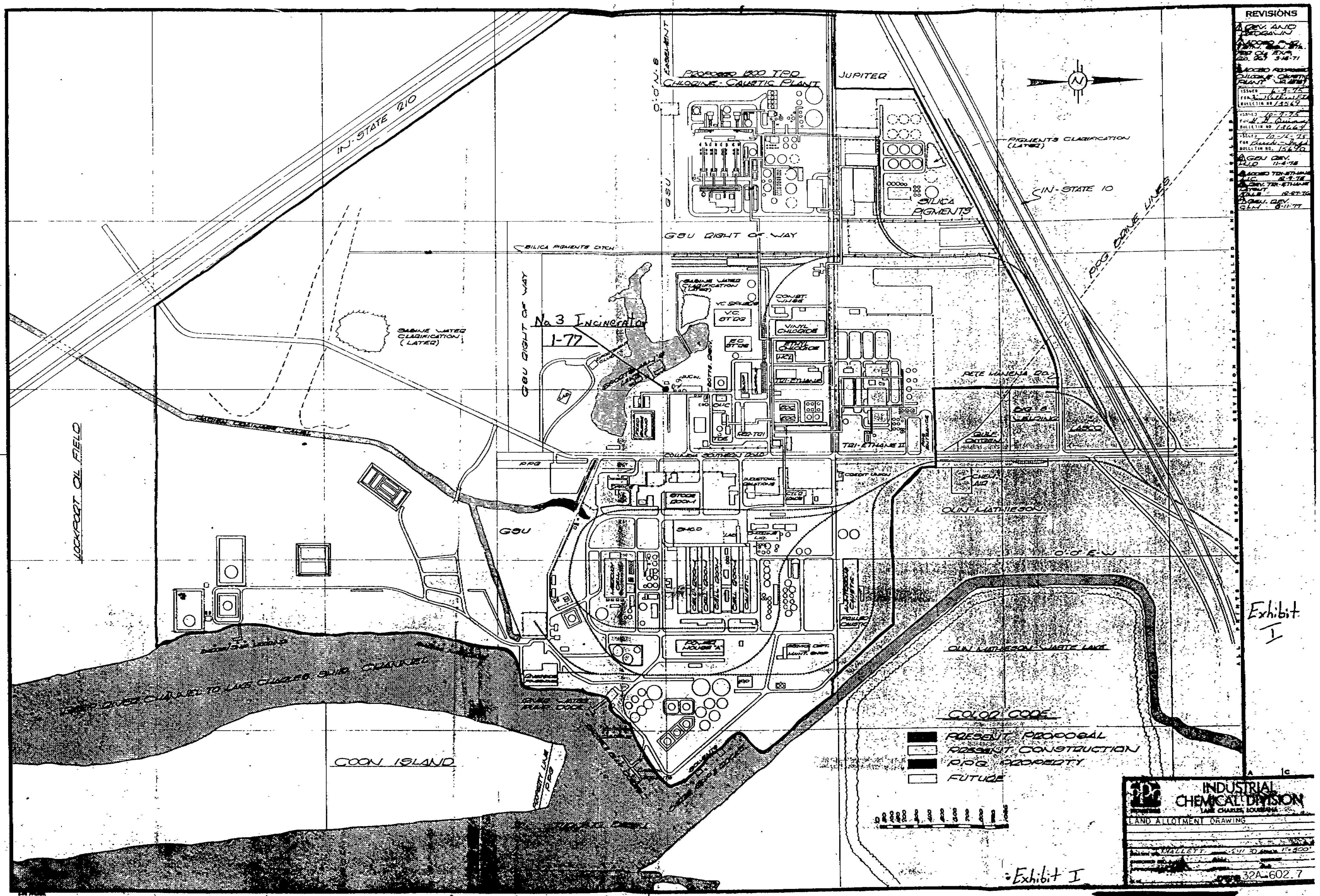
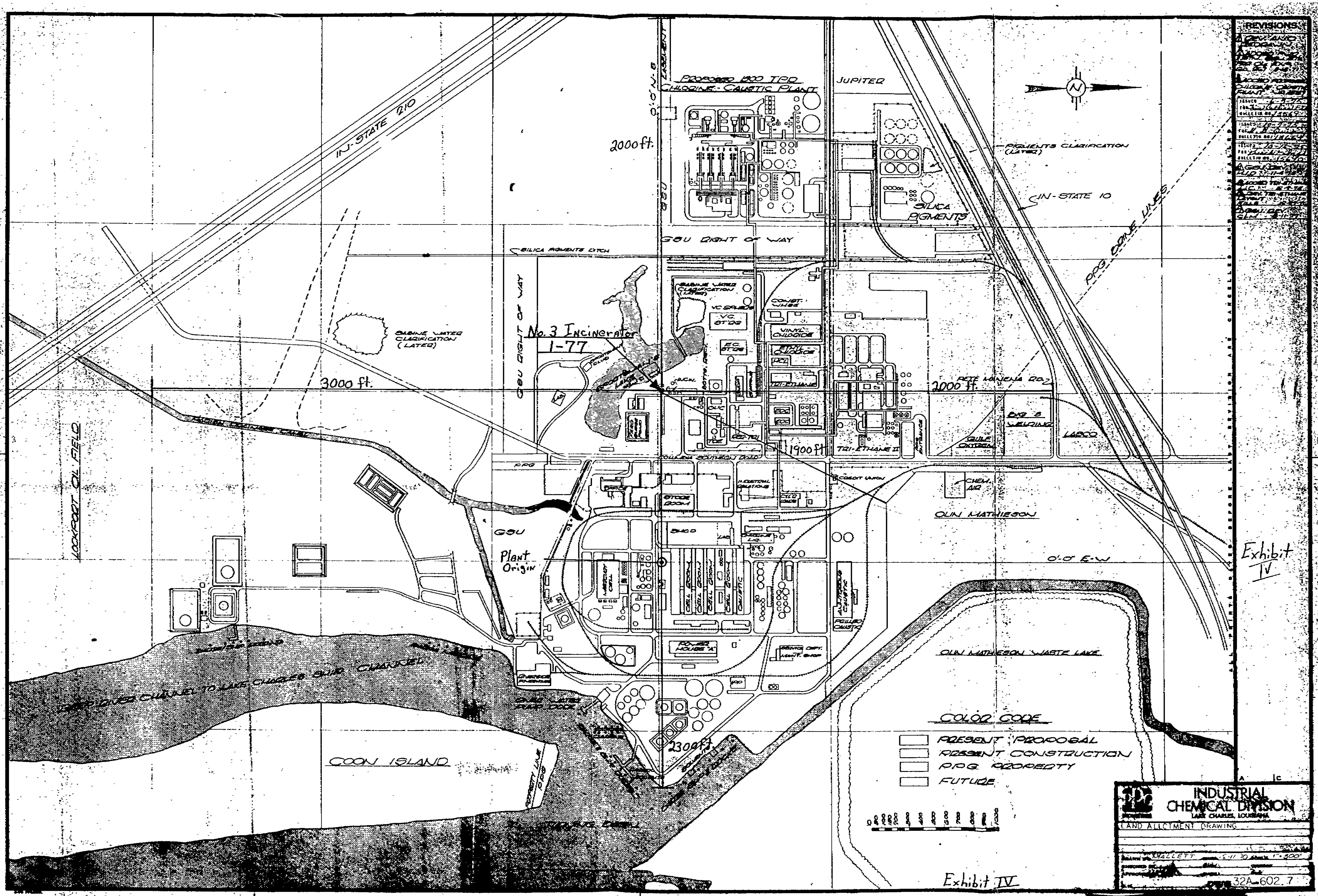


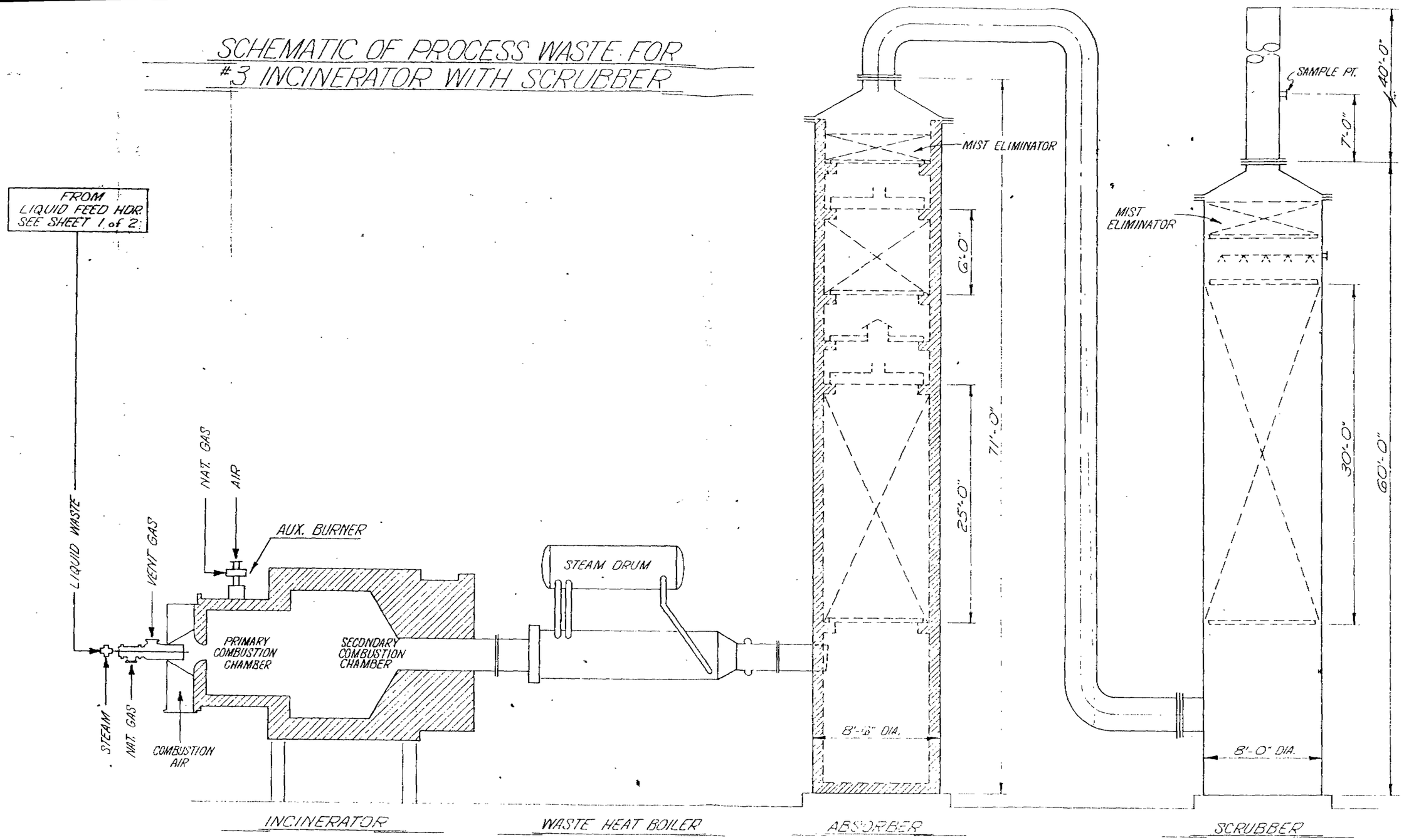
REVISIONS
IN-STATE 210
LOCKPORT OIL FIELD
JUPITER
PROPOSED 1500 TPD CHLORINE-CAUSTIC PLANT
PIGMENTS CLARIFICATION (LATER)
IN-STATE 10
SILICA PIGMENTS
PPG BRINE LINES
GSU RIGHT OF WAY
SILICA PIGMENTS DITCH
SABINE WATER CLARIFICATION (LATER)
No. 3 Incinerator
1-77
VINYL CHLORIDE
TRI-ETHANE II
PETE MANENA RD.
OLIN-MATHIESON
STORE ROOM
POWER HOUSE "A"
GSU
OLIN MATHIESON WASTE LAKE
COON ISLAND
COLOR CODE
PRESENT PROPOSAL
PRESENT CONSTRUCTION
PPG PROPERTY
FUTURE
INDUSTRIAL CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
LAND ALLOTMENT DRAWING
32A-602.7
Exhibit I
Exhibit I

SL 078234


REVISIONS
PROPOSED 1500 TPD CHLORINE-CAUSTIC PLANT
JUPITER
IN-STATE 210
2000 ft.
PIGMENTS CLARIFICATION (LATER)
IN-STATE 10
SILICA PIGMENTS
PPG BRINE LINES
SILICA PIGMENTS DITCH
GSU RIGHT OF WAY
SABINE WATER CLARIFICATION (LATER)
No. 3 Incinerator
1-77
VINYL CHLORIDE
TRI-ETHANE
TRI-ETHANE II
3000 ft.
2000 ft.
1900 ft.
LOCKPORT OIL FIELD
LABCO
PPG
CHEM AIR
OLIN MATHIESON
GSU
Plant Origin
POWER HOUSE "A"
0-0' E-W
Exhibit IV
OLIN MATHIESON WASTE LAKE
CHANNEL TO LAKE CHARLES SHIP CHANNEL
COON ISLAND
2300 ft.
COLOR CODE
PRESENT PROPOSAL
PRESENT CONSTRUCTION
PPG PROPERTY
FUTURE
INDUSTRIAL CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
LAND ALLOTMENT DRAWING
MALLETT
32A-602.7
Exhibit IV

SL 078237

SCHEMATIC OF PROCESS WASTE FOR #3 INCINERATOR WITH SCRUBBER



PPG INDUSTRIES, INC. LAKE CHARLES, LA.	SCHEMATIC OF PROCESS WASTE FOR #3 INCINERATOR WITH SCRUBBER	EXHIBIT Nº V	
		11-17-77	SHT. 1 of 2

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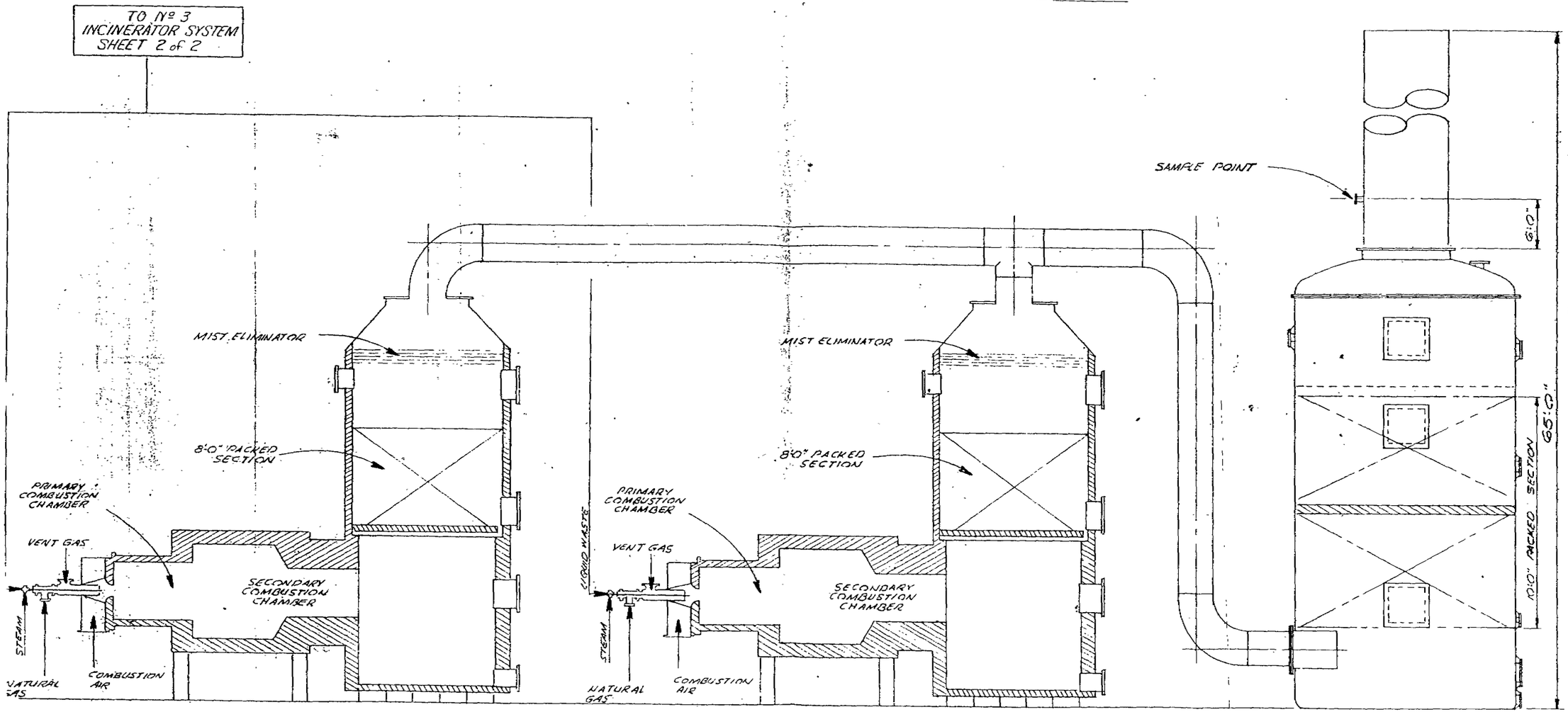
SCHEMATIC OF PROCESS WASTE FOR #1 & #2 INCINERATOR WITH SCRUBBERS



PPG INDUSTRIES, INC. LAKE CHARLES, LA.	SCHEMATIC OF PROCESS WASTE FOR #1 & #2 INCINERATOR WITH SCRUBBERS	EXHIBIT Nº V
		11-17-77 SHT. 2 of 2

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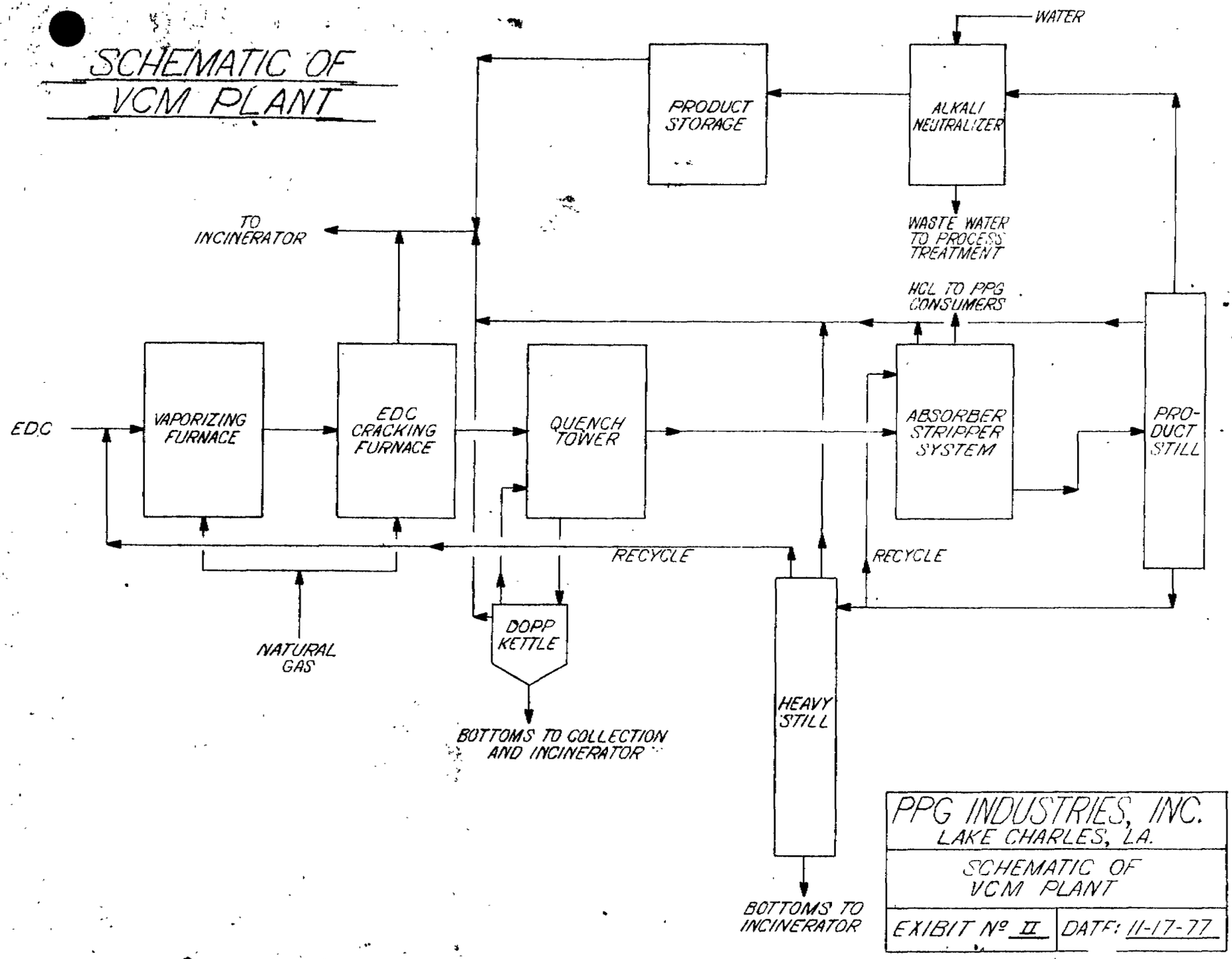
SCHEMATIC OF VCM PLANT



PPG INDUSTRIES, INC. LAKE CHARLES, LA.	
SCHEMATIC OF VCM PLANT	
EXIBIT Nº II	DATE: 11-17-77

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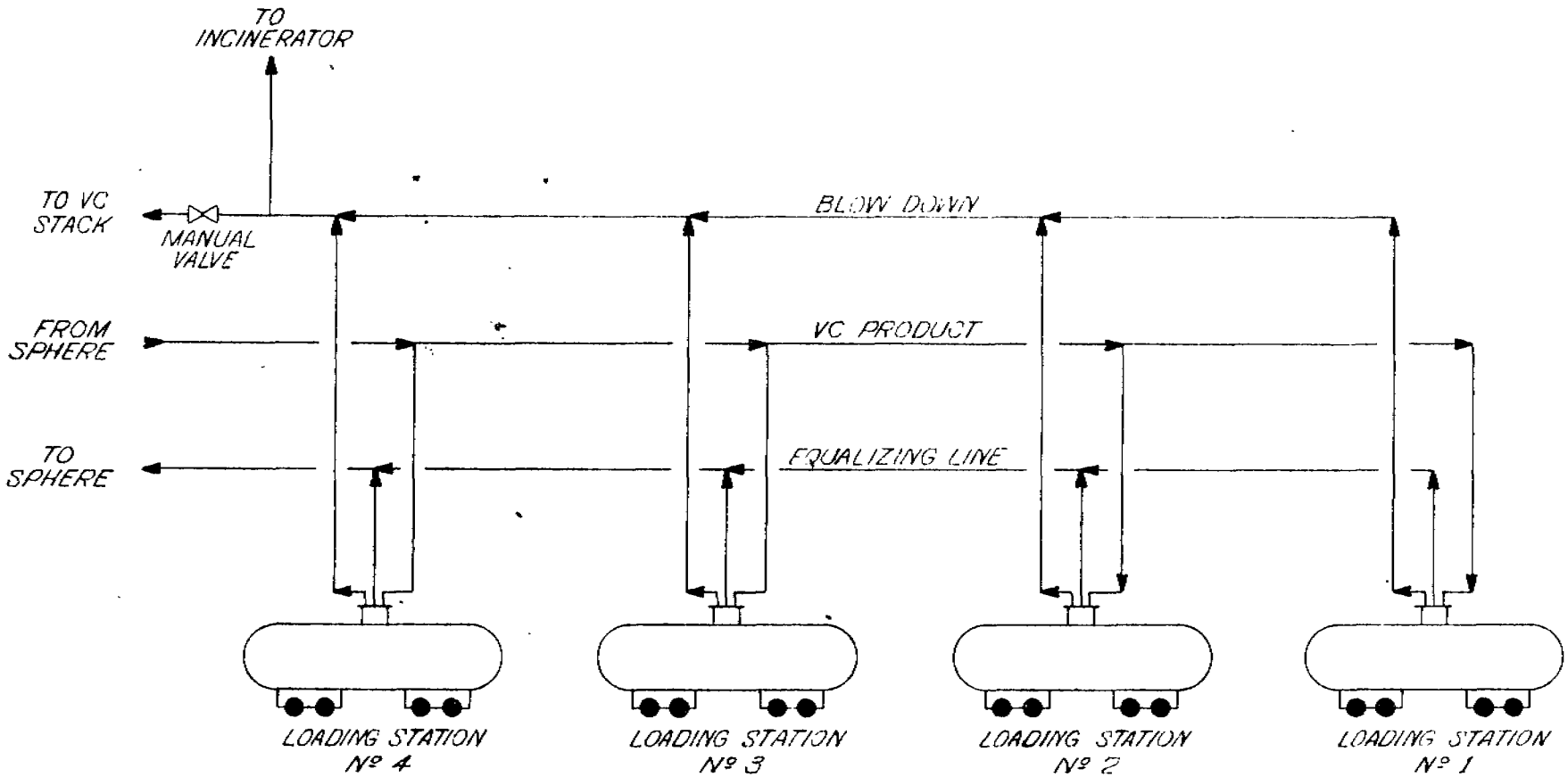
SCHEMATIC OF VCM TANK CAR LOADING



PPG INDUSTRIES, INC. LAKE CHARLES, LA.	
SCHEMATIC OF VCM TANK CAR LOADING	
EXIBIT Nº III	DATE: 11-17-77

SL 078236

COMPOSITION OF VENT GASES
FROM
VINYL CHLORIDE MANUFACTURING
AND
VCM TANK CAR LOADING

COMPONENT	LB/HR	WT %
Nitrogen	2224	53.0
Vinyl Chloride	1916	45.6
1, 2 Dichloroethane	58	1.4
TOTAL	4198	100.0

EXHIBIT VI

NO. 3 INCINERATOR VENT GAS FLOWRATE

	LB/HR
NITROGEN	47,536
CARBON DIOXIDE	16,302
WATER VAPOR	15,236
OXYGEN	2,179
HYDROGEN CHLORIDE	3
CARBON MONIXIDE	4.
CHLORINE	5.
NITROGEN OXIDES	26.
PARTICULATE MATTER	12.
HYDROCARBONS	1.
TOTAL	81,304.

EXHIBIT VII