#27 + 28

Reports - 1987

DEC 0010448 001

US EPA RECORDS CENTER REGION 5
1003506

DUPONT **RECORDS CONTROL SCHEDULE**

RECORDS CATEGORY OR TITLE: Technical File

COPY "O" (OFFICIAL) ☐ "X" (EXTRA) ☒

TOTAL RETENTION: Until Obsolete Review Yearly

GS-11050 Rev. 8/78

DUPONT **RECORDS CONTROL SCHEDULE**

RECORDS CATEGORY OR TITLE: Product Specification

COPY "O" (OFFICIAL) ☐ "X" (EXTRA) ☒

TOTAL RETENTION: Until Superseded

GS-11050 Rev. 8/78

Analytical Methods
Established Products

Until Superseded

002

DFC 0010448

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

cc: R.M. Salemi, C&P, Wilm.
R.W. Porter, E. Chgo.
[redacted]

July 14, 1987

Office of Environmental Response
Indiana Department of Environmental Management
P. O. Box 6015
Indianapolis, Indiana 46206

Attention: Mike Vonderheide

Subject: Reporting a Spill

- Time & Date: 1:00 - 1:15 CDT, 6/4/87
- Stream: Grand Calumet River
- Substance & Amount Spilled: Calcium Sulfate Solution, Approximately 100 gallons

Cause of Incident

During maintenance work to the filter feed pump about 200 gallons of Calcium Sulfate Solution was spilled. A block valve used to isolate the pump for maintenance was found to be defective.

Immediate Response

An earthen dam was created to contain the spill. Before all the material could be contained approximately 100 gallons drained to the Grand Calumet River. The material contained by the dam was adsorbed and subsequently landfilled.

Initial Reporting

The IDEM office of Emergency Response was called and the cause, amount and nature of the spill was reported to M. Vonderheide. We were advised to do nothing at that time about clean-up of the spill. In addition Mr. Vonderheide said he would contact the East Chicago Health Department.

The spill was subsequently reported in writing on our monthly monitoring report for our NPDES Permit (see J.N. Orban to Technical Support Branch dated June 12, 1987)

Environmental Impact

The material spilled (Calcium Sulfate) and the volume of the spill did not cause or threaten to cause damage to the public health, animal or plant life, or water users. The Calcium Sulfate showed as a white deposit along the edge of the river. The white appearance persisted for about 24 hours after which it was no longer evident.

Should you need further information regarding this incident please call.

Sincerely,

OJMeyer

O. J. Meyer
Environmental Coordinator

OJM/pjp
Attach.

CM-1C REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

June 12, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for May, 1987.

We are also confirming our verbal report of a spill which occured on 6/4/87.

A total of about 200 gallons of calcium sulfate slurry was spilled from our clarifier when a pump was removed for repairs. About 100 gallons of slurry drained into the adjacent Grand Calumet River. The clarifier is used for solids removal to meet the requirements of our NPDES Permit. The remaining spill was adsorbed and landfilled. The cause of the spill has been corrected.

Mike Vonderheide of Indiana Emergency Response was contacted by phone, by O. J. Meyer our site Environmental Coordinator. Mike said he would contact the East Chicago Health Department and no further action was required.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

June 12, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

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Mike Vonderheide of Indiana Emergency Response was contacted by phone, by O. J. Meyer our site Environmental Coordinator. Mike said he would contact the East Chicago Health Department and no further action was required.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 1 OF 4

E. I. duPont deNemours & Co.
215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	002	05 87
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[illegible]	mg/l	lb/day	mg/l	lb/day		°C
1		0.21	7.8						
2		0.22	7.6						
3		0.14	7.0						16
4		0.14	8.2						
5		0.27	8.0						
6		0.25	7.6						
7		0.23	7.8						
8		0.32	8.4						
9		0.17	7.3						
10		0.16	7.7						22
11		0.15	7.4						
12		0.17	8.3						
13		0.17	7.5						
14		0.31	6.6						
15		0.28	6.9						
16		0.17	7.8						
17		0.11	7.6						
18		0.12	6.7						
19		0.28	7.0						
20		0.27	6.8						
21		0.20	7.3						
22		0.19	6.8						
23		0.30	7.2						
24		0.31	6.6						
25		0.14	6.8						
26		0.20	7.1						
27		0.20	8.0						
28		0.30	7.4						
29		0.31	7.7						
30		0.20	8.3						
31		0.29	7.1						
AVERAGE (29-36)		0.22							19
HIGHEST VALUE OF MONTH (37-44)		0.32	8.4						22
LOWEST VALUE OF MONTH (45-52)		0.11	6.6						16
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orban
(SIGNATURE OF CERTIFIED OPERATOR (55)

R W Pady
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

6/12/87
(DATE SUBMITTED) (61-66)

DEC 0010448

007

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 2 OF 4

E. I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000319	003	0587
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.53	7.6						
2		0.56	7.5						
3		0.56	7.4						25
4		0.53	7.8						
5		0.51	7.7						
6		0.52	7.9						
7		0.54	7.6						
8		0.56	7.3						
9		0.59	7.3						
10		0.57	7.2						30
11		0.49	6.9						
12		0.58	7.5						
13		0.51	7.5						
14		0.52	7.5						
15		0.50	8.1						
16		0.60	8.2						
17		0.54	7.6						
18		0.55	7.3						
19		0.56	6.8						
20		0.59	7.2						
21		0.59	7.4						
22		0.58	7.1						
23		0.59	7.4						
24		0.55	7.4						
25		0.59	7.0						
26		0.59	7.6						
27		0.57	7.7						
28		0.58	7.0						
29		0.69	7.1						
30		0.60	8.6						
31		0.56	7.4						
AVERAGE (29-36)		0.56							28
HIGHEST VALUE OF MONTH (37-44)		0.69	8.6						30
LOWEST VALUE OF MONTH (45-52)		0.49	6.8						25
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

008

DEC 0010118

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 00 0 03 29	002 003	05 87
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	Q 00547	C	Q 70301		Q00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/31		1/31		1/31
	Monitored	7/7				2/31		1/31		1/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.74								
2		0.78								
3		0.70				130		38000		90
4		0.67								
5		0.78								
6		0.77								
7		0.77								
8		0.88								
9		0.76								
10		0.73				120				
11		0.64								
12		0.75								
13		0.68								
14		0.83								
15		0.78								
16		0.77								
17		0.65								
18		0.67								
19		0.84								
20		0.86								
21		0.79								
22		0.77								
23		0.89								
24		0.86								
25		0.73								
26		0.79								
27		0.77								
28		0.88								
29		1.00								
30		0.80								
31		0.85								
AVERAGE (29-36)		0.78	X			130		38000		90
HIGHEST VALUE OF MONTH (37-44)		1.00		X		130				
LOWEST VALUE OF MONTH (45-52)		0.64	X			120				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010448

009

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 4 OF 4

[illegible].I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 0 0 0 0329	002 / 003	0 5 8 7
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) MO. (13-14) YR.

ENTER: 1 for NPDES, 2 for SPC-15 [1] (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL [1] (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/31		2/31		2/31		2/31
	Monitored		1/31		2/31		2/31		2/31
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3			24000		1		11		109
4									
5									
6									
7									
8									
9									
10					2		13		36
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			24000		2		12		73
HIGHEST VALUE OF MONTH (37-44)					2		13		109
LOWEST VALUE OF MONTH (45-52)					1		11		36
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

010

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME E.I. DUPONT DE NEMOURS AND CO.

ADDRESS 5215 E KENNEDY
EAST CHICAGO IN 46312

FACILITY

LOCATION

ATTN: MR. BIRKEL, M.S.

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

011

(2-16)	(17-19)
[illegible]	[illegible]
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALU	SAMPLE MEASUREMENT	******	*****		*****	19	22				
	PERMIT REQUIREMENT	******	******	***	******	REPORT DAILY AV	REPORT DAILY MX			THICE/MONTH	
PH 00400 1 0 0 EFFLUENT GROSS VALU	SAMPLE MEASUREMENT	******	******		6.6	******	8.4				
	PERMIT REQUIREMENT	******	******	***	MINIMUM	******	MAXIMUM			DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALU	SAMPLE MEASUREMENT	0.22	0.32		*****	*****	*****				
	PERMIT REQUIREMENT	******	******	[illegible]	******	******	******			DAILY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE	DATE
R. W. Porter Plant Manager	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]	219-977-4601	[illegible]
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE / NUMBER	YEAR / MO / DAY

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

DEC 0010448

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME E. I. DUPONT DE NEMOURS AND CO

ADDRESS 5215 E KENNEDY

EAST CHICAGO IN 46312

FACILITY

LOCATION

ATTN: MR. BIRKEL, M.S.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved. OMB No. 2040-0004 Approval expires 9-30-85

(2-16) PERMIT NUMBER: [illegible]

(17-19) DISCHARGE NUMBER: [illegible]

012

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	[illegible]	[illegible]	[illegible]	TO	[illegible]	[illegible]	[illegible]
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	*****	*****		*****	28	30				
	PERMIT REQUIREMENT									CHICE/MONTH	GRAB
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	*****	*****		6.8	*****	8.6				
	PERMIT REQUIREMENT									DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.56	0.69		*****	*****	*****				
	PERMIT REQUIREMENT			MGD						DAILY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. W. Porter
Plant Manager

TYPED OR PRINTED

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 OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219-	977-460	0	1	
AREA CODE	NUMBER	YEAR	MO	DAY

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

DEC001044B

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME E.I. DUPONT DE NEMOURS AND [illegible]

ADDRESS 2215 E KENNEDY

[illegible] CHICAGO [illegible]

FACILITY

LOCATION

[illegible]

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

(2-16)	(17-19)
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
FROM	YEAR	MO	DAY	TO	YEAR	MO	DAY
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

013

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible], 5-DAY (20 DEG. C) [illegible]	SAMPLE MEASUREMENT	12	13								
	PERMIT REQUIREMENT	100. DAILY AV	200. DAILY MX		******	******	******			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	73	109								
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX		******	******	******			[illegible]	[illegible]
[illegible], TOTAL [illegible]	SAMPLE MEASUREMENT	130	130								
	PERMIT REQUIREMENT	600. DAILY AV	900. DAILY MX		******	******	******			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	2	2								
	PERMIT REQUIREMENT	150. DAILY AV	300. DAILY MX		******	******	******			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	90	90								
	PERMIT REQUIREMENT	2000. DAILY AV	4000. DAILY MX		******	******	******			[illegible]	[illegible]
[illegible], TOTAL [illegible]	SAMPLE MEASUREMENT	24000	24000								
	PERMIT REQUIREMENT	39000. DAILY AV	52000. DAILY MX		******	******	******			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	0.78	1.00								
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX		******	******	******			DAILY	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
R. W. Porter Plant Manager	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*)	[illegible]	[illegible]				
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

DEC 0010448

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-4[illegible] WHICH MAY NOT BE USED.)

PAGE [illegible] OF

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME [illegible]

ADDRESS [illegible] KENNEDY

[illegible] CHICAGO [illegible]

FACILITY

LOCATION

[illegible]

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

014

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] TOTAL [illegible] (MG/L)	SAMPLE MEASUREMENT	38000	38000								
	PERMIT REQUIREMENT	67000, DAILY AV	94000, DAILY MX		******	******	******				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	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		
E. W. Porter Plant Manager	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*)	[illegible]	AREA CODE	NUMBER	YEAR	MO	DAY
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT				

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

DEC 001044B

CONFIDENTIAL

June 10,1987

John R. Wasilik

PRODUCTION DIVISION - WEEKLY WILMINGTON STAFF NOTES

EAST CHICAGO

SAFETY - C&P, Prod. Div.

	Week Ending June 8, 1987	Month To Date	1987 To Date	1986 To Date
Lost Work Day	0	0	0	0
Restricted Work Day	0	0	0	0
Off-the-Job	0	0	0	0

SH&E INCIDENTS

Week Ending	Safety Incident
6-8-87	1

EI CATEGORY I

During maintenance on the EVC clarifier underflow pump, approximately 100 gallons of Calcium Sulfate clarifier material was spilled to the river. There were no injuries. A routine notification was made to the Indiana Department of Environmental Management.

(1)

cc RWP

TO FILE

SPILL AT EVC

TIME: 100 - 115 pm

DATE: JUNE 4, 1987

MATERIAL SPILLED: Calcium Sulfate Slurry from Clarifier underflow

INJURIES: NONE

DURATION: 15 ~~[illegible]~~ MINUTES

TYPE: LEAK FROM PUMP CASING

AMOUNT SPILLED: TOTAL ~ 200 gallons of which ≈ 100 gallons WENT INTO THE GRAND CALUMET RIVER

CORRECTIVE ACTION: RIVER BANK DIKED WITH SAND TO PREVENT FLOW INTO RIVER. SPILLED MATERIAL ABSORBED AND LANDFILLED. LEAK FROM PUMP CASING WAS STOPPED

~~[illegible]~~

NOTIFICATION: INDIANA EMERGENCY RESPONSE WAS NOTIFIED. THEY SAID THAT THEY WOULD REPORT THE SPILL TO THE EAST CHICAGO HEALTH DEPARTMENT.

DISCUSSION: TWO AMW WERE WORKING ON THE FILTER FEED PUMP ON THE WEST SIDE OF THE CLARIFIER (SEE SKETCH). THEY WERE ATTEMPTING TO REMOVE THE BACK PLATE AND IMPELLOR OF THE PUMP. THE SYSTEM HAD BEEN ISOLATED BY CLOSING SUCTION AND DISCHARGE VALVES AT THE PUMP. AS THEY REMOVED THE LAST BOLT ON THE CASING, LIQUID BEGAN SPRAYING OUT THE CASING. IT IS EXPECTED THAT THE GREASE ON THE DISCHARGE VALVE WAS BROKEN AND THAT THE VALVE WAS NOT REALLY CLOSED ALTHOUGH THE POSITION INDICATOR SAID IT WAS SHUT.

THE AMW PUT THE CASING BACK IN PLACE AND BOLTED IT TO THE VOLUTE.

HOW COULD THIS HAVE BEEN AVOIDED?: IF THE AMW'S HAD LOOSENED THE BOLTS WITHOUT REMOVING THEM AND THEN BROKEN THE GASKET SEAL, THE MAGNITUDE OF THE SPILL WOULD HAVE BEEN GREATLY REDUCED.

WHAT WAS REPORTED TO THE STATE:

E I DUPONT
5215 KENNICOTT AVE
EAST CHICAGO IN 46312

NPDES PERMIT IN0000329

O. J. MEYER
ENVIRONMENTAL COORDINATOR 219 977 4653

A SPILL OF ~ 100 gallons of CALCIUM SULFATE SOLUTION TO THE GRAND CALUMET RIVER OCCURRED BETWEEN 100-115 CDT 6/4/87.

THE MATERIAL SPILLED DURING MAINTENANCE WORK ON OUR CLARIFIER. THE CLARIFIER IS PART OF THE EQUIPMENT REQUIRED BY OUR NPDES PERMIT.

STATE RESPONSE: THANKS FOR CALLING. WE WILL CALL THE EAST CHICAGO HEALTH DEPARTMENT.

OTHER POINTS:

- $CaSO_4$ WAS ROUTINELY DISCHARGED TO THE GRAND CALUMET IN THE PAST
- DO NOTHING NOW ABOUT CLEAN-UP

IF THERE ARE QUESTIONS WE (IDEM) WILL TELL THEM YOU HAVE REPORTED THE SPILL

PERSON CONTACTED:

MIKE VONDERHEIDE
317 243 5074

4

OTHER USEFUL INFO

FOR SPILLS IN VIOLATION OR VIOLATION OF NPDES PERMIT CONTACT

DON LARSON

317 232 8431

- INDIANA EMERGENCY RESPONSE

DAYS 317 243 5155

NIGHTS 317 633 0144

SPILL —

NPDES PERMIT IN 0000329

6/4/87

1 - 1½ pm CDT

Spill to RIVER ~ 100 gal ~ 850 lb

Calcium Sulfate

pH 10.9

317 232-8480 @ IDEM
WATER MANAGEMENT DIVISION

INDIANA
EMERGENCY RESPONSE 317 243 5155 DURING
MY

MIKE VONDERHEIDE 317 243-5074

DO NOTHING NOW

633 0144
NIGHT

WILL CALL EC HEALTH
DEPT.

E

DON LARSON'S GROUP IF EXCEEDS NPDES
232-8431 PERMIT

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

January 11, 1988

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, Indiana 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for December, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

021

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	002	1287	ENTER: 1 for NPDES, 2 for SPC-15	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.04	6.9						
2		0.04	7.4						19
3		0.04	7.3						
4		0.10	7.3						
5		0.02	7.0						
6		0.03	6.9						
7		0.03	7.4						
8		0.08	6.9						
9		0.05	7.4						14
10		0.08	7.2						
11		0.07	7.4						
12		0.02	7.3						
13		0.02	7.1						
14		0.04	6.9						
15		0.01	7.1						
16		0.02	7.1						
17		0.02	7.2						
18		0.02	7.0						
19		0.01	7.4						
20		0.01	8.2						
21		0.03	7.1						
22		0.05	7.2						
23		0.01	7.4						
24		0.01	7.3						
25		0.02	7.2						
26		0.02	7.0						
27		0.02	7.2						
28		0.04	7.0						
29		0.04	7.0						
30		0.02	7.1						
31		0.02	7.0						
AVERAGE (29-36)		0.03							17
HIGHEST VALUE OF MONTH (37-44)		0.10	8.2						19
LOWEST VALUE OF MONTH (45-52)		0.01	6.9						14
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orban
(SIGNATURE OF CERTIFIED OPERATOR (55)

R. W. Pate
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

1/11/88
(DATE SUBMITTED) (61-66)

DEC 0010448

022

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 2 OF 4

E. I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0 0 0 0 3 2 9	0 0 3	1 2 8 7	ENTER: 1 for NPDES, 2 for SPC-15	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.58	7.7						
2		0.47	7.4						23
3		0.72	7.5						
4		0.72	7.8						
5		0.53	7.6						
6		0.66	7.2						
7		0.71	7.7						
8		0.57	6.7						
9		0.69	7.3						22
10		0.71	7.3						
11		0.34	7.3						
12		0.33	7.4						
13		0.45	7.4						
14		0.45	7.3						
15		0.45	7.2						
16		0.45	7.1						
17		0.45	7.2						
18		0.45	7.3						
19		0.32	7.4						
20		0.43	7.6						
21		0.40	7.4						
22		0.32	7.4						
23		0.30	7.6						
24		0.32	7.4						
25		0.32	7.4						
26		0.34	7.3						
27		0.34	7.2						
28		0.34	7.1						
29		0.35	7.2						
30		0.30	7.0						
31		0.24	7.3						
AVERAGE (29-36)		0.45							23
HIGHEST VALUE OF MONTH (37-44)		0.72	7.8						23
LOWEST VALUE OF MONTH (45-52)		0.24	6.7						22
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010148

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East-Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 00103129 (1-7) PERMIT NUMBER

002 003 (8-10) OUTFALL/ FAC. NO.

1287 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH	TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400	C	00547	C	70301		00940
SAMPLE TYPE (22-23)	Permit Cond.	CO			24		24		24
	Monitored	CO			24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7			2/31		1/31		1/31
	Monitored	7/7			2/31		1/31		1/31
EFFLUENT LIMITATIONS	Daily Ave. (24-36)	NONE			600		67000		2000
	Daily Max. (37-44)	NONE			900		94000		4000
DATE / UNITS		MGD	HI / LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.62							
2		0.51			600		36000		60
3		0.76							
4		0.82							
5		0.55							
6		0.69							
7		0.74							
8		0.65							
9		0.74			190				
10		0.79							
11		0.41							
12		0.35							
13		0.47							
14		0.49							
15		0.46							
16		0.47							
17		0.47							
18		0.47							
19		0.33							
20		0.44							
21		0.43							
22		0.37							
23		0.31							
24		0.33							
25		0.34							
26		0.36							
27		0.36							
28		0.38							
29		0.39							
30		0.32							
31		0.26							
AVERAGE (29-36)		0.49			400		36000		60
HIGHEST VALUE OF MONTH (37-44)		0.82			600				
LOWEST VALUE OF MONTH (45-52)		0.26			190				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0			0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 00118

024

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002 003	1287
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) (13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1 (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/31		2/31		2/31		2/31
	Monitored		1/31		2/31		2/31		2/31
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2			11000		1		10		28
3									
4									
5									
6									
7									
8									
9					2		15		38
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			11000		2		13		33
HIGHEST VALUE OF MONTH (37-44)					2		15		38
LOWEST VALUE OF MONTH (45-52)					1		10		28
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME E. I. DU PONT DE NEMOURS

ADDRESS 5215 KENNEDY AVE.

EAST CHICAGO IN 46312

FACILITY

LOCATION

ATTN: [illegible] BIRKEL

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Approval expires 12-31-87

(2-16)	(17-19)
IN0000329	002 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL

E. I. DUPONT DENEMOURS & CO.

MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	12	01	TO	87	12	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (37-42)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	17	19				
	PERMIT REQUIREMENT	******	******	*** ****	******	REPORT DAILY AV	REPORT DAILY MX	DEG. C		WICK/ MONT	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		6.9	******	8.2				
	PERMIT REQUIREMENT	******	******	*** ****	6. MINIMUM	******	9. MAXIMUM	SU		DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.03	0.10		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD	******	******	******			DAILY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
[illegible] Plant Manager	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 OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY
TYPED OR PRINTED							

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

DEC 0010118

EPA Form 332[illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-[illegible]CH MAY NOT BE USED.) PAGE

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME E.I. DU PONT DE NEMOURS

ADDRESS 5217 [illegible] AVE.

EAST CHICAGO IN 46312

FACILITY

LOCATION

ATTN: MR. [illegible] BIRKEL

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Approval expires 12-31-87

(2-16)	(17-19)
IN0000329	003 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL

E. I. DUPONT DENEMOURS & CO.

MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	12	01	TO	87	12	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	23	23				
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT DAILY AV	REPORT DAILY MX	DEG. C		WICE/[illegible]	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		6.7	******	7.8				
	PERMIT REQUIREMENT	******	******	**** ****	6. MINIMUM	******	9. MAXIMUM			AILY	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.45	0.72		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD	******	******	******			AILY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. W. Porter

Plant Manager

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)*

R W Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219-977-4601		01	08	88
AREA CODE	NUMBER	YEAR	MO	DAY

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

DEC 0010418

EPA Form 332[illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-[illegible]CH MAY NOT BE USED.)

PAGE

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME E.I. DU PONT DE NEMOURS

ADDRESS 2222 MONROE AVE.

SANTA CLAUS IN 46312

FACILITY

LOCATION

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

Form Approved
OMB No. 2040-0004
Approval expires 12-31-87

(2-16) IN0000329 — PERMIT NUMBER

(17-19) 021 A — DISCHARGE NUMBER

F - FINAL
COMBINED O.E. 2 023

MAJOR

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
87	12	01	87	12	31
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (11-19)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	13	15								
	PERMIT REQUIREMENT	100. DAILY AV	200. DAILY MX	LBS/DY						WICE/ MONTH	GRAB
CHEM. OXYGEN DEMAND (LOW LEVEL) (COD) 00335 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	33	38								
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	LBS/DY						WICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	400	600								
	PERMIT REQUIREMENT	600. DAILY AV	900. DAILY MX	LBS/DY						WICE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	2	2								
	PERMIT REQUIREMENT	150. DAILY AV	300. DAILY MX	LBS/DY						WICE/ MONTH	GRAB
CHLORIDE (AS CL) 00940 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	60	60								
	PERMIT REQUIREMENT	2000. DAILY AV	4000. DAILY MX	LBS/DY						WICE/ MONTH	GRAB
SULFATE, TOTAL (AS SO4) 00945 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	11000	11000								
	PERMIT REQUIREMENT	39000. DAILY AV	52000. DAILY MX	LBS/DY						WICE/ MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.49	0.82								
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD						DAILY	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. W. Porter
Plant Manager
TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 219 — NUMBER 977-4601

DATE: YEAR 01 — MO 08 — DAY 88

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

DEC001018

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-4 ... CH MAY NOT BE USED.)

00368/1001 7-1

PAGE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

Form Approved
OMB No. 2040-0004
Approval expires 12-31-87

PERMITTEE NAME/ADDRESS (Facility Name, Location)

NAME [illegible]
ADDRESS [illegible]
[illegible] IN 46312

FACILITY
LOCATION
ATTN: [illegible]

(2-16) PERMIT NUMBER: IN0000329

(17-19) DISCHARGE NUMBER: 023 A

F - FINAL
COMBINED O.P.
MAJOR

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	12	01	TO	87	12	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (18-25)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL DISSOLVED (MG/L)	SAMPLE MEASUREMENT	36000	36000		******	******	******				
TOTAL [illegible] EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	67000. DAILY AV	94000. DAILY MX	LBS/DY	******	******	******				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

STAPLE HERE

FOLD HERE

FOLD HERE

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. W. Porter
Plant Manager

TYPED OR PRINTED

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 OFFICER OR AUTHORIZED AGENT: R.W. Porter

TELEPHONE		DATE		
AREA CODE	NUMBER	YEAR	MO	DAY
219	977-4601	01	03	88

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

OFFICE USE ONLY

DEC 00100118

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-[illegible] WHICH MAY NOT BE USED.)

PAGE

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

December 22, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, Indiana 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for November, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

030

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN00003 29	002	11 87	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-29)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.11	7.0						22
2		0.03	7.0						
3		0.05	7.6						
4		0.07	8.0						
5		0.06	7.4						
6		0.06	7.3						
7		0.05	7.4						
8		0.05	7.8						20
9		0.05	7.0						
10		0.04	7.6						
11		0.08	7.0						
12		0.09	7.4						
13		0.01	6.8						
14		0.02	8.7						
15		0.01	7.0						
16		0.05	7.2						
17		0.05	7.2						
18		0.05	6.8						
19		0.17	6.9						
20		0.01	7.3						
21		0.02	6.9						
22		0.02	7.0						
23		0.03	7.0						
24		0.07	7.1						
25		0.05	6.6						
26		0.02	7.1						
27		0.02	7.1						
28		0.02	7.0						
29		0.02	6.9						
30		0.09	6.9						
31									
AVERAGE (29-36)		0.05							21
HIGHEST VALUE OF MONTH (37-44)		0.17	8.7						22
LOWEST VALUE OF MONTH (45-52)		0.01	6.6						20
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orban
(SIGNATURE OF CERTIFIED OPERATOR (55)

O J Meyer
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

12/22/87
(DATE SUBMITTED) (61-66)

031

DEC 0010118

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 2 OF 4

E.I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	003	11 87	ENTER: 1 for NPDES, 2 for SPC-15	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.35	7.4						24
2		0.55	7.5						
3		0.43	7.4						
4		0.23	7.5						
5		0.35	7.8						
6		0.35	7.1						
7		0.38	7.5						
8		0.27	7.5						24
9		0.45	7.4						
10		0.15	7.2						
11		0.24	7.4						
12		0.19	7.5						
13		0.39	7.4						
14		0.19	7.4						
15		0.17	6.9						
16		0.31	8.6						
17		0.44	7.6						
18		0.41	7.4						
19		0.41	7.3						
20		0.41	7.4						
21		0.36	7.4						
22		0.38	7.4						
23		0.38	7.5						
24		0.40	6.9						
25		0.24	7.6						
26		0.21	8.1						
27		0.15	7.3						
28		0.03	7.0						
29		0.17	7.4						
30		0.29	7.5						
X									
AVERAGE (29-36)		0.31							24
HIGHEST VALUE OF MONTH (37-44)		0.55	8.6						24
LOWEST VALUE OF MONTH (45-52)		0.03	6.9						24
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

OJ Meyer
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010148

032

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East-Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 00 0 03 29	002 003	11 87	ENTER: 1 for NPDES 2 for SPC-15	ENTER: 1 - INDUSTRY 4 - FEDERAL 5 - WATER SUPPLY
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	Q 00547	C	Q 70301		Q00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/30		1/30		1/30
	Monitored	7/7				2/30		1/30		1/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.46				50		31000		180
2		0.58								
3		0.48								
4		0.30								
5		0.41								
6		0.41								
7		0.43								
8		0.32				10				
9		0.50								
10		0.19								
11		0.32								
12		0.23								
13		0.40								
14		0.21								
15		0.18								
16		0.36								
17		0.49								
18		0.46								
19		0.58								
20		0.42								
21		0.38								
22		0.40								
23		0.41								
24		0.47								
25		0.29								
26		0.23								
27		0.17								
28		0.05								
29		0.19								
30		0.37								
~~31~~										
AVERAGE (29-36)		0.36				30		31000		180
HIGHEST VALUE OF MONTH (37-44)		0.58				50		31000		180
LOWEST VALUE OF MONTH (45-52)		0.05				10				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

DJ Meyer
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.) (CERTIFICATION NO.) (56-59) (DATE SUBMITTED) (61-66)

DEC 0010448

033

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002 083	11	87
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) MO.	(13-14) YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL: 1 (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/30		2/30		2/30		2/30
	Monitored		1/30		2/30		2/30		2/30
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1			23000		6		7		33
2									
3									
4									
5									
6									
7									
8					1		5		19
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			23000		4		6		26
HIGHEST VALUE OF MONTH (37-44)			23000		6		7		33
LOWEST VALUE OF MONTH (45-52)					1		5		19
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

PERMITTEE NAME/ADDRESS
Facility Name/Location

NAME [illegible]
ADDRESS [illegible]
[illegible] IN 46312
FACILITY
LOCATION
ATTN: [illegible]

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

Form Approved
OMB No. 2040-0004
Approval expires 12-31-87

(2-16) IN0000329 PERMIT NUMBER
(17-19) 002 A DISCHARGE NUMBER

F - FINAL
E. I. DUPONT DENEMOURS & CO.

035

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
87	11	01	87	11	30
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	21	22				
	PERMIT REQUIREMENT	******	******	*** ****	******	REPORT DAILY AV	REPORT DAILY MX	D.D.C		WICE/ MONTH	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		6.6	******	8.7				
	PERMIT REQUIREMENT	******	******	*** ****	6. MINIMUM	******	9. MAXIMUM	SU		DAILY	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.05	0.17		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD	******	******	******			DAILY	
HERE	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
219	977-4601	12	22	87

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

DEC00[illegible]48

EPA Form 35[illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED

(REPLACES EPA FORM 1-40 WHICH MAY NOT BE USED.)

PAGE OF

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME [illegible] DU NEMOURS

ADDRESS [illegible] AVE.

[illegible] IN 46312

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

Form Approved
OMB No. [illegible]
Approval [illegible] 12-31-87

(2-16)	(17-19)
IN0000329	003 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
E. I. DUPONT DENEMOURS & CO.

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	11	01	TO	87	11	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. OF EX. (62-64)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] VALU	SAMPLE MEASUREMENT	******	******		******	24	24				
	PERMIT REQUIREMENT	******	******	*** ****	******	REPORT DAILY AV	REPORT DAILY MX	DRG.C			
[illegible] VALU	SAMPLE MEASUREMENT	******	******		6.9	******	8.6				
	PERMIT REQUIREMENT	******	******	*** ****	6. MINIMUM		9. MAXIMUM	SU			
[illegible] PLAN VALU	SAMPLE MEASUREMENT	0.31	0.55		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD	******						
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

DEC 0010448

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. (*Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.*)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE [illegible] 87

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

036

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different) DEC 0010448

NAME [illegible] DE NEMOURS

ADDRESS [illegible] AVE.

[illegible] CHICAGO IN 46312

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved OMB No. [illegible] Approval [illegible] 12-31-87

(2-16)	(17-19)
IN0000329	023 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL

COMBINEC O.S. 2 &

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	11	01	TO	87	11	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	MAXIMUM	UNITS	NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible]	SAMPLE MEASUREMENT	6	7		*****	*****	*****				
	PERMIT REQUIREMENT	100. DAILY AV	200. DAILY MX	LBS/DY	*****	*****	*****				
[illegible]	SAMPLE MEASUREMENT	26	33		*****	*****	*****				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	LBS/DY	*****	*****	*****				
[illegible]	SAMPLE MEASUREMENT	30	50		*****	*****	*****				
	PERMIT REQUIREMENT	600. DAILY AV	900. DAILY MX	LBS/DY	*****	*****	*****				
[illegible]	SAMPLE MEASUREMENT	4	6		*****	*****	*****				
	PERMIT REQUIREMENT	150. DAILY AV	300. DAILY MX	LBS/DY	*****	*****	*****				
[illegible]	SAMPLE MEASUREMENT	180	180		*****	*****	*****				
	PERMIT REQUIREMENT	2000. DAILY AV	4000. DAILY MX	LBS/DY	*****	*****	*****				
[illegible]	SAMPLE MEASUREMENT	23000	23000		*****	*****	*****				
	PERMIT REQUIREMENT	39000. DAILY AV	52000. DAILY MX	LBS/DY	*****	*****	*****				
[illegible]	SAMPLE MEASUREMENT	0.36	0.58		*****	*****	*****				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD	*****	*****	*****				

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

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

037

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED

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

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME [redacted] DU PONT DE NEMOURS

ADDRESS [redacted] BERLY AVE.

[redacted] CHICAGO IN 46312

FACILITY

LOCATION

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

Form A[redacted]
OMB N[redacted]
Approv[redacted] 12-31-87

(2-16) IN0000032[redacted]
PERMIT NUMBER

(17-19) 023 A
DISCHARGE NUMBER

F - FINAL
COMBINEC O.F. 2 E

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	11	01	TO	87	11	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	(62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible]	SAMPLE MEASUREMENT	31000	31000								
	PERMIT REQUIREMENT	67000. DAILY AV	94000. DAILY MX	LBS/DY							
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

DEC 0010148

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. (*Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.*)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

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

038

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

November 5, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for October, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

039

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 00003 29	002	1087	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE \ UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.06	7.4						
2		0.06	7.4						
3		0.03	7.1						
4		0.03	7.5						
5		0.03	7.2						
6		0.04	7.8						
7		0.06	7.3						22
8		0.07	7.4						
9		0.05	7.2						
10		0.03	7.2						
11		0.04	7.0						
12		0.08	7.3						
13		0.06	7.4						
14		0.05	7.4						24
15		0.06	7.2						
16		0.04	7.4						
17		0.03	7.4						
18		0.03	7.4						
19		0.03	7.2						
20		0.07	7.3						
21		0.03	7.6						
22		0.05	7.4						
23		0.07	7.4						
24		0.03	7.2						
25		0.03	7.2						
26		0.04	7.5						
27		0.05	6.9						
28		0.05	7.4						
29		0.03	6.8						
30		0.02	7.6						
31		0.12	7.0						
AVERAGE (29-36)		0.05							23
HIGHEST VALUE OF MONTH (37-44)		0.12	7.8						24
LOWEST VALUE OF MONTH (45-52)		0.02	6.8						22
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orban
(SIGNATURE OF CERTIFIED OPERATOR (55)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

R.W. Porter
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

11/5/87
(DATE SUBMITTED) (61-66)

040

DE 0810118

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 2 OF 4

E.I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	003	1087
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[illegible]	mg/l	lb/day	mg/l	lb/day		°C
1		0.61	8.0						
2		0.61	7.8						
3		0.72	7.7						
4		0.65	7.3						
5		0.78	7.5						
6		0.67	7.9						
7		0.73	7.5						22
8		0.71	7.6						
9		0.77	6.8						
10		0.86	7.0						
11		0.75	7.4						
12		0.52	7.6						
13		0.43	7.5						
14		0.38	7.5						26
15		0.80	7.4						
16		0.31	6.9						
17		0.41	6.8						
18		0.41	6.8						
19		0.45	7.2						
20		0.61	7.4						
21		0.75	7.2						
22		0.65	7.2						
23		0.72	6.7						
24		0.76	8.6						
25		0.67	7.7						
26		0.69	7.6						
27		0.64	6.8						
28		0.74	7.2						
29		0.56	7.1						
30		0.71	7.5						
31		0.87	7.2						
AVERAGE (29-36)		0.64							24
HIGHEST VALUE OF MONTH (37-44)		0.87	8.6						26
LOWEST VALUE OF MONTH (45-52)		0.31	6.7						22
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (56)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

041

D 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 00 0 03 29	002 003	10 87
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	Q 00547	C	Q 70301		Q00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/31		1/31		1/31
	Monitored	7/7				2/31		1/31		1/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE \ UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.67								
2		0.67								
3		0.75								
4		0.68								
5		0.81								
6		0.71								
7		0.79				330		52000		290
8		0.78								
9		0.82								
10		0.89								
11		0.79								
12		0.60								
13		0.49								
14		0.43				10				
15		0.86								
16		0.35								
17		0.44								
18		0.44								
19		0.48								
20		0.68								
21		0.78								
22		0.70								
23		0.79								
24		0.79								
25		0.70								
26		0.73								
27		0.69								
28		0.79								
29		0.59								
30		0.73								
31		0.99								
AVERAGE (29-36)		0.69	X			170		52000		290
HIGHEST VALUE OF MONTH (37-44)		0.99		X		330				
LOWEST VALUE OF MONTH (45-52)		0.35	X			10				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010148

042

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002 003	10	87
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) MO.	(13-14) YR.

ENTER: 1 for NPDES, 2 for SPC-15 [1] (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPP [1] (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/31		2/31		2/31		2/31
	Monitored		1/31		2/31		2/31		2/31
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3									
4									
5									
6									
7			27000		1		47		140
8									
9									
10									
11									
12									
13									
14					1		30		72
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			27000		1		39		106
HIGHEST VALUE OF MONTH (37-44)					1		47		140
LOWEST VALUE OF MONTH (45-52)					1		30		72
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

NAME [illegible] DE NEMOURS

ADDRESS [illegible] AVE.

[illegible] IN 46312

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved OMB No. [illegible]0004 Approval Date 12-31-87

(2-16) IN0000329 PERMIT NUMBER

(17-19) 002 A DISCHARGE NUMBER

F - FINAL

E. I. DUPONT DENEMOURS & CO.

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
87	10	01	87	10	31
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] WATER [illegible] CENTIGRADE [illegible] VALU	SAMPLE MEASUREMENT	******	******		******	23	24				
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT DAILY AV	REPORT DAILY MX	DEG. C			
[illegible] VALU	SAMPLE MEASUREMENT	******	******		6.8	******	7.8				
	PERMIT REQUIREMENT	******	******	**** ****	6. MINIMUM	******	9. MAXIMUM	SU			
[illegible] IN CONDUIT OR [illegible] TREATMENT PLANT [illegible] VALU	SAMPLE MEASUREMENT	0.05	0.12		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD	******	******	******				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

DEC 0010448

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. W. Porter
Plant Manager

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

R. W. Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

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

044

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different) DEC 0010448

NAME [illegible] DE NEMOURS

ADDRESS [illegible] AVE.

CHICAGO IN 46312

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form A[illegible]
OMB N[illegible]004
Approva[illegible] 12-31-67

(2-16)	(17-19)
IN0000032[illegible]	023 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COMBINEC O.E. 2 6

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	07	10	01	TO	87	10	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. (62-67)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible]	SAMPLE MEASUREMENT	39	47		******	******	******				
	PERMIT REQUIREMENT	100. DAILY AV	200. DAILY MX	LBS/DY	******	******	******				
[illegible] (COD)	SAMPLE MEASUREMENT	106	140		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	LBS/DY	******	******	******				
[illegible] TOTAL	SAMPLE MEASUREMENT	170	330		******	******	******				
	PERMIT REQUIREMENT	600. DAILY AV	900. DAILY MX	LBS/DY	******	******	******				
[illegible]	SAMPLE MEASUREMENT	1	1		******	******	******				
	PERMIT REQUIREMENT	150. DAILY AV	300. DAILY MX	LBS/DY	******	******	******				
[illegible]	SAMPLE MEASUREMENT	290	290		******	******	******				
	PERMIT REQUIREMENT	2000. DAILY AV	4000. DAILY MX	LBS/DY	******	******	******				
[illegible] TOTAL	SAMPLE MEASUREMENT	27000	27000		******	******	******				
	PERMIT REQUIREMENT	39000. DAILY AV	52000. DAILY MX	LBS/DY	******	******	******				
[illegible]	SAMPLE MEASUREMENT	0.69	0.99		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY MX	MGD	******	******	******				

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. W. Porter
Plant Manager

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

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

046

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME E.I. [redacted] PONT DE NEMOURS

ADDRESS 5215 [redacted]NEDY AVE.

EAST CHICAGO IN 46312

FACILITY

LOCATION

ATTN: MR. S. M. BIRKEL

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE M[redacted]ORING REPORT (*DMR*)

Form Ap[redacted] OMB N[redacted]004 Approval [redacted] 12-31-87

(2-16) IN0000329[redacted] PERMIT NUMBER

(17-19) 023 A DISCHARGE NUMBER

F - FINAL

COMBINED O.F. 2 & 3

MAJOR

NOTE: Read instructions before completing this form.

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	10	01	TO	87	10	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX. (62-65)	FREQUENCY OF ANALYSIS (66-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL DISSOLVED (MG/L) 70295 1 D 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	52000	52000		******	******	******				
	PERMIT REQUIREMENT	67000. DAILY AV	94000. DAILY MX	LBS/DY	******	******	******	*****			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

DEC 0010448

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

R. W. Porter
PLANT MANAGER

TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.*)

R W Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

YEAR	MO	DAY
2	7	87

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

047

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED

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

00305/100

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

October 19. 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for September, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

048

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002	0987	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.06	7.0						
2		0.04	7.0						
3		0.04	6.7						
4		0.04	7.2						
5		0.03	7.5						
6		0.02	7.8						
7		0.03	7.0						
8		0.06	7.0						26
9		0.06	7.0						
10		0.05	7.4						
11		0.04	8.0						
12		0.02	7.5						
13		0.02	7.2						
14		0.04	7.1						22
15		0.05	6.9						
16		0.03	7.2						
17		0.05	7.6						
18		0.06	7.8						
19		0.02	7.8						
20		0.02	7.3						
21		0.05	7.2						
22		0.02	7.5						
23		0.03	7.4						
24		0.02	7.0						
25		0.04	7.2						
26		0.04	7.2						
27		0.03	7.2						
28		0.08	7.5						
29		0.04	7.8						
30		0.05	7.4						
31									
AVERAGE (29-36)		0.04							24
HIGHEST VALUE OF MONTH (37-44)		0.08	8.0						26
LOWEST VALUE OF MONTH (45-52)		0.02	6.7						22
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N Orban
(SIGNATURE OF CERTIFIED OPERATOR) (55)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

C S Mayer
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

10/19/87
(DATE SUBMITTED) (61-66)

049

DEC010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 2 OF 4

E. I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	003	09 87
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.42	7.1						
2		0.40	7.3						
3		0.49	7.3						
4		0.73	8.2						
5		0.52	7.2						
6		0.66	7.7						
7		0.58	7.3						
8		0.63	7.0						26
9		0.52	7.0						
10		0.40	7.9						
11		0.51	7.2						
12		0.56	7.5						
13		0.58	7.8						
14		0.61	7.6						26
15		0.67	7.6						
16		0.56	7.4						
17		0.56	7.8						
18		0.66	7.6						
19		0.63	7.6						
20		0.63	7.2						
21		0.61	7.1						
22		0.56	7.0						
23		0.56	7.0						
24		0.54	7.2						
25		0.59	7.0						
26		0.59	7.8						
27		0.67	7.6						
28		0.61	7.2						
29		0.60	7.4						
30		0.59	7.1						
31									
AVERAGE (29-36)		0.57							26
HIGHEST VALUE OF MONTH (37-44)		0.73	8.2						26
LOWEST VALUE OF MONTH (45-52)		0.40	7.0						26
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010148

050

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 3 OF 4

I.duPont deNemours & Co.
215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0010103128 (1-7) PERMIT NUMBER

002 003 (8-10) OUTFALL/ FAC. NO.

0987 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH	TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400	C	00547	C	70301		00940
SAMPLE TYPE (22-23)	Permit Cond.	CO			24		24		24
	Monitored	CO			24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7			2/30		1/30		1/30
	Monitored	7/7			2/30		1/30		1/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE			600		67000		2000
	Daily Max. (37-44)	NONE			900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day	lb/day
1		0.48							
2		0.44							
3		0.53							
4		0.77							
5		0.55							
6		0.68							
7		0.61							
8		0.69				260		50 000	70
9		0.58							
10		0.45							
11		0.55							
12		0.58							
13		0.60							
14		0.65				60			
15		0.72							
16		0.59							
17		0.61							
18		0.72							
19		0.65							
20		0.65							
21		0.66							
22		0.58							
23		0.59							
24		0.56							
25		0.63							
26		0.63							
27		0.70							
28		0.69							
29		0.64							
30		0.64							
31									
AVERAGE (29-36)		0.61				160		50000	70
HIGHEST VALUE OF MONTH (37-44)		0.77				260			
LOWEST VALUE OF MONTH (45-52)		0.44				60			
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0	0

(SIGNATURE OF CERTIFIED OPERATOR (55))

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

051

DEC 0010118

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 0 0 0 0329	002 / 003	09 8 7	ENTER: 1 for NPDES, 2 for SPC-15	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) (13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/30		2/30		2/30		2/30
	Monitored		1/30		2/30		2/30		2/30
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Avg. (37-44)		52000		300		200		NONE
DATE / MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3									
4									
5									
6									
7									
8			33000		1		12		29
9									
10									
11									
12									
13									
14					2		11		27
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			33000		2		12		28
HIGHEST VALUE OF MONTH (37-44)					2		12		29
LOWEST VALUE OF MONTH (45-52)					1		11		27
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

PERMITTEE NAME/ADDRESS
NAME [illegible] AND COM
ADDRESS [illegible]
[illegible] EAST [illegible] IN 463 2
FACILITY
LOCATION
ATTN: MR. [illegible]

(2-16) IN0000329 — PERMIT NUMBER
(17-19) 002 A — DISCHARGE NUMBER

F - FINAL
E. I. DUPONT DENEMOURS & CO.

053

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	09	01	TO	87	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	24	26				
				**** ****				DEG.C		WIDE/MONTH	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		6.7	******	8.0				
				**** ****				SU		DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.04	0.08		******	******	******				
				MGD				**** ****		DAILY	
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Robert W. Porter
Plant Manager
TYPED OR PRINTED

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]
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219-977-4601		10	10	87
AREA CODE	NUMBER	YEAR	MO	DAY

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

DEC 0010448

EPA Form [illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

PERMITTEE NAME/ADDRESS (Including County)
NAME: [illegible] WORKS AND COM
ADDRESS: [illegible]
[illegible] IN 46312
FACILITY: [illegible]
LOCATION: [illegible]
AI INI MKEEPERKELY M.S.

(2-16) PERMIT NUMBER: IN0000329
(17-19) DISCHARGE NUMBER: 003 A

F - FINAL
E. I. DUPONT DENEMOURS & CO.

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	81	09	01	TO	81	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALU	SAMPLE MEASUREMENT	******	******	**** ****	******	26	26	DEG.C		PRICE MONTH	GRAB
PH 00400 1 0 0 EFFLUENT GROSS VALU	SAMPLE MEASUREMENT	******	******	**** ****	7.0	******	8.2	SU		DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALU	SAMPLE MEASUREMENT	0.57	0.73	MGD	******	******	******	**** ****		DAILY	24 H
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE	DATE		
Robert W. Porter Plant Manager	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 OFFICER OR AUTHORIZED AGENT	219-977-4601	10	19	81
TYPED OR PRINTED		AREA CODE / NUMBER	YEAR	MO	DAY

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

DEC 0 148

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE OF

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

055

[illegible] ORS AND COM
[illegible] IN 46312
FACILITY
LOCATION
ATTN: [illegible] M.S.

(2-16)	(17-19)
IN0000329	023 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COMBINED O.F. 2 & 3

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	09	01	TO	87	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, [illegible] (20 [illegible]) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	12	12	LBS/D	******	******	******	***		TWICE/MONTH	COMP24
CHEM. OXYGEN DEMAND (LOW LEVEL) (COD) 00335 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	28	29	LBS/D	******	******	******	***		TWICE/MONTH	COMP24
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	160	260	LBS/D	******	******	******	***		TWICE/MONTH	COMP24
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	2	2	LBS/D	******	******	******	***		TWICE/MONTH	COMP24
CHLORIDE (AS CL) 00940 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	70	70	LBS/D	******	******	******	***		ONCE/MONTH	COMP24
SULFATE, TOTAL (AS SO4) 00945 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	33000	33000	LBS/D	******	******	******	***		ONCE/MONTH	COMP24
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.61	0.77	MGD	******	******	******	***		DAILY	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Robert W. Porter
Plant Manager
TYPED OR PRINTED

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]
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219-977-4601		10	19	87
AREA CODE	NUMBER	YEAR	MO	DAY

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

DEC 0[illegible]118

EPA Form [illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

00841/032087-2341

PAGE OF

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

PERMIT NUMBER (2-16): IN0000329

DISCHARGE NUMBER (17-19): 023 A

F - FINAL
COMBINED U.F. 2 & 3

056

FACILITY: ...ILS AND COM
LOCATION: IN 46312

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	09	01	TO	87	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	50.000	50.000		******	******	******				
				LBS/D				***		ACC/5	24/24
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE	DATE
Robert W. Porter Plant Manager TYPED OR PRINTED	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.)*	D Mayo SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	219-977-4601 AREA CODE / NUMBER	10 / 19 / 87 YEAR / MO / DAY

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

DEC 00 10118

CH-1046 REV. 11/80

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

September 10, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for August, 1987.

Sincerely,

John N. Orban

John N. Orban
Laborayory Supervisor

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329 (1-7) PERMIT NUMBER | 002 (8-10) OUTFALL/FAC. NO. | 0887 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.01	6.8						
2		0.02	7.5						
3		0.06	7.6						
4		0.21	7.6						
5		0.01	7.7						
6		0.15	7.6						
7		0.12	7.7						
8		0.11	7.5						
9		0.03	7.8						
10		0.03	7.5						
11		0.09	7.2						
12		0.17	7.2						26
13		0.10	6.8						
14		0.14	6.6						
15		0.10	7.4						
16		0.03	7.4						
17		0.08	7.8						24
18		0.13	7.5						
19		0.17	7.6						
20		0.13	7.5						
21		0.10	7.4						
22		0.10	7.4						
23		0.12	7.4						
24		0.13	7.5						
25		0.15	7.6						
26		0.19	7.5						
27		0.16	7.4						
28		0.14	7.0						
29		0.04	7.5						
30		0.02	6.5						
31		0.02	6.8						
AVERAGE (29-36)		0.10							25
HIGHEST VALUE OF MONTH (37-44)		0.21	7.8						26
LOWEST VALUE OF MONTH (45-52)		0.01	6.5						24
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Osborn
(SIGNATURE OF CERTIFIED OPERATOR (55)

R.U. Porter
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

9/10/87
(DATE SUBMITTED) (61-66)

058

DEC 0010118

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 2 OF 4

E.I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	003	0887
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.54	7.2						
2		0.54	7.4						
3		0.52	7.5						
4		0.43	7.4						
5		0.50	7.5						
6		0.48	7.4						
7		0.62	7.6						
8		0.61	7.6						
9		0.61	7.6						
10		0.58	7.8						
11		0.53	6.9						
12		0.53	7.8						24
13		0.56	6.9						
14		0.58	6.8						
15		0.65	7.8						
16		0.64	7.9						
17		0.59	7.8						31
18		0.59	7.4						
19		0.58	7.8						
20		0.60	7.6						
21		0.57	7.9						
22		0.56	7.6						
23		0.65	7.2						
24		0.53	6.3						
25		0.62	7.3						
26		0.61	8.0						
27		0.53	8.0						
28		0.65	7.6						
29		0.59	7.8						
30		0.63	8.2						
31		0.49	7.2						
AVERAGE (29-36)		0.57							28
HIGHEST VALUE OF MONTH (37-44)		0.65	8.2						31
LOWEST VALUE OF MONTH (45-52)		0.43	6.3						24
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC0010448

059

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0010103128 (1-7) PERMIT NUMBER

002 003 (8-10) OUTFALL/FAC. NO.

01 87 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	00547	C	70301		00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/31		1/31		1/31
	Monitored	7/7				2/31		1/31		1/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.55								
2		0.56								
3		0.58								
4		0.64								
5		0.51								
6		0.63								
7		0.74								
8		0.72								
9		0.64								
10		0.61								
11		0.62								
12		0.70				120		24700		110
13		0.66								
14		0.72								
15		0.75								
16		0.67								
17		0.67				60				
18		0.72								
19		0.75								
20		0.73								
21		0.67								
22		0.66								
23		0.77								
24		0.66								
25		0.77								
26		0.80								
27		0.69								
28		0.79								
29		0.63								
30		0.65								
31		0.51								
AVERAGE (29-36)		0.67				90		24700		110
HIGHEST VALUE OF MONTH (37-44)		0.80				120				
LOWEST VALUE OF MONTH (45-52)		0.51				60				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

060

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010148

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329 (1-7) PERMIT NUMBER

002 003 (8-10) OUTFALL/FAC. NO.

0887 (11-12) (13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL: 1 (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/31		2/31		2/31		2/31
	Monitored		1/31		2/31		2/31		2/31
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE / UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12			10600		2		12		232
13									
14									
15									
16									
17					1		11		30
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			10600		2		12		131
HIGHEST VALUE OF MONTH (37-44)					2		12		232
LOWEST VALUE OF MONTH (45-52)					1		11		30
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-86

[illegible] ...RS AND COM
[illegible] IN 46312
FACILITY
LOCATION
ATTN: [illegible]

(2-16) IN0000329 — PERMIT NUMBER
(17-19) 002 A — DISCHARGE NUMBER

F - FINAL
E. I. DUPONT DENEMOURS & CO.

062

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	67	06	01	TO	67	05	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	*** ****	******	25	26	DEG.C		TWICE MONTH	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	*** ****	6.5	******	7.8	SU		DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.10	0.21	MGD	******	******	******	*** ****		DAILY	
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
R. W. Porter
Plant Manager
TYPED OR PRINTED

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.)

R. W. Porter
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 219-977-4601
AREA CODE | NUMBER

DATE: YEAR | MO | DAY

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

DEC 00[illegible]448

EPA Form [illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE OF

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

[illegible] AND COM
[illegible] IN 46312
FACILITY
LOCATION
ATTN: [illegible], M.S.

(2-16) IN0000329 PERMIT NUMBER
(17-19) 003 A DISCHARGE NUMBER

F - FINAL
E. I. DUPONT DINEMOURS & CO.

063

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	08	01	TO	87	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	*** ****	******	28	31	DEG.C		PRICE/GRAB MONTH	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	*** ****	6.3	******	8.2	SU		DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.57	0.65	MGD	******	******	******	**** ****		DAILY	
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
R. W. Porter
Plant Manager
TYPED OR PRINTED

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.)

R.W. Porter
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 219-977-4601
AREA CODE | NUMBER

DATE: YEAR | MO | DAY

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

DEC 0010418

EPA Form [illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE OF

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

[illegible] URS AND COM
[illegible]
[illegible] IN 46312
FACILITY
LOCATION
[illegible] M.S.

(2-16) IN0000329 PERMIT NUMBER
(17-19) 023 A DISCHARGE NUMBER

F - FINAL
COMBINEC U.F. 2 & 3

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	08	01	TO	87	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

064

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	12	12	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP 24
CHEM. OXYGEN DEMAND (LOW LEVEL) (COD) 00335 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	131	232	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP 24
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	90	120	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP 24
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	2	2	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP 24
CHLORIDE (AS CL) 00940 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	110	110	LBS/D	******	******	******	*** ****		ONCE/MONTH	COMP 24
SULFATE, TOTAL (AS SO4) 00945 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	10600	10600	LBS/D	******	******	******	*** ****		ONCE/MONTH	COMP 24
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.67	0.80	MGD	******	******	******	*** ****		DAILY	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
R. W. Porter
Plant Manager
TYPED OR PRINTED

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.)

R.W. Porter
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 219-977-4601
AREA CODE | NUMBER

DATE: YEAR | MO | DAY

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

DEC 0010418

EPA Form [illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PAGE OF

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

[illegible] AND COM
IN 46312

(2-16)	(17-19)
IN0000329	023 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COMBINED O.F. 2 & 3

065

MONITORING PERIOD						
	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	06	01	TO	87	06	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible]	SAMPLE MEASUREMENT	24700	24700		******	******	******				
[illegible] VALU				LBS/D				**** ****		[illegible] MONTH	[illegible]
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE	DATE
R. W. Porter Plant Manager	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.)	R W Porter SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	219-977-4601 AREA CODE / NUMBER	YEAR / MO / DAY
TYPED OR PRINTED				

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

DEC 0[illegible]448

EPA Form [illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.) [illegible] PAGE OF

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
NANCY A. MALOLEY, Commissioner

105 South Meridian Street
P.O. Box 6015
Indianapolis 46206-6015
Telephone 317-232-8603

August 18, 1987

Mr. Robert W. Porter, Plant
Manager
E.I. du Pont de Nemours and
Company
East Chicago Plant
5215 Kennedy Avenue
East Chicago, Indiana 46312

Re: Compliance Sampling Inspection
E.I. du Pont du Nemours and Company
East Chicago Plant
East Chicago, Indiana
NPDES Permit No. IN 0000329
June 24, 1987

Dear Mr. Porter:

Enclosed is the Compliance Sampling Inspection report written for the inspection conducted at your facility. A copy of the split sample results will be forwarded to you upon completion of the laboratory analyses.

This report is sent for your information and files. The findings are considered satisfactory.

If you have any questions regarding this matter, please contact Mr. Michael Kuss at 317/243-5142.

Very truly yours,

Joseph C. Stallsmith

Joseph C. Stallsmith, Chief
Operations Branch
Office of Water Management

cc: Lake County Health Department
Mr. O. J. Meyer, Senior Supervisor, Safety, Health, and Environment
Mr. Robert Orban, Certified Operator
U.S. Environmental Protection Agency
Water Division
Arnold E. Leder, Chief
Program Management Unit

United States Environmental Protection Agency
Washington, D. C. 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N 2 5	3 IN0000329 11	12 870624 17	18 S	19 S	20 2

Remarks 21 — 66

Reserved	Facility Evaluation Rating	BI	QA	Reserved
67 — 69	70 4	71 N	72 N	73 — 74 / 75 — 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
E.I. du Pont de Nemours & Company East Chicago Plant 5215 Kennedy Avenue Eash Chicago, Indiana 46312	9:30 [X] AM [ ] PM	March 29, 1985
	Exit Time/Date: 1:00 pm 6-24-87	Permit Expiration Date: February 28, 1990

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
O.J. Meyer John Orban	Senior Supervisor, Safety Health and Environmental Certified Operator	219-977-4653

Name, Address of Responsible Official	Title	Contacted
Robert W. Porter	Plant Manager	[X] Yes [ ] No
	Phone No.: 219-977-4601	

Section C: Areas Evaluated During Inspection
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	N	Pretreatment	S	Operations & Maintenance
S	Records/Reports	S	Laboratory	N	Compliance Schedules	S	Sludge Disposal
S	Facility Site Review	S	Effluent/Receiving Waters	S	Self-Monitoring Program		Other:

Section D: Summary of Findings/Comments *(Attach additional sheets if necessary)*

Both outfalls appeared clear at the time of the inspection. The treatment facility was operating satisfactory.

Laboratory equipment calibration logs should be kept by the operators.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
Michael Kuss	IDEM/Water Management/317-243-5142	June 24, 1987

Signature of Reviewer	Agency/Office	Date

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		[ ] Noncompliance [ ] Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete.

DEC 0010448

NPDES No. IN 0000329

Facility Name E.I. Du Pont Du Nemours & Company

City and State East Chicago, Indiana

Date of Inspection June 24, 1987

DEC 0010448

RECORDS, REPORTS, AND SCHEDULES CHECKLIST

A. PERMIT VERIFICATION

YES	NO	N/A	INSPECTION OBSERVATION CONTAINED IN PERMIT
✓			1. Correct name and mailing address of permittee.
✓			2. Facility is as described in permit.
* ✓			3. Notification has been given to EPA/State of new, different, increased discharges.
		✓	4. Accurate records of influent volume are maintained, when appropriate.
✓			5. Number and location of discharge points are as described in the permit.
✓			6. Name and location of receiving waters are correct.
✓			7. All discharges are permitted.

B. RECORDKEEPING AND REPORTING EVALUATION

✓			RECORDS AND REPORTS ARE MAINTAINED AS REQUIRED BY PERMIT
✓			1. All required information is available, complete, and current; and
✓			2. Information is maintained for required period.
✓			3. Analytical results are consistent with the data reported on the DMR's.
✓			4. Sampling and Analysis Data are adequate and include:
✓			a. Dates, times, location of sampling
✓			b. Name of individual performing sampling
✓			c. Analytical methods and techniques Need to be more specific.
✓			d. Results of analysis
✓			e. Dates of analysis
✓			f. Name of person performing analysis
		✓	g. Instantaneous flow at grab sample stations
✓			5. Monitoring records are adequate and include
✓			a. Flow, pH, D.O., etc. as required by permit
✓			b. Monitoring charts
✓			6. Laboratory equipment calibration and maintenance records are adequate. pH meters & N.L.E. calibrat
✓			7. Plant Records are adequate* and include
✓			a. O&M Manual
✓			b. "As-built" engineering drawings
✓			c. Schedules and dates of equipment maintenance and repairs
✓			d. Equipment supplies manual
✓			e. Equipment data cards

069

* Ag-chem dept. has been shut down, and in outfall 002 has been reduced by approx. 80%

* Required only for facilities built with Federal construction grant funds.

DEC 0 0148

RECORDS, REPORTS, AND SCHEDULES CHECKLIST

D. POTW Pretreatment Requires Review

YES	NO	N/A	THE FACILITY IS SUBJECT TO PRETREATMENT REQUIREMENTS
		✓	1. Status of POTW Pretreatment Program
		✓	a. The POTW Pretreatment Program has been approved by EPA. (If not, is approval in progress? _____)
		✓	b. The POTW is in compliance with the Pretreatment Program Compliance Schedule. (If not, what is due, and intent of the POTW to remedy)
		✓	2. Status of Compliance with Categorical Pretreatment Standards.
		✓	a. How many industrial users of the POTW are subject to Federal or State Pretreatment Standards? _____
		✓	b. Are these industries aware of their responsibility to comply with applicable standards?
		✓	c. Have baseline monitoring reports (403.12) been submitted for these industries?
		✓	i. Have categorical industries in noncompliance (on EMR reports) submitted compliance schedules?
		✓	ii. How many categorical industries on compliance schedules are meeting the schedule deadlines? _____
		✓	d. If compliance deadlines has passed, have all industries submitted 90 day compliance reports?
		✓	e. Are all categorical industries submitting the required semiannual report?
		✓	f. Are all new industrial discharges in compliance with new source pretreatment standards?
		✓	g. Has the POTW submitted its annual pretreatment report?
		✓	h. Has the POTW taken enforcement action against noncomplying industrial users?
		✓	i. Is the POTW conducting inspections of industrial contributors?
		✓	3. Are the industrial users subject to Prohibited Limits (403.5) and local limits more stringent tha EPA in compliance? (If not, explain why, including need for revision limits.)

FACILITY SITE REVIEW CHECKLIST

YES	NO	N/A	
—			17. Hydraulic and/or organic overloads are experienced. Reason for overloads _____
✓			18. Up-to-date equipment repair records are maintained.
✓			19. Dated tags show out of service equipment.
✓			20. Routine and preventive maintenance are scheduled, performed on time.

FLOW MEASUREMENT

A. Flow Measurement Inspection Checklist-General

YES	NO	N/A	
✓			1. Primary flow measurement device is properly installed and maintained.
✓			2. Flow records are properly kept.
✓			3. Sharp drops or increases in flow value are accounted for.
✓			4. Actual flow discharge is measured.
		✓	5. Influent flow is measured before all return lines.
✓			6. Effluent flow is measured after all lines.
✓			7. Secondary instruments (totalizers, recorders, etc.) are properly operated and maintained Check height on "Fin" and flow output on chart weekly
✓			8. Spare parts are stocked.

B. Flow Measurement Inspection Checklist-Flumes -Leopold-Lagco Flume

✓			1. Flow entering flume appears reasonably well distributed across the channel and free of turbulence, boils, or other distortions.
✓			2. Cross-section velocities at entrance are relatively uniform.
✓			3. Flume is clean and is free of debris or deposits.
✓			4. All dimensions of flume are accurate.
✓			5. Side walls of flume are vertical and smooth.
✓			6. Sides of flume throat are vertical and parallel.
✓			7. Flume head is being measured at proper location.
✓			8. Measurement of flume head is zeroed to flume crest.
* ✓			9. Flume is of proper size to measure range of existing flow.
✓			10. Flume is operating under free-flow conditions over existing range of flows.

* Outfall 002 flume is too large for the expected range of flows. The ag-chem section of the plant is shut down and the flows are greatly reduced.

* LABORATORY QUALITY ASSURANCE CHECKLIST

A. General

YES	NO	N/A	
			1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures

			1. EPA approved analytical testing procedures are used.
			2. If alternative analytical procedures are used, proper approval has been obtained.
			3. Calibration and maintenance of instruments and equipment is satisfactory.
			4. Quality control procedures are used.
			5. Quality control procedures are adequate.
			6. Duplicate sample are analyzed _____ % of time.
			7. Spiked samples are used _____ % of time.
			8. Commercial laboratory is used: Name: Northern Laboratories Address: Valparaiso, Indiana Contact: _____ Phone: _____

C. Laboratory Facilities and Equipment

			1. Proper grade distilled water is available for specific analysis.
			2. Dry, uncontaminated compressed air is available.
			3. Fume hood has enough ventilation capacity.
			4. The laboratory has sufficient lighting.
			5. Adequate electrical sources are available.
			6. Instruments/equipment are in good condition.
			7. Written requirements for daily operation of instruments are available.

* Since laboratory is off site the laboratory section was not evaluated

LABORATORY QUALITY ASSURANCE CHECKLIST (continued)

E. Data Handling and Reporting

YES	NO	N/A	
			1. Round-off rules are uniformly applied.
			2. Significant figures are established for each analysis.
			3. Provision for cross-checking calculations is used.
			4. Correct formulas are used to reduce to simplest factors for quick, correct calculations.
			5. Control chart approach and statistical calculations for quality assurance and report are available and followed.
			6. Report forms have been developed to provide complete data documentation and permanent records and to facilitate data processing.
			7. Data are reported in proper form and units.
			8. Laboratory records are kept readily available to regulatory agency for required period of time
			9. Laboratory notebook or preprinted data forms are permanently bound to provide good documentation.
			10. Efficient filing system exists enabling prompt channeling of report copies.

F. Laboratory Personnel

			1. The analyst has appropriate training
			2. The analyst follows the specified procedures
			3. The analyst is skilled in performing analyses

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

August 5, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for July, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

075

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000328	002	0787	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUP: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE \ UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.01	7.6						
2		0.01	7.5						
3		0.01	7.6						
4		0.01	7.9						
5		0.01	8.0						
6		0.02	7.8						24
7		0.02	7.2						
8		0.01	7.0						
9		0.01	7.2						
10		0.01	7.0						
11		0.01	7.6						
12		0.01	7.3						
13		0.04	7.1						25
14		0.14	7.5						
15		0.12	7.0						
16		0.06	7.1						
17		0.08	7.8						
18		0.12	7.0						
19		0.12	8.4						
20		0.09	7.2						
21		0.08	7.4						
22		0.17	7.4						
23		0.09	7.2						
24		0.09	7.0						
25		0.02	7.0						
26		0.03	7.0						
27		0.12	6.9						
28		0.15	7.2						
29		0.01	6.9						
30		0.01	7.7						
31		0.01	8.5						
AVERAGE (29-36)		0.05							25
HIGHEST VALUE OF MONTH (37-44)		0.17	8.5						25
LOWEST VALUE OF MONTH (45-52)		0.01	6.9						24
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orban
(SIGNATURE OF CERTIFIED OPERATOR (55)

R.W. Port
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

8/5/87
(DATE SUBMITTED) (61-66)

076

DEC 0848

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 2 OF 4

E.I.duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	003	0787	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SU: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.69	6.7						
2		0.57	7.6						
3		0.68	7.6						
4		0.66	8.0						
5		0.65	7.6						
6		0.71	7.6						28
7		0.69	8.0						
8		0.67	7.2						
9		0.67	7.4						
10		0.69	7.5						
11		0.73	7.3						
12		0.65	7.5						
13		0.63	8.1						30
14		0.63	7.8						
15		0.30	7.6						
16		0.64	7.3						
17		0.60	7.3						
18		0.60	7.2						
19		0.56	7.2						
20		0.57	7.5						
21		0.52	7.8						
22		0.52	8.1						
23		0.58	7.6						
24		0.58	6.8						
25		0.57	7.1						
26		0.47	7.2						
27		0.51	6.9						
28		0.54	7.1						
29		0.55	6.8						
30		0.45	7.2						
31		0.53	7.3						
AVERAGE (29-36)		0.59							29
HIGHEST VALUE OF MONTH (37-44)		0.73	8.1						30
LOWEST VALUE OF MONTH (45-52)		0.30	6.7						28
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

077

DEC 0158

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 00 0 03 29	002 003	0 7 8 7
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUP — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	Q 00547	C	Q 70301		Q00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/31		1/31		1/31
	Monitored	7/7				2/31		1/31		1/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.70								
2		0.58								
3		0.69								
4		0.67								
5		0.66								
6		0.73				110		11700		90
7		0.71								
8		0.68								
9		0.68								
10		0.70								
11		0.74								
12		0.66								
13		0.67				120				
14		0.77								
15		0.42								
16		0.70								
17		0.68								
18		0.72								
19		0.68								
20		0.66								
21		0.60								
22		0.69								
23		0.67								
24		0.67								
25		0.59								
26		0.50								
27		0.63								
28		0.69								
29		0.56								
30		0.46								
31		0.54								
AVERAGE (29-36)		0.65				120		11700		90
HIGHEST VALUE OF MONTH (37-44)		0.77				120				
LOWEST VALUE OF MONTH (45-52)		0.42				110				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010448

078

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002 083	07	87
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) MO.	(13-14) YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SU: 1 (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/31		2/31		2/31		2/31
	Monitored		1/31		2/31		2/31		2/31
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3									
4									
5									
6			5900		4		12		49
7									
8									
9									
10									
11									
12									
13					1		11		41
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			5900		3		12		45
HIGHEST VALUE OF MONTH (37-44)					4		12		49
LOWEST VALUE OF MONTH (45-52)					1		11		41
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

PERMITTEE NAME/ADDRESS (Include Facility Name, Location, County, State and Zip Code)
NAME: [illegible] AND COM
ADDRESS: [illegible]
[illegible] IN 46312
FACILITY: [illegible]
LOCATION: [illegible]
ALLEN [illegible]

(2-16) IN0000329 — PERMIT NUMBER
(17-19) 003 A — DISCHARGE NUMBER

F - FINAL
E. I. DUPONT DENEMOURS & CO.

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	81	07	01	TO	81	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING (4 Card Only) (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	QUALITY OR CONCENTRATION (4 Card Only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHR 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	**** ****	******	29	30	DEG.C		TWICE/MONTH	GRAB
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	**** ****	6.7	******	8.1	SU		ONLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.59	0.73	MGD	******	******	******	**** ****		ONLY	
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Robert W. Porter
Plant Manager
TYPED OR PRINTED

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.)

Robert W. Porter
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
AREA CODE	NUMBER	YEAR	MO	DAY
219	977-4601	08	05	82

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

RECEIVED
SEP 1 1 1982
AEME

DEC 00010148

081

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM 1-40 WHICH MAY NOT BE USED.)

00022/03.001-2-1

PAGE 1 OF

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

082

PERMITTEE NAME/ADDRESS: [illegible] AND COM
IN 46312
FACILITY
LOCATION
ATTN: [illegible]

(2-16) IN0000329 — PERMIT NUMBER
(17-19) 023 A — DISCHARGE NUMBER

F - FINAL
COMBINED O.F. 2 & 3

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	07	01	TO	87	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	12	12	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP24
CHEM. OXYGEN DEMAND (LOW LEVEL) (COD) 00335 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	45	49	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP24
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	120	120	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP24
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	3	4	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP24
CHLORIDE (AS CL) 00940 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	90	90	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP24
SULFATE, TOTAL (AS SO4) 00945 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	5900	5900	LBS/D	******	******	******	*** ****		TWICE/MONTH	COMP24
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.65	0.77	MGD	******	******	******	*** ****		DAILY	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Robert W. Porter
Plant Manager
TYPED OR PRINTED

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.)

Robert W. Porter
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219	977-4601	08	05	87
AREA CODE	NUMBER	YEAR	MO	DAY

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

DEC 0[illegible]118

EPA Form [illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

00837/032087-2341

PAGE OF

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

FACILITY: AND COM
ADDRESS: IN 46312

(2-16) PERMIT NUMBER: IN0000329

(17-19) DISCHARGE NUMBER: 023 A

F - FINAL
CUMULINEC U.F. 2 & 3

080

MONITORING PERIOD

FROM YEAR (20-21)	MO (22-23)	DAY (24-25)	TO YEAR (26-27)	MO (28-29)	DAY (30-31)
87	07	01	87	07	31

MAJOR

NOTE: Read instructions before completing this form.

		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
	SAMPLE MEASUREMENT	11700	11700		*****	*****	*****				
				LBS/D							
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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.)

Robert W. Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
219	977-4601	08	05	87

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

ISSUE / VALUE

DEC 00010148

EPA Form 3 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM 1-40 WHICH MAY NOT BE USED.)

PAGE OF

CH-1045 REV. 11/80

DU PONT

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

July 16, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for June, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

084

REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002	0687
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.022	7.1						
2		0.010	7.4						
3		0.010	6.9						
4		0.013	7.1						
5		0.014	7.4						
6		0.012	7.3						
7		0.013	8.4						
8		0.015	7.4						
9		0.011	7.9						22
10		0.011	7.6						
11		0.009	7.8						
12		0.008	7.3						
13		0.008	7.0						
14		0.007	7.5						
15		0.009	7.0						
16		0.007	7.2						
17		0.011	7.7						
18		0.008	8.0						
19		0.006	8.4						
20		0.008	8.0						
21		0.007	7.6						
22		0.007	7.4						24
23		0.007	7.9						
24		0.008	7.7						
25		0.007	7.5						
26		0.006	7.6						
27		0.006	7.7						
28		0.006	7.8						
29		0.006	7.5						
30		0.018	6.7						
31									
AVERAGE (29-36)		0.010							23
HIGHEST VALUE OF MONTH (37-44)		0.022	8.4						24
LOWEST VALUE OF MONTH (45-52)		0.006	6.7						22
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orban
(SIGNATURE OF CERTIFIED OPERATOR (55)

✓ R.W. Porter
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

7/16/87
(DATE SUBMITTED) (61-66)

085

DEC 0010718

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 2 OF 4

E.I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	003	0687
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[illegible]	mg/l	lb/day	mg/l	lb/day		°C
1		0.62	7.4						
2		0.30	7.6						
3		0.76	6.8						
4		0.48	7.4						
5		0.60	8.0						
6		0.62	8.5						
7		0.62	8.3						
8		0.62	7.4						
9		0.57	7.5						24
10		0.66	7.4						
11		0.61	7.4						
12		0.56	7.4						
13		0.74	7.4						
14		0.50	7.4						
15		0.54	7.7						
16		0.61	7.6						
17		0.58	7.7						
18		0.58	7.6						
19		0.64	7.6						
20		0.64	7.3						
21		0.57	7.5						
22		0.55	7.5						30
23		0.62	7.3						
24		0.60	7.2						
25		0.56	7.3						
26		0.60	7.1						
27		0.61	7.8						
28		0.68	7.3						
29		0.55	6.8						
30		0.67	7.2						
31									
AVERAGE (29-36)		0.60							27
HIGHEST VALUE OF MONTH (37-44)		0.76	8.5						30
LOWEST VALUE OF MONTH (45-52)		0.30	6.8						24
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

DEC 0610118

086

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 00101 03129 (1-7) PERMIT NUMBER

002 003 (8-10) OUTFALL/ FAC. NO.

06 87 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 8 - WATER SUPPL: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	00547	C	70301		00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/30		1/30		1/30
	Monitored	7/7				2/30		1/30		1/30
EFFLUENT LIMITATIONS	Daily Ave. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.64								
2		0.31								
3		0.77								
4		0.49								
5		0.61								
6		0.63								
7		0.63								
8		0.64								
9		0.58				210		52000		50
10		0.67								
11		0.62								
12		0.57								
13		0.75								
14		0.51								
15		0.55								
16		0.62								
17		0.59								
18		0.59								
19		0.65								
20		0.65								
21		0.58								
22		0.56				310				
23		0.63								
24		0.61								
25		0.57								
26		0.61								
27		0.62								
28		0.69								
29		0.56								
30		0.69								
31										
AVERAGE (29-36)		0.61				260		52000		50
HIGHEST VALUE OF MONTH (37-44)		0.77				310				
LOWEST VALUE OF MONTH (45-52)		0.31				210				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0				087

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

DEC 1988

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002 083	0687
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) MO. (13-14) YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPP: 1 (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/30		2/30		2/30		2/30
	Monitored		1/30		2/30		2/30		2/30
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3									
4									
5									
6									
7									
8									
9			36000		3		10		82
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22					2		9		28
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)			36000		3		10		55
HIGHEST VALUE OF MONTH (37-44)					3		10		82
LOWEST VALUE OF MONTH (45-52)					2		9		28
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

088

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME [illegible] DUPONT DE NEMOURS AND COM

ADDRESS [illegible] KENNEDY

[illegible] CHICAGO IN 46312

FACILITY

LOCATION

[illegible] BICKEL, [illegible]

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

Form Approved
OMB No. 2040-0004
Approval expires 9-30-86

(2-16)	(17-19)
IN0000329	002 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
E. I. DUPONT DENEMOURS & CO.

MAJOR

NOTE: Read instructions before completing this form.

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	05	01	TO	87	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible], WATER [illegible] CENTIGRADE [illegible] GROSS VALU[illegible]	SAMPLE MEASUREMENT	******	******		******	23	24				
	PERMIT REQUIREMENT			*** ****				DEG.C			
[illegible] GROSS VALU[illegible]	SAMPLE MEASUREMENT	******	******		6.7	******	8.4				
	PERMIT REQUIREMENT			*** ****				SU			
[illegible] CONDUIT OR [illegible] TREATMENT PLAN[illegible] GROSS VALU[illegible]	SAMPLE MEASUREMENT	0.010	0.022		******	******	******				
	PERMIT REQUIREMENT	REPORT DAILY AV	REPORT DAILY AV	MGD				*** ****			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

DEC 0010448

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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.*)

Robert W. Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE			DATE		
AREA CODE	NUMBER		YEAR	MO	DAY

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

089

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME E. I. DUPONT DE NEMOURS AND COM

ADDRESS [illegible] KENNEDY

[illegible] CHICAGO IN 46312

FACILITY

LOCATION

[illegible] DIVISION, P.O.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

Form Approved. OMB No. 2040-0004 Approval expires 9-30-86

(2-16)	(17-19)
IN0000329	003 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL

E. I. DUPONT DENEMOURS & CO.

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	06	01	TO	87	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read Instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] WATER [illegible] CHLORIDE [illegible] CROSS VALU	SAMPLE MEASUREMENT	******	******		******	27	30				
	PERMIT REQUIREMENT			**** ****				DEG. C			
[illegible] CROSS VALU	SAMPLE MEASUREMENT	******	******		6.8	******	8.7				
	PERMIT REQUIREMENT			**** ****							
[illegible] TREATMENT PLA [illegible] CROSS VALU	SAMPLE MEASUREMENT	0.60	0.76		******	******	******				
	PERMIT REQUIREMENT			MGD				**** ****			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

DEC 0310448

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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.*)

Robert W. Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE

DATE

YEAR	MONTH	DAY
87	07	17

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

090

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

DEC 0010448

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

Form Approved
OMB No. 2040-0004
Approval expires 9-30-95

NAME [illegible] NEMOURS AND COM
ADDRESS [illegible] KENNEDY
[illegible] CHICAGO IN 46312

FACILITY
LOCATION
[illegible] BINKEL, [illegible]

(2-16) PERMIT NUMBER: IN0000329
(17-19) DISCHARGE NUMBER: 023 A

F - FINAL
COMBINEC D.F. 2 & 3

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	06	01	TO	87	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] (20 LEG. C) [illegible] GROSS VALUE	SAMPLE MEASUREMENT	10	10		******	******	******				
	PERMIT REQUIREMENT			LBS/D				****			
[illegible] DEMAND [illegible] (COD) [illegible] GROSS VALUE	SAMPLE MEASUREMENT	55	82		******	******	******				
	PERMIT REQUIREMENT			LBS/D				****			
[illegible], TOTAL [illegible] GROSS VALUE	SAMPLE MEASUREMENT	260	310		******	******	******				
	PERMIT REQUIREMENT			LBS/D				****			
[illegible] (AS N) [illegible] GROSS VALUE	SAMPLE MEASUREMENT	3	3		******	******	******				
	PERMIT REQUIREMENT			LBS/D				****			
[illegible] (AS CL) [illegible] GROSS VALUE	SAMPLE MEASUREMENT	50	50		******	******	******				
	PERMIT REQUIREMENT			LBS/D				****			
[illegible], TOTAL (AS SO4) [illegible] GROSS VALUE	SAMPLE MEASUREMENT	36000	36000		******	******	******				
	PERMIT REQUIREMENT			LBS/D				****			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT [illegible] GROSS VALUE	SAMPLE MEASUREMENT	0.61	0.77		******	******	******				
	PERMIT REQUIREMENT			MGD				****			

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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.)

Robert W. Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: 219 [illegible]

DATE: [illegible] 87

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

091

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

PERMITTEE NAME/ADDRESS (*Include Facility Name/Location if different*)

NAME [illegible] DE NEMOURS AND COM

ADDRESS [illegible] E. GRANT DR

[illegible] CHICAGO IN 46312

FACILITY

LOCATION

[illegible] JENEL, [illegible]

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-86

(2-16) IN0000329 — PERMIT NUMBER

(17-19) 023 A — DISCHARGE NUMBER

F - FINAL
COMBINEC O.F. 2 & 3

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	06	01	TO	87	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] TOTAL [illegible] (lb/d) [illegible]	SAMPLE MEASUREMENT	52000	52000		******	******	******				
	PERMIT REQUIREMENT			LBS/D				****			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

DEC 0310 0 8

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Robert W. Porter
Plant Manager

TYPED OR PRINTED

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.*)

Robert W. Porter

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE [illegible] AREA CODE NUMBER

DATE: YEAR 87 MONTH [illegible] DAY [illegible]

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

092

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.)

DIVISION OF WATER POLLUTION CONTROL
COMPARISON OF ISBH LABORATORY AND FACILITY LABORATORY RESULTS

Date Of Sampling: 6/11-12/87

Facility: E.I. DUPONT Permit No.: IN

Location: E. CHICAGO Receiving Station: GRAND CAL

PLEASE INCLUDE FLOWS! Combined Limits

	Parameters		NPDES Limits in (lbs/day) ~~mg/l~~		002 mg/L	003 mg/L	LBS 002	LBS 003	LBS TOTAL
	Flow (mgd)					→	0.009	0.61	
*	Ammonia-N	mg/l	(150 - 300)		1.8	0.5	0.1	2.5	3
	Arsenic	ug/l							
*	BOD_5	mg/l	(100 - 200)		2	3	0.2	15.3	16
	Cadmium	ug/l							
*	~~Chlor~~ CHLORIDE	mg/l	(2000 - 4000)		11	13	0.8	66.1	67
	Chrom.-Hex	ug/l							
	Chrom.-Tot	ug/l							
*	COD	mg/l			11	11	0.8	56.0	57
	Copper	ug/l							
	Cyanide-CN	mg/l							
	Fluoride	mg/l							
	Iron	ug/l							
	Lead	ug/l							
	Manganese	ug/l							
	Mercury	ug/l							
	Nickel	ug/l							
	$NO_2 + NO_3 - N$	mg/l							
	Oil and Grease	mg/l							
	pH (lab) S.U.								
	Phenol	ug/l							
	Phos.-P	mg/l							
*	Susp. Solids	mg/l	(600 - 900)		63	32	5	163	168
*	Total ~~Solids~~ D S	mg/l	(67K - 94K)		1210	7740	91	39300	39500
*	Sulfate	mg/l	(39K - 52K)		810	5250	61	26700	26800
	TKN	mg/l							
	TOC	mg/l							
	Zinc	ug/l							
	Fecal Coli./100 ml								
	pH (field) S.U.								
	Chlorine Residue	mg/l							
	D.O.	mg/l							
	Temperature °C								
	Alkaline/Hardness ($CaCO_3$)								

SBH65 039 5/84

DEC 0010448

CH-1046 REV. 11/80

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

May 18, 1987

Technical Support Branch
Office of Water Management
Ind. Dept. of Environmental Management
105 South Meridian Street
Indianapolis, IN 46225

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for April, 1987.

Also inclosed are completed copies of the Federal DMR Forms.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

094

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002	0487	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPP: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD		mg/l	lb/day	mg/l	lb/day		°C
1		0.23	7.4						
2		0.19	8.2						
3		0.20	8.2						
4		0.18	6.5						
5		0.18	7.5						
6		0.15	8.0						7
7		0.21	8.2						
8		0.20	8.5						
9		0.31	7.2						
10		0.18	8.5						
11		0.25	6.8						
12		0.10	7.1						
13		0.34	7.0						
14		0.21	7.0						
15		0.18	8.0						15
16		0.30	7.4						
17		0.20	7.1						
18		0.13	8.7						
19		0.15	8.1						
20		0.22	7.6						
21		0.22	8.8						
22		0.23	8.1						
23		0.21	8.2						
24		0.20	8.3						
25		0.17	7.2						
26		0.16	7.1						
27		0.27	7.4						
28		0.15	8.2						
29		0.24	7.4						
30		0.21	7.8						
31									
AVERAGE (29-36)		0.21							11
HIGHEST VALUE OF MONTH (37-44)		0.34	8.8						15
LOWEST VALUE OF MONTH (45-52)		0.10	6.5						7
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Olson
(SIGNATURE OF CERTIFIED OPERATOR (55)

R.W. Potts
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

5/18/87
(DATE SUBMITTED) (61-66)

095

DEC

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 2 OF 4

E.I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	003	0487	ENTER: 1 for NPDES 2 for SPC-15	ENTER: 1 - INDUSTRY 4 - FEDERAL 5 - WATER SUPP
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/30
	Monitored	7/7	7/7						2/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.51	7.1						
2		0.52	7.6						
3		0.52	7.5						
4		0.48	7.1						
5		0.51	7.4						
6		0.50	7.2						15
7		0.56	7.5						
8		0.37	7.2						
9		0.50	6.7						
10		0.50	7.7						
11		0.52	7.6						
12		0.50	7.2						
13		0.56	7.0						
14		0.43	7.0						
15		0.50	7.0						23
16		0.50	7.0						
17		0.52	7.4						
18		0.52	7.8						
19		0.55	7.0						
20		0.50	6.9						
21		0.51	7.5						
22		0.59	7.5						
23		0.60	7.4						
24		0.54	7.6						
25		0.58	7.6						
26		0.48	7.6						
27		0.50	7.8						
28		0.35	7.6						
29		0.50	7.2						
30		0.54	7.7						
31									
AVERAGE (29-36)		0.51							19
HIGHEST VALUE OF MONTH (37-44)		0.60	7.8						23
LOWEST VALUE OF MONTH (45-52)		0.35	6.7						15
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010148

096

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 00 0 03 29	002 003	04 87	ENTER: 1 for NPDES 2 for SPC-15	ENTER: 1 - INDUSTRY 4 - FEDERAL 5 - WATER SUPP
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	Q 00547	C	Q 70301		Q00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/30		1/30		1/30
	Monitored	7/7				2/30		1/30		1/30
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.74								
2		0.71								
3		0.72								
4		0.66								
5		0.69								
6		0.65				400		45000		60
7		0.77								
8		0.57								
9		0.81								
10		0.68								
11		0.77								
12		0.60								
13		0.90								
14		0.64								
15		0.68				210				
16		0.80								
17		0.72								
18		0.65								
19		0.70								
20		0.72								
21		0.73								
22		0.81								
23		0.81								
24		0.74								
25		0.75								
26		0.64								
27		0.77								
28		0.50								
29		0.74								
30		0.75								
31										
AVERAGE (29-36)		0.71				310				
HIGHEST VALUE OF MONTH (37-44)		0.90				400		45000		60
LOWEST VALUE OF MONTH (45-52)		0.50				210				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010148

097

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 0 0 0 0329	002 / 003	0 4 8 7	ENTER: 1 for NPDES, 2 for SPC-15	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SU
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) (13-14) MO. YR.	(15) 1	(16) 1

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/30		2/30		2/30		2/30
	Monitored		1/30		2/30		2/30		2/30
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE / MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3									
4									
5									
6			33000		2		11		27
7									
8									
9									
10									
11									
12									
13									
14									
15					2		11		28
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)					2		11		28
HIGHEST VALUE OF MONTH (37-44)			33000		2		11		28
LOWEST VALUE OF MONTH (45-52)					2		11		27
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0118

098

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

PERMITTEE NAME AND COUNTY
ADDRESS
CITY, STATE, ZIP: IN 46312
FACILITY
LOCATION
ATTENTION: INSPECTOR

(2-16) PERMIT NUMBER: IN0000329
(17-19) DISCHARGE NUMBER: 002 A

F - FINAL
E. I. DUPONT DENEMOURS & CO.

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	04	01	TO	87	04	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (44)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	**** ****	******	11	15	DEG.C		ONCE/MONTH	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	**** ****	6.5	******	8.8	SU		ONCE/MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.21	0.34	MGD	******	******	******	**** ****		ONCE/MONTH	5
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
R. W. Porter
Plant Manager
TYPED OR PRINTED

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.)

R.W. Porter
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219	977-4601	5	10	[illegible]
AREA CODE	NUMBER	YEAR	MO	DAY

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

ECJ
STAT
HEH

DEC 0 0118

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM 1-40 WHICH MAY NOT BE USED.)

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

PERMITTEE NAME/ADDRESS (Include Facility Name, Location, County, State and Zip Code)
NAME: [illegible] AND COM
ADDRESS: [illegible]
[illegible] IN 46312
FACILITY
LOCATION
ATTN: MR. [illegible]

(2-16) PERMIT NUMBER: IN0000329
(17-19) DISCHARGE NUMBER: 003 A

F - FINAL
E. I. DUPONT DENEMOURS & CO.

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	04	01	TO	87	04	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (1-5)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	**** ****	******	19	23	DEG.C		TWICE/MONTH	GRAB
PH 00400 1 10 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	**** ****	6.7	******	7.8	SU		DAILY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.51	0.60	MGD	******	******	******	**** ****		DAILY	
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
R. W. Porter
Plant Manager
TYPED OR PRINTED

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 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*

R.W. Porter
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219-977-4601		5	18	87
AREA CODE	NUMBER	YEAR	MO	DAY

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

SEE ATTACHED

DECLINATION

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM 7-40 WHICH MAY NOT BE USED.)

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

PERMITTEE NAME: [illegible] AND COM
ADDRESS: [illegible]
EAST [illegible] IN 46312
FACILITY
LOCATION
ATTN: MR. [illegible], M.S.

(2-16) PERMIT NUMBER: IN0000329
(17-19) DISCHARGE NUMBER: 023 A

F - FINAL
COMBINED O.F. 2 6 3

101

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	04	01	TO	87	04	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	11	11	LBS/D	******	******	******	*** ****		TWICE/ MONTH	COMP24
CHEM. OXYGEN DEMAND (LOW LEVEL) (COD) 00335 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	28	28	LBS/D	******	******	******	*** ****		TWICE/ MONTH	COMP24
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	310	400	LBS/D	******	******	******	*** ****		TWICE/ MONTH	COMP24
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	2	2	LBS/D	******	******	******	*** ****		TWICE/ MONTH	COMP24
CHLORIDE (AS CL) 00940 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	60	60	LBS/D	******	******	******	*** ****		ONCE/ MONTH	COMP24
SULFATE, TOTAL (AS SO4) 00945 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	33000	33000	LBS/D	******	******	******	*** ****		ONCE/ MONTH	COMP24
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.71	0.90	MGD	******	******	******	*** ****		DAILY	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Robert W. Potter
Plant Manager
TYPED OR PRINTED

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]
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
219	977-460	5	18	87
AREA CODE	NUMBER	YEAR	MO	DAY

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

DEC 0[illegible]0118

EPA Form 3[illegible] (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM [illegible]40 WHICH MAY NOT BE USED.)

PAGE OF

PERMITTEE NAME [redacted]
NAME [redacted] AND CDM
ADDRESS [redacted]
[redacted] EAST [redacted] IN 46312
[redacted]
FACILITY [redacted]
LOCATION [redacted]

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

Form Approved.
OMB No. 2040-0004
Approval expires 9-30-85

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
IN0000329	023 A

F - FINAL
COMBINED U.F. & [illegible]

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	04	01	TO	87	04	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR

NOTE: Read instructions before completing this form.

PARAMETER (15-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL DISSOLVED (MG/L) 70295 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	45000	45000	LBS/D	*****	*****	*****				
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										
	SAMPLE MEASUREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE	DATE		
R. W. Porter Plant Manager	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)	R.W. Porter SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	219-977-4601 AREA CODE / NUMBER	5 YEAR	18 MO	87 DAY
TYPED OR PRINTED						

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

TYPE HERE

DEC 0 1 0 1 1 8

EPA Form 3320-1 (Rev. 10-79) PREVIOUS EDITION TO BE USED UNTIL SUPPLY IS EXHAUSTED (REPLACES EPA FORM 7540 WHICH MAY NOT BE USED.)

PAGE OF

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

April 21, 1987

Program Support Branch
Water Pollution Control Division
1330 West Michigan Street
Indianapolis, IN 46206

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for March, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	002	03 87	ENTER: 1 for NPDES 2 for SPC-15	ENTER: 1 - INDUSTRY 4 - FEDERAL 5 - WATER SUPPLY
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.10	7.8						8
2		0.25	7.8						
3		0.16	7.1						
4		0.22	7.6						
5		0.22	8.3						
6		0.22	7.7						
7		0.13	8.5						
8		0.19	7.8						
9		0.18	8.0						
10		0.18	7.8						
11		0.14	7.8						
12		0.18	8.8						
13		0.28	6.1						
14		0.28	8.5						
15		0.11	7.4						6
16		0.11	6.9						
17		0.23	7.8						
18		0.28	6.5						
19		0.24	7.2						
20		0.21	7.4						
21		0.18	7.2						
22		0.42	7.2						
23		0.35	7.6						
24		0.29	7.6						
25		0.28	8.2						
26		0.25	7.7						
27		0.25	7.9						
28		0.26	7.5						
29		0.24	7.5						
30		0.29	8.0						
31		0.23	7.0						
AVERAGE (29-36)		0.22							7
HIGHEST VALUE OF MONTH (37-44)		0.42	8.8						8
LOWEST VALUE OF MONTH (45-52)		0.10	6.1						6
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Dolan
(SIGNATURE OF CERTIFIED OPERATOR (55)

R. W. Porter
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

4/21/87
(DATE SUBMITTED) (61-66)

DEC 0010118

104

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 2 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0 0 0 0 3 2 9 (1-7) PERMIT NUMBER

0 0 3 (8-10) OUTFALL/ FAC. NO.

0 3 8 7 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.43	7.5						18
2		0.46	8.7						
3		0.42	7.5						
4		0.47	7.4						
5		0.42	7.7						
6		0.51	7.4						
7		0.40	7.8						
8		0.46	7.7						
9		0.48	7.8						
10		0.48	7.6						
11		0.49	7.2						
12		0.48	6.7						
13		0.41	8.3						
14		0.42	8.3						
15		0.49	6.5						20
16		0.52	6.9						
17		0.55	8.2						
18		0.49	7.1						
19		0.57	7.1						
20		0.52	7.8						
21		0.56	7.0						
22		0.55	7.3						
23		0.55	7.4						
24		0.57	7.5						
25		0.52	7.6						
26		0.49	7.5						
27		0.50	7.5						
28		0.50	7.6						
29		0.48	7.4						
30		0.39	7.3						
31		0.51	7.2						
AVERAGE (29-36)		0.49							19
HIGHEST VALUE OF MONTH (37-44)		0.57	8.7						20
LOWEST VALUE OF MONTH (45-52)		0.40	6.5						18
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 00 0 03 29	002 003	03 87	ENTER: 1 for NPDES 2 for SPC-15	ENTER: 1 - INDUSTRY 4 - FEDERAL 5 - WATER SUPPLY
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	Q 00547	C	Q 70301		Q00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/31		1/31		1/31
	Monitored	7/7				2/31		1/31		1/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.53				10		32000		70
2		0.71								
3		0.58								
4		0.69								
5		0.64								
6		0.73								
7		0.53								
8		0.65								
9		0.68								
10		0.66								
11		0.63								
12		0.66								
13		0.69								
14		0.70								
15		0.60				110				
16		0.63								
17		0.78								
18		0.77								
19		0.81								
20		0.73								
21		0.64								
22		0.97								
23		0.90								
24		0.86								
25		0.80								
26		0.74								
27		0.75								
28		0.76								
29		0.72								
30		0.68								
31		0.74								
AVERAGE (29-36)		0.71				60				
HIGHEST VALUE OF MONTH (37-44)		0.97				110		32000		70
LOWEST VALUE OF MONTH (45-52)		0.53				10				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

(DMR-1 FORM)

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002 083	03 17
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) MO. (13-14) YR.

ENTER: 1 for NPDES, 2 for SPC-15 [1] (15)

ENTER: [1] (16) 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/31		2/31		2/31		2/31
	Monitored		1/31		2/31		2/31		2/31
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1			21000		1		12		30
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15					1		11		47
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)					1		12		39
HIGHEST VALUE OF MONTH (37-44)			21000		1		12		47
LOWEST VALUE OF MONTH (45-52)					1		11		30
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

CH-1046 REV 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
G. M. Behm, " " "

March 13, 1987

Program Support Branch
Water Pollution Control Division
1330 West Michigan Street
Indianapolis, IN 46206

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for February, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

DEC 0010448

108

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 1 OF 4

E.I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329	002	0287
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/28
	Monitored	7/7	7/7						2/28
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.18	7.9						
2		0.19	7.7						
3		0.32	7.6						10
4		0.30	7.4						
5		0.17	8.6						
6		0.21	8.1						
7		0.32	7.0						
8		0.48	7.9						
9		0.17	7.9						
10		0.26	7.9						
11		0.19	8.2						12
12		0.22	8.4						
13		0.27	7.7						
14		0.09	7.8						
15		0.09	7.6						
16		0.52	8.2						
17		0.52	7.5						
18		0.18	7.8						
19		0.44	7.9						
20		0.34	7.9						
21		0.34	7.5						
22		0.08	8.0						
23		0.23	8.1						
24		0.07	8.0						
25		0.16	8.1						
26		0.15	7.9						
27		0.15	8.0						
28		0.08	8.0						
~~29~~									
~~30~~									
~~31~~									
AVERAGE (29-36)		0.24							11
HIGHEST VALUE OF MONTH (37-44)		0.52	8.6						12
LOWEST VALUE OF MONTH (45-52)		0.07	7.0						10
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orban
(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

3/14/87
(DATE SUBMITTED) (61-66)

DEC 0010448

109

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 2 OF 4

E.I. duPont deNemours & Co
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0000329 (1-7) PERMIT NUMBER | 003 (8-10) OUTFALL/FAC. NO. | 0287 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15 — 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL — 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/28
	Monitored	7/7	7/7						2/28
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.42	8.0						
2		0.39	7.5						
3		0.42	7.2						14
4		0.44	7.5						
5		0.48	8.1						
6		0.45	7.3						
7		0.56	7.5						
8		0.54	7.7						
9		0.48	8.3						
10		0.50	7.4						
11		0.42	8.3						16
12		0.52	7.6						
13		0.51	7.6						
14		0.54	7.6						
15		0.47	7.4						
16		0.44	7.2						
17		0.44	7.3						
18		0.48	7.6						
19		0.49	7.7						
20		0.43	7.4						
21		0.43	7.6						
22		0.46	7.5						
23		0.49	7.4						
24		0.48	7.3						
25		0.50	7.6						
26		0.47	7.6						
27		0.47	7.4						
28		0.44	7.7						
~~29~~									
~~30~~									
~~31~~									
AVERAGE (29-36)		0.47							15
HIGHEST VALUE OF MONTH (37-44)		0.56	8.3						16
LOWEST VALUE OF MONTH (45-52)		0.39	7.2						14
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 0010103129 (1-7) PERMIT NUMBER

002 003 (8-10) OUTFALL/ FAC. NO.

02 87 (11-12)(13-14) MO. YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		c 00547		c 70301			00940
SAMPLE TYPE (22-23)	Permit Cond.	CO			24		24			24
	Monitored	CO			24		24			24
FREQUENCY (24-28)	Permit Cond.	7/7			2/28		1/28			1/28
	Monitored	7/7			2/28		1/28			1/28
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE			600		67000			2000
	Daily Max. (37-44)	NONE			900		94000			4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.60								
2		0.58								
3		0.74				90		23000		110
4		0.74								
5		0.65								
6		0.66								
7		0.88								
8		1.02								
9		0.65								
10		0.76								
11		0.61				340				
12		0.74								
13		0.78								
14		0.53								
15		0.56								
16		0.96								
17		0.96								
18		0.66								
19		0.93								
20		0.77								
21		0.77								
22		0.54								
23		0.72								
24		0.58								
25		0.66								
26		0.62								
27		0.62								
28		0.52								
~~29~~										
~~30~~										
~~31~~										
AVERAGE (29-36)		0.71				220				
HIGHEST VALUE OF MONTH (37-44)		1.02				340		23000		110
LOWEST VALUE OF MONTH (45-52)		0.52				90				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

I N 0 0 0 0329	002 003	0 2 8 7	ENTER: 1 for NPDES 2 for SPC-15	ENTER: 1 - INDUSTRY 4 - FEDERAL 5 - WATER SUPPL
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) (13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		SO_4		NH_3 - N		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/28		2/28		2/28		2/28
	Monitored		1/28		2/28		2/28		2/28
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ MAX UNITS		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3			15000		1		12		44
4									
5									
6									
7									
8									
9									
10									
11					1		10		47
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)					1		11		46
HIGHEST VALUE OF MONTH (37-44)			15000		1		12		47
LOWEST VALUE OF MONTH (45-52)					1		10		44
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0010448

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: R. M. Salemi, C&P, Wilmington
P. Meitner, LEG, "
R. W. Porter, C&P, East Chicago
L. W. Gay, " " "
S. M. Birkel, " " "
G. M. Behm, " " "

February 20, 1987

Program Support Branch
Water Pollution Control Division
1330 West Michigan Street
Indianapolis, IN 46206

RE: NPDES Permit No. 0000329

Gentlemen:

Attached is a copy of the process discharge information for our East Chicago Plant for January, 1987.

Sincerely,

John N. Orban

John N. Orban
Laboratory Supervisor

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 1 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329	002	01	87	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPLY: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12) MO.	(13-14) YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.22	7.4						
2		0.21	7.5						
3		0.21	7.6						
4		0.23	7.5						
5		0.22	8.2						
6		0.28	8.3						
7		0.23	8.4						12
8		0.25	7.6						
9		0.33	8.5						
10		0.19	7.3						
11		0.19	7.2						10
12		0.26	7.6						
13		0.18	7.6						
14		0.19	7.7						
15		0.17	7.6						
16		0.18	7.3						
17		0.18	7.8						
18		0.18	7.2						
19		0.22	7.8						
20		0.26	7.5						
21		0.25	8.2						
22		0.25	8.5						
23		0.20	8.2						
24		0.21	8.5						
25		0.24	8.0						
26		0.20	8.2						
27		0.18	8.4						
28		0.18	8.3						
29		0.18	8.6						
30		0.20	8.6						
31		0.11	8.1						
AVERAGE (29-36)		0.21							11
HIGHEST VALUE OF MONTH (37-44)		0.33	8.6						12
LOWEST VALUE OF MONTH (45-52)		0.11	7.2						10
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

John N. Orlan
(SIGNATURE OF CERTIFIED OPERATOR (55)

R.W. Fort
(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR, AUTHORIZED AGENT)

(219) 977-4619
(PHONE NO.)

7285
(CERTIFICATION NO.) (56-59)

2/20/87
(DATE SUBMITTED) (61-66)

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 2 OF 4

E. I. duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, IN 46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 00003219	003	01/87	ENTER: 1 for NPDES, 2 for SPC-15: 1	ENTER: 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL: 1
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	(15)	(16)

EFFLUENT CHARACTERISTICS		FLOW	pH						temp.
EFFLUENT NO. (17-21)		50050	00400	C	Q	C	Q		C00010
SAMPLE TYPE (22-23)	Permit Cond.	CO	GR						GR
	Monitored	CO	GR						GR
FREQUENCY (24-28)	Permit Cond.	7/7	7/7						2/31
	Monitored	7/7	7/7						2/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE							NONE
	Daily Max. (37-44)	NONE	6.0-9.0						NONE
DATE / UNITS		MGD	[redacted]	mg/l	lb/day	mg/l	lb/day		°C
1		0.35	7.6						
2		0.34	7.3						
3		0.37	7.6						
4		0.40	7.8						
5		0.37	7.7						
6		0.23	7.0						
7		0.28	7.0						19
8		0.31	6.8						
9		0.41	7.1						
10		0.45	7.2						
11		0.44	7.2						12
12		0.56	7.8						
13		0.59	7.5						
14		0.61	7.6						
15		0.56	7.7						
16		0.56	7.0						
17		0.63	7.2						
18		0.57	7.4						
19		0.56	7.8						
20		0.57	7.8						
21		0.49	7.9						
22		0.53	7.8						
23		0.42	7.6						
24		0.49	8.0						
25		0.45	7.6						
26		0.44	7.6						
27		0.35	8.2						
28		0.44	8.2						
29		0.44	8.3						
30		0.41	8.1						
31		0.35	7.3						
AVERAGE (29-36)		0.45							16
HIGHEST VALUE OF MONTH (37-44)		0.63	8.3						19
LOWEST VALUE OF MONTH (45-52)		0.23	6.8						12
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0	0						0

(SIGNATURE OF CERTIFIED OPERATOR (55))

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING (DMR-1 FORM)
REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS

SHEET 3 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN 00 0 03 28	002 003	01 87	ENTER: 1 for NPDES 2 for SPC-15	ENTER: 1 - INDUSTRY 4 - FEDERAL 5 - WATER SUPPL
(1-7) PERMIT NUMBER	(8-10) OUTFALL/ FAC. NO.	(11-12)(13-14) MO. YR.	1 (15)	1 (16)

EFFLUENT CHARACTERISTICS		FLOW	pH		TSS		TDS			Cl
EFFLUENT NO. (17-21)		50050	00400		C	Q 00547	C	Q 70301		Q00940
SAMPLE TYPE (22-23)	Permit Cond.	CO				24		24		24
	Monitored	CO				24		24		24
FREQUENCY (24-28)	Permit Cond.	7/7				2/31		1/31		1/31
	Monitored	7/7				2/31		1/31		1/31
EFFLUENT LIMITATIONS	Daily Avg. (24-36)	NONE				600		67000		2000
	Daily Max. (37-44)	NONE				900		94000		4000
DATE / UNITS		MGD	HI	LOW	mg/l	lb/day	mg/l	lb/day		lb/day
1		0.57								
2		0.55								
3		0.58								
4		0.63								
5		0.59								
6		0.51								
7		0.51				70		19000		60
8		0.56								
9		0.74								
10		0.64								
11		0.63				60				
12		0.82								
13		0.77								
14		0.80								
15		0.73								
16		0.74								
17		0.81								
18		0.75								
19		0.78								
20		0.83								
21		0.74								
22		0.78								
23		0.62								
24		0.70								
25		0.69								
26		0.64								
27		0.53								
28		0.62								
29		0.62								
30		0.61								
31		0.46								
AVERAGE (29-36)		0.66	X			70				
HIGHEST VALUE OF MONTH (37-44)		0.83		X		70		19000		60
LOWEST VALUE OF MONTH (45-52)		0.46	X			60				
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)		0				0		0		0

(SIGNATURE OF CERTIFIED OPERATOR (55)

(60) (SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT)

(PHONE NO.)

(CERTIFICATION NO.) (56-59)

(DATE SUBMITTED) (61-66)

DEC 0010448

INDIANA STREAM POLLUTION CONTROL BOARD MONTHLY MONITORING REPORT FOR SPC-15 OR NPDES DISCHARGE PERMITS (DMR-1 FORM)

SHEET 4 OF 4

E.I.duPont deNemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana
46312

PLEASE COMPLETE AND SUBMIT TWO COPIES AT THE END OF EACH MONTH. THIS REPORT MUST REACH THE STREAM POLLUTION CONTROL BOARD OFFICE BY THE 28TH OF THE FOLLOWING MONTH.

IN0000329 (1-7) PERMIT NUMBER

002 083 (8-10) OUTFALL/ FAC. NO.

01 87 (11-12) MO. (13-14) YR.

ENTER: 1 for NPDES, 2 for SPC-15: 1 (15)

ENTER: 1 (16) 1 - INDUSTRY, 4 - FEDERAL, 5 - WATER SUPPL

EFFLUENT CHARACTERISTICS		SO_4		$NH_3 - N$		BOD		COD	
EFFLUENT NO. (17-21)		c	00945	c	00610	c	00310	c	00340
SAMPLE TYPE (22-23)	Permit Cond.		24		24		24		24
	Monitored		24		24		24		24
FREQUENCY (24-28)	Permit Cond.		1/31		2/31		2/31		2/31
	Monitored		1/31		2/31		2/31		2/31
EFFLUENT LIMITATIONS	Daily Avg. (29-36)		39000		150		100		NONE
	Daily Max. (37-44)		52000		300		200		NONE
DATE \ UNITS (MAX)		mg/l	lb/day	mg/l	lb/day	mg/l	lb/day	mg/l	lb/day
1									
2									
3									
4									
5									
6									
7			15000		1		27		57
8									
9									
10									
11					1		13		33
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
AVERAGE (29-36)					1		20		45
HIGHEST VALUE OF MONTH (37-44)			15000		1		27		57
LOWEST VALUE OF MONTH (45-52)					1		13		33
NO. OF TIMES MAX. EFFLUENT LIMITATIONS EXCEEDED (53-54)			0		0		0		0

DEC 0610448

#27 + 28

Laboratory Notebook "E"
No. 21770

DEC 0010442

001

Book No. E 21770

CONFIDENTIAL

PROPERTY OF

E. I. DU PONT DE NEMOURS & COMPANY

Issued to: John N. Orban

Chemicals & Pigments Department

Location: East Chicago, Indiana

Date: 5/14/84

TO BE RETURNED ON REQUEST

Research Costs Time and Money
Protect This Investment

DISCUSS NEW PRODUCTS AND PROCESSES ONLY WHEN
YOUR WORK REQUIRES IT

DEC 0010442

RULES FOR RECORDING EXPERIMENTS

1. Original records are to be kept in officially issued notebooks in nonfading water and solvent resistant black ink. Ball-point pens supplied through Company storerooms meet these specifications. **Do not use felt-tip markers.**

2. Each notebook page when filled in, including pages with inserts, must be signed and dated by the experimenter in the space provided. The scientist must sign for all work done under his direction, including the work of the technician. The name of the technician helping in an experiment should be noted, and the technician should sign any entry he makes.

3. Each notebook page when filled in must be read and signed by a witness not directly involved in the work performed, but who understands the purpose of the experiment and results obtained. The witness should sign on the same day as the experimenter; or if this is impossible, as soon thereafter as feasible.

4. Entries should be chronological as far as possible. Where the record of the experiment extends over several pages which are not consecutive, e.g., as when analyses are returned after another experiment has been started, a cross reference should be added to the original page. When entries on a single experiment do not completely fill a page, the remainder of the blank page should be ruled out.

5. The bound notebook must be preserved intact. In no case should any page or part of a page be removed.

6. No erasures are permitted in the record. Any corrections or changes must be made by cancellation, leaving the original entry legible.

7. Any inserts should be signed and witnessed and preferably attached to a blank page. They should be taped, or glued in place, preferably with Duco® cement and the words "No Writing Underneath Insert" should be written on the page in ink. Notebook and page numbers should be recorded on each insert. If it is necessary to attach inserts such as analytical slips and test reports to a page on which data have already been recorded, they should be attached so that no writing on the page is obscured.

8. Inserted material such as graphs, charts, typed data, films, samples, etc., should have writing on one side only, and preferably, should not be larger than one notebook page. **Any insert larger than a page should be folded so that it lies within the boundaries of the open notebook and should not cover the writing on the page when folded back.**

9. Entries should not be made within the margins provided on the page. The margins are provided for clamps used in the annual microfilming for all uncompleted notebooks.

TITLE FLOWS DATE MAY 1984 Page No. 1

PURPOSE Book No. E 21770

DATE	MUNICIPAL WATER IN NORTH METER GPM	CENTER METER GPM	SOUTH METER GPM	TOTAL GPM	TOT MGD	001 OUT GPM	MGD	002 + 003 OUT 002 GPM	003 GPM	002 + 003 GPM	TOT MGD	SANITARY GPM	
1	1040	60	30	1130	1.6	*1380 ~~0~~	2.0	740	240	980	1.4	65	
2	1090	60	20	1170	1.7	*1380 ~~0~~	2.0	730	250	980	1.4	68	
* 3	1060	80	30	1170	1.7	1380 ~~640~~ *	2.0 ~~0.9~~	770	250	1020	1.5	69	
* 4	1060	60	30	1150	1.7	1650	2.4	770	140	910	1.3	67	
5	1000	0	0	1000	1.4	1280	1.8	600	90	690	1.0	66	S
6	990	0	0	990	1.4	*1380 ~~80~~	2.0	570	150	720	1.0	65	S
7	1040	30	10	1080	1.6	*1380 ~~20~~	2.0	660	90	750	1.1	64	
* 8	990	120	50	1160	1.7	*1380 ~~0~~	2.0	750	80	830	1.2	60	
9	1010	210	100	1320	1.9	*1380 ~~740~~	2.0	1070	140	1210	1.7	58	
* 10	930	180	90	1200	1.7	840	1.2	890	190	1080	1.6	61	
11	910	50	20	980	1.4	1360	2.0	620	80	700	1.0	61	
12	1000	30	10	1040	1.5	2070	3.0	600	60	660	1.0	60	S
13	1010	20	10	1040	1.5	1460	2.1	610	60	670	1.0	57	S
* 14	1060	20	10	1090	1.6	1640	2.4	610	270	880	1.3	58	
* 15	1030	10	0	1040	1.5	1560	2.3	570	160	730	1.1	56	
16	1070	70	30	1170	1.7	1540	2.2	780	60	840	1.2	54	
17	1210	50	20	1280	1.8	1620	2.3	1030	60	1090	1.6	57	
18	1240	100	40	1380	2.0	1580	2.3	710	160	870	1.3	57	
* 19	1280	130	60	1470	2.1	1560	2.3	870	320	1190	1.7	66	S
20	1230	80	30	1340	1.9	1570	2.3	750	350	1100	1.6	61	S
* 21	1250	40	20	1310	1.9	1520	2.2	700	320	1020	1.5	77	
22	1250	60	30	1340	1.9	1480	2.1	750	370	1120	1.6	116	
* 23	1270	70	30	1370	2.0	1580	2.3	750	380	1130	1.6	94	
24	1240	60	30	1330	1.9	1520	2.2	740	390	1130	1.6	91	
25	1240	50	20	1310	1.9	1420	2.0	700	380	1080	1.6	98	
26	1190	30	10	1230	1.8	1270	1.8	560	380	940	1.4	88	S
27	1220	20	10	1250	1.8	1100	1.6	600	360	960	1.4	92	S
* 28	1250	60	30	1340	1.9	1040	1.5	810	360	1170	1.7	110	S
29	1270	60	30	1360	2.0	910	1.3	780	360	1140	1.6	100	
30	1240	60	30	1330	1.9	680	1.0	740	360	1100	1.6	94	
31	1180	20	10	1210	1.7	1520	2.2	700	360	1060	1.5	91	

SANIT.
BACKFLOW 5/1 1605983
6/1 "
7/1 "

SANITARY 6/1 6212569
5/1 6179712
3285700

DEC0010442

EXPERIMENTER John N. Orlan

DATE 6/4/84

X ESTIMATED

WITNESSED BY

DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

2 Page No. TITLE LOADINGS DATE MAY 1984

21770 Book No. PURPOSE

DATE	MUNICIPAL IN mg/L	FLOW FACTOR	① #/DAY	002 OUTFALL mg/L	FLOW FACTOR	#/DAY	003 OUTFALL mg/L	FLOW FACTOR	#/DAY	002 & 003 ② #/DAY	NET ②-① #/DAY	NET (10) ROUNDED #/DAY
3	0	12.24	0	13	9.24	120	25	3.00	75	195	195	200
4		10.92		5	9.24	46	17	1.68	29	75	75	80
8		9.96		5	9.00	45	9	0.96	9	54	54	50
10		12.96		4	10.68	43	29	2.28	66	109	109	110
14		10.56		10	7.32	73	14	3.24	45	119	119	120
15		8.76		6	6.84	41	30	1.92	58	99	99	100
19		14.28		5	10.44	52	86	3.84	330	382	382	380
21		12.24		5	8.40	42	22	3.84	84	126	126	130
23		13.56		6	9.00	54	37	4.56	169	223	223	220
28		14.04		10	9.72	97	26	4.32	112	210	210	210
												(1000)
3	180		2203	497		4592	4480		13440	18032	15829	16000
4	210		2293	724		6690	3200		5376	12066	9773	10000
8	230		2291	306		2754	540		518	3272	982	1000
10	181		2346	435		4646	2301		5246	9892	7546	8000
14	190		2006	890		6515	2114		6849	13364	11358	11000
15	190		1664	505		3454	1701		3266	6720	5056	5000
19	212		3027	592		6180	4942		18977	25158	22130	22000
21	216		2644	639		5368	6703		25740	31107	28463	28000
23	188		2549	531		4779	8320		37939	42718	40169	40000
28	210		2948	1253		12179	8904		38465	50644	47696	48000
												(10)
3	11		135	39		360	17		51	411	277	280
4	11		120	64		591	14		24	615	495	500
8	11		110	18		162	11		11	173	63	60
10	11		143	21		224	35		80	304	162	160
14	11		116	18		132	40		130	261	145	150
15	11		96	20		137	28		54	191	94	90
19	11		157	41		428	21		81	509	352	350
21	11		135	18		151	13		50	201	66	70
23	11		149	18		162	11		50	212	63	60
28	11		154	71		690	12		52	741	588	590

EXPERIMENTER John M. Colson DATE 6/4/84

WITNESSED BY DATE

DEC 0010442

006

TITLE LOADINGS DATE MAY 1984 Page No. 3

PURPOSE Book No. E 21770

	DATE	MUNICIPAL IN		①	002 OUTFALL			003 OUTFALL			002 + 003 ②	NET ②-①	NET ROUNDED	
		mg/L	FLOW FACTOR	#/DAY	mg/L	FLOW FACTOR	#/DAY	mg/L	FLOW FACTOR	#/DAY	#/DAY	#/DAY	#/DAY	
SO4	3	51		624	244		2255	3185		9555	11810	11185	11000	(0.
	4	33		360	237		2190	2142		3599	5788	5428	5000	
	8	49		488	138		1142	395		379	1621	1133	1000	
	10	30		389	252		2691	1570		3580	6271	5882	6000	
	14	28		296	391		2862	1418		4594	7456	7161	7000	
	15	45		394	228		1560	1202		2308	3867	3473	3000	
	19	49		700	279		2913	3395		13037	15950	15250	15000	
	21	37		452	307		2579	4607		17691	20270	19817	20000	
	23	55		746	277		2493	5775		26334	28827	28081	28000	
	28	45		632	449		4364	6045		26114	30479	29847	30000	
P	3	0.00		0.00	0.00		0.00	0.01		0.03	0.03	0.03	0.03	(.0
	4	0.00		0.00	0.00		0.00	0.01		0.02	0.02	0.02	0.02	
	8	0.00		0.00	0.00		0.00	0.01		0.01	0.01	0.01	0.01	
	10	0.00		0.00	0.00		0.00	0.01		0.02	0.02	0.02	0.02	
	14	0.00		0.00	0.00		0.00	0.02		0.06	0.06	0.06	0.06	
	15	0.00		0.00	0.00		0.00	0.02		0.04	0.04	0.04	0.04	
	19	0.00		0.00	0.00		0.00	0.02		0.08	0.08	0.08	0.08	
	21	0.00		0.00	0.00		0.00	0.02		0.08	0.08	0.08	0.08	
	23	0.00		0.00	0.00		0.00	0.02		0.09	0.09	0.09	0.09	
	28	0.00		0.00	0.00		0.00	0.02		0.09	0.09	0.09	0.09	
H_3-N	3	0		0	0.60		5.5	0.0		0.0	5.5	5.5	6	(1)
	4				0.6		5.5	0.6		1.0	6.6	6.6	7	
	8				1.3		11.7	0.0		0.0	11.7	11.7	12	
	10				16.0		170.9	0.3		0.7	171.6	171.6	172	
	14				0.6		4.4	0.6		1.9	6.3	6.3	6	
	15				0.0		0.0	0.0		0.0	0.0	0.0	0	
	19				0.0		0.0	0.0		0.0	0.0	0.0	0	
	21				7.4		62.2	0.0		0.0	62.2	62.2	62	
	23				0.6		5.4	0.0		0.0	5.4	5.4	5	
	28				1.3		12.6	0.0		0.0	12.6	12.6	13	

EXPERIMENTER John H. Orlan DATE 6/4/84

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

4 Page No. TITLE pH, TEMP, OIL & GREASE DATE MAY 1984

21770 Book No. PURPOSE

	PH - 1 HR AVERAGE				001 GRAB			001 GRAB OIL & GREASE	
	002		003						
DATE	HIGH	LOW	HIGH	LOW	TIME	pH	TEMP °C	INTAKE mg/L	OUTFALL mg/L
1	8.0	7.0	8.4	7.3	11 AM	7.1	27	0.4	0.6
2	7.8	7.0	8.0	6.7	6 PM	7.3	27	0.6	0.4
3	7.6	6.9	7.7	6.5	5 PM	7.3	27	1.1	1.3
4	7.7	7.4	8.6	6.4	5 PM	7.3	32	0.9	0.8
5	7.9	7.6	7.5	7.4	6 AM	7.4	20	1.1	0.6
6	7.6	7.3	8.2	7.5	6 PM	7.4	29	1.1	0.4
7	7.7	7.1	7.5	7.5	5 45 PM	7.4	29	0.9	0.6
8	7.4	7.1	7.6	7.5	4 45 PM	7.1	27	0.3	0.6
9	7.6	7.1	7.6	6.8	1 00 PM	7.0	29	0.7	0.7
10	7.8	7.0	7.9	6.8	7 PM	7.0	28	0.4	0.4
11	7.6	7.0	7.7	7.5	7 PM	7.0	25	0.6	0.6
12	7.7	7.1	8.0	7.6	9 PM	7.3	17	0.7	0.5
13	7.4	7.1	8.1	7.7	9 PM	7.5	18	0.3	0.7
14	7.6	7.3	8.5	6.9	11 AM	7.6	18	0.7	0.9
15	7.6	7.4	8.1	7.4	9 PM	7.6	22	0.5	1.2
16	7.6	7.3	7.8	7.7	9 PM	7.4	22	0.9	1.1
17	7.5	7.2	8.0	7.8	5 PM	7.2	27	0.8	0.8
18	7.5	7.1	8.4	6.3	9 PM	7.1	30	0.9	0.6
19	7.4	7.1	8.7	7.1	9 PM	7.4	28	0.3	1.1
20	7.3	7.0	7.8	6.6	9 20 P	7.2	27	0.8	0.9
21	7.6	7.3	8.5	6.6	10 PM	7.2	29	1.5	1.2
22	7.6	7.2	7.9	6.4	9 20 P	7.2	28	0.7	0.7
23	7.5	7.0	8.3	6.8	9 30 A	7.2	26	1.2	0.6
24	7.7	7.1	7.8	7.2	8 30 P	7.2	29	0.5	0.6
25	7.7	7.1	8.8	6.7	4 P	7.1	27	0.5	0.5
26	7.4	7.1	8.7	6.5	5 30 P	7.0	26	0.6	0.3
27	7.3	7.1	8.0	6.9	4 30 P	7.2	28	0.6	0.7
28	7.4	7.1	8.0	7.0	4 15 P	7.3	23	0.6	0.5
29	7.5	7.2	8.2	6.9	12 30 P	7.1	27	0.4	0.5
30	7.8	7.2	7.5	6.9	4 30 P	7.2	29	0.6	0.4
31	7.7	7.3	7.8	6.7	5 P	7.2	25	0.7	0.4

EXPERIMENTER John M. Orban DATE 6/4/84

WITNESSED BY DATE

DEC 0010442

003

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE BOD_5 LOADING DATE MAY/JUN 1984 Page No. 5

PURPOSE Book No. E 21770

MAY 84

DATE	MUNICIPAL IN			002 OUTFALL			003 OUTFALL			002 & 003 ②	NET ②-①	NET ROUNDED
	mg/L	FLOW FACTOR	① #/DAY	mg/L	FLOW FACTOR	#/DAY	mg/L	FLOW FACTOR	#/DAY	#/DAY	#/DAY	#/DAY
3	3.60		44	5.17		48	0.51		2	49	5	5
4	1.49		16	5.25		49	5.39		9	58	41	41
8	4.40		44	6.24		56	5.78		6	62	18	18
10	7.05		91	6.52		70	14.10		32	102	10	10
14	6.40		68	6.88		50	6.72		22	72	5	5
15	6.15		54	6.97		48	5.61		11	58	5	5
19	4.25		61	5.60		58	5.45		21	79	19	19
21	3.63		44	6.35		53	2.08		8	61	17	17
23	4.19		57	8.01		72	1.77		8	80	23	23
28	2.21		31	5.24		51	4.62		20	71	40	40

JUNE 84

DATE	MUNICIPAL IN			002 OUTFALL			003 OUTFALL			002 & 003 ②	NET ②-①	NET ROUNDED
	mg/L	FLOW FACTOR	① #/DAY	mg/L	FLOW FACTOR	#/DAY	mg/L	FLOW FACTOR	#/DAY	#/DAY	#/DAY	#/DAY
1	1.33		17	1.61		14	1.53		7	21	3	3
5	2.48		29	3.31		27	1.86		7	33	4	4
9	4.00		52	8.52		75	1.71		7	82	30	30
11	5.28		73	9.40		90	3.24		14	104	31	31
13	2.49		34	3.33		32	3.13		13	45	11	11
18	2.62		36	3.05		30	2.39		10	40	3	3
22	1.09		~~36~~ 15	0.92		8	1.81		8	16	2	2
23	1.80		22	2.68		22	1.27		6	27	5	5
25	2.28		36	2.28		26	2.51		11	37	1	1
26	2.17		36	4.19		51	0.77		4	54	18	18

DEC 0010442

EXPERIMENTER John N. Osborne DATE 7/9/84 009

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

6 Page No. TITLE LOADINGS DATE JUNE 84

21770 Book No. PURPOSE

	DATE	MUNICIPAL IN mg/L	Flow Factor	① #/DAY	002 OUTFALL mg/L	Flow Factor	#/DAY	003 OUTFALL mg/L	Flow Factor	#/DAY	002 & 003 ② #/DAY	NET ②-① #/DAY	NET ROUNDED #/DAY
S	1	0	12.96	0	12	8.52	102	39	4.44	173	275	275	280
	5		11.64		9	8.04	72	42	3.60	151	224	224	220
	9		13.08		2	8.76	18	22	4.32	95	113	113	110
	11		13.80		3	9.60	29	15	4.20	63	92	92	90
	13		13.68		2	9.48	19	42	4.20	176	195	195	200
	18		13.92		16	9.72	156	20	4.20	84	240	240	240
	22		13.56		18	9.12	164	23	4.44	102	266	266	270
	23		12.48		6	8.04	48	20	4.44	89	137	137	140
	25		15.72		4	11.40	46	28	4.32	121	167	167	170
	26		16.68		13	12.12	158	35	4.56	160	317	317	320
U	1	220		2851	1000		8520	8087		35906	44426	41575	42000
	5	197		2293	1568		4582	7840		28224	32726	30433	30000
	9	225		2943	690		6044	8290		35813	41857	38914	39000
	11	206		2843	901		8650	7776		32659	41309	38466	38000
	13	192		2627	597		5660	12061		50656	56316	53689	54000
	18	134		1865	706		6862	4456		18715	25578	23712	24000
	22	205		2780	846		7716	6944		30831	38547	35767	36000
	23	222		2771	730		5869	8352		37083	42952	40182	40000
	25	182		2861	691		7877	8750		37800	45677	42816	43000
	26	212		3536	1001		12132	8841		40315	52447	48911	49000
C	1	12		156	53		452	19		84	536	380	380
	5	11		128	23		185	13		47	232	104	100
	9	11		144	18		158	11		48	205	60	60
	11	11		152	64		614	17		71	686	534	530
	13	11		150	82		777	18		76	853	702	700
	18	11		153	50		486	13		55	541	387	390
	22	11		149	71		648	19		84	732	583	580
	23	11		137	18		145	19		84	229	92	90
	25	11		173	35		399	28		121	520	370	370
	26	11		183	71		861	18		82	943	759	760

DEC 0010442

EXPERIMENTER John H. Oldham DATE 7/9/84

WITNESSED BY DATE

010

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE LOADINGS DATE JUNE '84 Page No. 7

PURPOSE Book No. E 21770

	DATE	MUNICIPAL IN mg/L	FLOW FACTOR	① #/DAY	002 OUTFALL mg/L	FLOW FACTOR	#/DAY	003 OUTFALL mg/L	FLOW FACTOR	#/DAY	002 + 003 ② #/DAY	NET ②-① #/DAY	NET ROUNDED #/DAY
SO4	1	50		648	366		3118	5499		24416	27534	26886	27000
	5	33		384	286		2299	5382		19375	21675	21291	21000
	9	59		771	400		3504	6080		26266	29770	28998	29000
	11	26		359	411		3946	5712		23990	27936	27577	28000
	13	27		369	208		1972	7985		33537	35509	35139	35000
	18	31		432	147		1429	3125		13125	14554	14122	14000
	22	37		502	270		2462	4664		20708	23171	22669	23000
	23	37		462	298		2396	5800		25752	28148	27686	28000
	25	33		519	144		1642	6031		26054	27696	27177	27000
	26	47		784	65		788	6010		27406	28193	27409	27000
P	1	0.00		0.00	0.00		0.00	0.01		0.04	0.04	0.04	0.04
	5	0.00		0.00	0.00		0.00	0.02		0.07	0.07	0.07	0.07
	9	0.00		0.00	0.00		0.00	0.02		0.09	0.09	0.09	0.09
	11	0.00		0.00	0.00		0.00	0.02		0.08	0.08	0.08	0.08
	13	0.00		0.00	0.00		0.00	0.01		0.04	0.04	0.04	0.04
	18	0.00		0.00	0.00		0.00	0.02		0.08	0.08	0.08	0.08
	22	0.00		0.00	0.00		0.00	0.02		0.09	0.09	0.09	0.09
	23	0.00		0.00	0.00		0.00	0.02		0.09	0.09	0.09	0.09
	25	0.00		0.00	0.00		0.00	0.01		0.04	0.04	0.04	0.04
	26	0.00		0.00	0.00		0.00	0.02		0.09	0.09	0.09	0.09
NH_3-N	1	0		0	0.6		5.1	0.0		0.0	5.1	5.1	5
	5				0.0		0.0	0.0		0.0	0.0	0.0	0
	9				15.0		131	0.0		0.0	131	131	131
	11				5.0		48	0.0		0.0	48	48	48
	13				0.5		4.8	0.0		0.0	4.8	4.8	5
	18				1.0		9.7	0.6		2.5	12.2	12.2	12
	22				2.0		18.2	0.0		0.0	18.2	18.2	18
	23				2.0		16.1	0.0		0.0	16.1	16.1	16
	25				0.0		0.0	0.6		2.6	2.6	2.6	3
	26				2.0		24.2	0.0		0.0	24.2	24	24

DEC 0010442

EXPERIMENTER John N. Dolan DATE 2/9/84

WITNESSED BY DATE

011

E. I. DU PONT DE NEMOURS & CO. (INC.)

8 Page No. TITLE FLOWS DATE JUNE 84

21770 Book No. PURPOSE

	MUNICIPAL WATER IN					001 OUT		002 + 003 OUT				SANITARY
DATE	NORTH METER GPM	CENTER METER GPM	SOUTH METER GPM	TOTAL GPM	TOT MGD	GPM	MGD	002 GPM	003 GPM	002 + 003 GPM	002 + 003 MGD	GPM
X 1	1250	30	10	1290	1.9	1900	2.7	710	370	1080	1.6	91
2	1220	30	10	1260	1.8	2020	2.9	700	350	1050	1.5	79
3	1250	40	20	1310	1.9	2100	3.0	720	350	1070	1.5	74
4	1200	30	10	1240	1.8	2040	2.9	690	370	1060	1.5	77
X 5	1200	50	20	1270	1.8	1780	2.6	670	300	970	1.4	77
6	1170	140	70	1380	2.0	1290	1.9	750	320	1070	1.5	79
7	1210	40	20	1270	1.8	1460	2.1	660	410	1070	1.5	76
8	1230	60	30	1320	1.9	1150	1.7	720	390	1110	1.6	85
X 9	1230	50	20	1300	1.9	1210	1.7	730	360	1090	1.6	79
10	1200	50	20	1270	1.8	1110	1.6	710	350	1060	1.5	73
X 11	1230	70	30	1330	1.9	1290	1.9	800	350	1150	1.7	94
12	1190	80	40	1310	1.9	1300	1.9	810	380	1190	1.7	50
X 13	1230	70	30	1330	1.9	990	1.4	790	350	1140	1.6	91
14	1230	40	20	1290	1.9	1330	1.9	730	340	1070	1.5	77
15	1210	30	10	1250	1.8	1180	1.7	760	380	1140	1.6	75
16	1180	30	20	1230	1.8	1440	2.1	770	380	1150	1.7	69
17	1160	30	20	1210	1.7	1450	2.1	830	340	1170	1.7	67
X 18	1240	50	20	1310	1.9	1160	1.7	810	350	1160	1.7	72
19	1220	50	20	1290	1.9	1090	1.6	820	330	1150	1.7	66
20	1220	40	20	1280	1.8	1110	1.6	740	340	1080	1.6	62
21	1220	70	30	1320	1.9	1110	1.6	790	380	1170	1.7	65
X 22	1180	60	30	1270	1.8	1100	1.6	760	370	1130	1.6	67
X 23	1170	20	10	1200	1.7	1150	1.7	670	370	1040	1.5	69
24	1130	20	10	1160	1.7	1700	2.5	660	340	1000	1.4	64
X 25	1240	110	60	1410	2.0	1990	2.9	950	360	1310	1.9	65
X 26	1260	120	70	1450	2.1	1920	2.8	1010	380	1390	2.0	66
27	1260	110	60	1420	2.0	1830	2.6	920	360	1280	1.8	62
28	1230	110	60	1400	2.0	1800	2.6	890	360	1250	1.8	60
29	1250	120	70	1440	2.1	1560	2.3	940	360	1300	1.9	56
30	1200	70	50	1320	1.9	2140	3.1	840	330	1170	1.7	56

SAN 7/1 6243442
6/1 6212569
3087300

EXPERIMENTER John N Orlan DATE 7/9/84

WITNESSED BY DATE

DEC 0010442

012

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE pH, TEMP, OIL + GREASE DATE JUNE 84 Page No. 9

PURPOSE Book No. E 21770

	pH 1 HOUR AVERAGE				001 GRAB			001 GRAB OIL + GREASE	
	002		003						
DATE	HIGH	LOW	HIGH	LOW	TIME	pH	TEMP °C	INTAKE mg/L	OUTFALL mg/L
1	7.9	7.3	8.0	6.9	6 A	7.5	21	0.9	0.7
2	7.6	7.4	8.2	7.2	9 p	7.7	23	0.9	0.5
3	7.6	7.4	8.1	6.7	5 45 p	7.8	27	0.8	0.4
4	7.6	7.5	7.8	6.9	4 50 p	7.6	32	1.1	1.2
5	7.6	7.4	7.9	6.6	6 45 p	7.6	32	0.9	0.4
6	7.6	7.4	8.6	6.7	12 05 A	7.4	32	1.1	0.7
7	7.7	7.4	8.2	6.7	4 20 p	7.3	38	0.6	0.4
8	7.7	7.4	7.8	7.1	8 A	7.2	33	0.5	0.6
9	7.9	7.4	7.3	7.1	9 p	7.4	34	1.1	0.4
10	7.8	7.3	7.1	7.0	9 p	7.5	38	0.5	1.0
11	7.5	7.3	7.4	7.1	6 p	7.1	30	2.5	2.9
12	7.6	7.4	7.4	7.2	9 p	7.2	30	1.6	1.2
13	7.7	7.3	7.7	6.9	10 p	7.1	35	1.1	1.0
14	7.6	7.4	8.0	7.1	8 p	7.3	32	1.7	1.1
15	7.6	7.0	7.7	7.0	9 30 p	7.2	31	0.8	1.0
16	7.5	7.1	7.6	7.2	8 30 p	7.3	31	0.8	0.8
17	7.6	7.3	7.5	7.3	9 15 p	7.5	37	2.1	2.3
18	7.6	7.2	7.8	7.4	1 00 p	7.5	38	1.1	1.2
19	7.7	7.4	7.7	7.0	9 p	7.5	37	0.5	0.2
20	7.6	7.4	8.1	7.3	1 p	7.3	38	0.7	0.3
21	7.6	7.5	7.9	7.4	2 p	7.5	38	0.4	0.6
22	7.7	7.4	7.5	7.1	5 15 p	7.1	34	0.7	0.7
23	7.6	7.4	7.5	7.1	2 p	7.4	35	0.5	0.8
24	7.5	7.3	7.3	7.0	1 30 p	7.5	37	0.5	0.5
25	7.6	7.2	7.6	6.9	2 p	7.7	32	1.2	1.0
26	7.6	7.1	7.3	6.8	1 30 p	7.6	32	0.6	0.4
27	7.6	7.4	7.3	7.1	4 45 p	7.6	33	0.6	0.6
28	7.6	7.3	7.7	7.1	9 p	7.5	33	0.7	0.6
29	7.9	7.4	7.6	7.0	4 p	7.4	33	0.5	0.4
30	8.0	7.7	7.7	6.8	4 05 p	7.6	32	1.1	1.3

DEC 0010442

EXPERIMENTER John N. Orban DATE 7/9/84

WITNESSED BY DATE

013

E. I. DU PONT DE NEMOURS & CO. (INC.)

10 Page No. TITLE FLOWS DATE JULY 84

21770 Book No. PURPOSE

	MUNICIPAL WATER IN				OUT	002 & 003 OUTFALLS			SANITARY
DATE	NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	001 TOT MGD	002 MGD	003 MGD	TOTAL MGD	MGD
* 1	1.70	0.03	0.05	1.78	2.73	1.09	0.52	1.61	0.077
2	1.69	0.01	0.05	1.75	2.66	1.05	0.52	1.57	0.083
3	1.75	0.14	0.09	1.98	3.06	1.33	0.54	1.87	0.083
4	1.68	0.34	0.17	2.19	2.99	1.60	0.52	2.12	0.077
5	1.61	0.35	0.18	2.14	2.96	1.52	0.53	2.05	0.082
* 6	1.61	0.28	0.15	2.04	2.93	1.26	0.46	1.72	0.077
* 7	1.59	0.11	0.08	1.78	2.85	1.06	0.54	1.60	0.072
8	1.56	0.02	0.05	1.63	2.81	0.80	0.56	1.36	0.071
* 9	1.71	0.05	0.06	1.82	2.96	1.03	0.58	1.61	0.079
10	1.56	0.26	0.13	1.95	2.81	1.16	0.54	1.70	0.089
11	1.71	0.11	0.08	1.90	3.45	1.03	0.52	1.55	0.082
12	1.71	0.02	0.05	1.78	3.05	0.98	0.58	1.56	0.078
* 13	1.75	0.04	0.05	1.84	3.42	1.01	0.58	1.59	0.077
14	1.72	0.01	0.04	1.75	3.44	0.99	0.59	1.58	0.075
15	1.74	0.03	0.05	1.82	3.25	0.97	0.59	1.56	0.071
* 16	1.71	0.01	0.03	1.75	3.40	0.89	0.59	1.48	0.074
17	1.71	0.03	0.04	1.78	3.38	0.87	0.54	1.41	0.072
* 18	1.64	0.03	0.05	1.72	3.42	0.92	0.47	1.39	0.072
19	1.72	0.21	0.11	2.04	3.32	1.20	0.57	1.77	0.073
20	1.63	0.26	0.13	2.02	3.22	1.23	0.63	1.86	0.075
21	1.57	0.06	0.05	1.68	3.14	0.92	0.60	1.52	0.070
22	1.58	0.00	0.01	1.59	3.21	0.70	0.59	1.29	0.076
23	1.71	0.11	0.08	1.90	3.40	1.16	0.61	1.77	0.078
24	1.51	0.13	0.08	1.72	3.19	1.06	0.58	1.64	0.069
* 25	1.75	0.03	0.05	1.83	3.91	0.99	0.54	1.53	0.068
26	1.65	0.10	0.08	1.83	4.57	1.08	0.56	1.64	0.074
27	1.52	0.10	0.08	1.70	2.11	1.05	0.58	1.63	0.068
* 28	1.54	0.01	0.05	1.60	1.26	1.00	0.44	1.44	0.065
29	1.33	0.00	0.05	1.38	1.31	0.82	0.48	1.30	0.050
* 30	1.76	0.01	0.05	1.82	1.42	1.04	0.57	1.61	0.086
31	1.69	0.07	0.08	1.84	1.34	0.97	0.52	1.49	0.070

BACKFLOW 1605983 8/1
" 9/1
" 10/1
1605983 11/1
" 12/1

SANIT 8/1 6266543
7/1 6243442
2,310,100

EXPERIMENTER John N. Orban DATE 8/6/84

WITNESSED BY DATE

DEC 0010442

011

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE pH - TEMP - OIL & GREASE DATE JULY '84 Page No. 11

PURPOSE Book No. E 21770

	PH 1 HR AVERAGE				001 GRAB			001 GRAB OIL & GREASE	
	002		003						
DATE	HIGH	LOW	HIGH	LOW	TIME	pH	TEMP °C	INTAKE mg/L	OUTFALL mg/L
1	7.9	7.7	7.4	7.1	5:15 p	7.6	31	1.2	1.4
2	8.1	7.6	7.5	7.2	11:25 p	7.6	32	1.0	1.1
3	8.1	7.7	7.4	7.1	6:20 p	7.5	32	0.8	1.2
4	8.1	7.6	7.3	6.9	5:15 p	7.5	32	0.8	1.2
5	8.1	7.8	7.3	6.9	5:30 p	7.5	34	1.0	0.6
6	8.1	7.2	7.4	7.0	4:30 p	7.5	30	0.7	0.6
7	7.7	7.2	7.2	6.9	5:00 p	7.5	30	0.6	0.8
8	8.1	7.7	7.1	6.9	9:15 p	7.5	30	0.8	1.2
9	7.7	7.4	7.1	6.8	9:15 p	7.6	30	0.8	0.8
10	8.2	7.2	7.4	6.8	10:30 p	7.0	32	0.6	0.6
11	7.8	7.2	7.4	7.1	9:00 p	7.4	34	0.6	0.6
12	7.8	7.2	7.2	7.0	10:20 p	7.5	29	0.6	0.6
13	7.6	7.3	7.4	7.1	8:00 p	7.3	31	0.8	0.5
14	7.5	7.3	7.6	7.2	10:30 p	7.4	32	1.0	0.5
15	7.4	7.2	7.5	7.2	10:30 p	7.4	32	1.1	0.8
16	7.4	7.2	7.4	7.2	7:30 p	7.5	32	0.4	0.8
17	7.5	7.2	7.2	7.0	10:30 p	7.3	32	0.6	0.6
18	7.4	7.3	7.4	7.1	10:15 p	7.9	32	0.8	1.1
19	7.4	7.2	7.7	7.2	1:40 p	7.1	33	0.8	0.6
20	7.4	7.2	7.7	7.2	4:15 p	6.9	38	0.5	0.4
21	7.5	7.1	7.6	7.3	4:40 p	7.0	37	0.6	0.6
22	7.5	7.3	7.7	7.1	5:00 p	7.3	36	1.8	1.2
23	7.6	7.2	7.3	7.0	5:40 p	6.2	34	1.4	1.1
24	7.7	7.5	8.0	7.0	6:30 p	7.4	34	2.3	2.0
25	7.7	7.5	7.8	6.7	3:15 p	6.9	32	2.4	1.7
26	7.6	7.4	7.7	7.2	1:00 p	7.2	31	1.2	1.4
27	7.7	7.4	7.6	7.3	1:00 p	7.1	32	1.4	1.5
28	7.6	7.3	7.9	7.2	6:00 A	7.2	33	1.2	1.1
29	7.6	7.4	7.8	6.8	5:00 p	7.3	38	1.2	1.3
30	7.8	7.3	8.1	7.2	5:30 p	7.8	31	1.0	1.0
31	7.5	7.2	7.8	7.3	5:30 p	7.6	31	2.0	1.4

DEC 0010442

EXPERIMENTER John N. Dolan DATE 8/6/84 015

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

12 Page No. TITLE LOADINGS DATE JULY 84

21770 Book No. PURPOSE

FLOW FACTORS : MGD X 8.34

DATE	IN	002	003
1	13.43	9.09	4.34
6	14.34	10.51	3.84
7	13.34	8.84	4.50
9	13.43	8.59	4.84
13	13.26	8.42	4.84

DATE	IN	002	003
16	12.34	7.42	4.92
18	11.59	7.67	3.92
25	12.76	8.26	4.50
28	12.01	8.34	3.67
30	13.43	8.67	4.75

DATE	MUNICIPAL IN mg/L	MUNICIPAL IN ① #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 ② #/DAY	NET ②-① #/DAY	NET ROUNDED #/DAY
1	0	0	9	82	38	165	247	247	250
6			8	84	38	146	230	230	230
7			5	44	47	212	256	256	260
9			10	86	35	169	255	255	260
13			10	84	49	237	321	321	320
16			11	82	36	177	259	259	260
18			14	107	85	333	441	441	440
25			8	66	50	225	291	291	290
28			4	33	44	161	195	195	200
30			7	61	86	409	470	470	470

1	187	2511	1061	9645	8571	37171	46816	44305	44000
6	213	3055	574	6032	9348	35863	41894	38839	39000
7	213	2842	1152	10184	12033	54192	64376	61534	62000
9	195	2618	1238	10635	10152	49107	59742	57124	57000
13	230	3050	1107	9325	11700	56595	65920	62870	62000
16	190	2345	934	6933	11372	55957	62890	60545	60000
18	198	2295	1143	8770	8455	33142	41912	39617	40000
25	210	2680	900	7431	8938	40253	47684	45004	45000
28	162	1946	1285	10717	8307	30483	41200	39255	39000
30	104	1396	1375	11926	5572	26488	38414	37018	37000

1	11	148	113	1027	17	74	1101	953	950
6	11	158	18	189	12	46	235	77	80
7	11	147	18	159	14	63	222	75	80
9	11	148	14	120	14	68	188	40	40
13	11	146	14	118	12	58	176	30	30
16	11	136	14	104	13	64	168	32	30
18	11	128	11	84	17	67	151	24	20
25	11	140	11	91	15	68	158	18	20
28	11	132	18	150	14	51	201	69	70
30	11	148	14	121	14	67	188	40	40

EXPERIMENTER John H. Dolan DATE 8/6/84

WITNESSED BY DATE

DEC 0010442

016

TITLE _____ DATE _____ Page No. 13

PURPOSE _____ Book No. E 21770

	DATE	MUNICIPAL IN mg/L	MUNICIPAL IN ① #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 ② #/DAY	NET ② - ① #/DAY	NET ROUNDED #/DAY
SO4	1	32	430	242	2200	5924	25691	27891	27461	27000
	6	26	373	134	1408	6150	23594	25002	24629	25000
	7	27	360	258	2281	8413	37889	40170	39809	40000
	9	33	443	165	1417	7370	35650	37068	36624	37000
	13	38	504	240	2022	8026	38823	40845	40341	40000
	16	36	444	141	1047	7812	38440	39486	39042	39000
	18	29	336	300	2302	5658	22178	24480	24144	24000
	25	26	332	262	2163	6181	27837	30000	29668	30000
	28	26	312	202	1685	5974	21922	23607	23295	23000
	30	27	363	454	3938	3890	18492	22430	22068	22000
P	1	0.00	0.00	0.00	0.00	0.02	0.09	0.09	0.09	0.09
	6	0.00	0.00	0.01	0.11	0.02	0.08	0.18	0.18	0.18
	7	0.00	0.00	0.00	0.00	0.02	0.09	0.09	0.09	0.09
	9	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05
	13	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05
	16	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05
	18	0.00	0.00	0.01	0.08	0.02	0.08	0.16	0.16	0.16
	25	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05
	28	0.00	0.00	0.00	0.00	0.01	0.07	0.07	0.07	0.07
	30	0.00	0.00	0.00	0.00	0.02	0.10	0.10	0.10	0.10
NH_3-N	1	0	0	1.3	11.8	0.0	0.0	11.8	11.8	12
	6			1.3	13.7	0.0	0.0	13.7	13.7	14
	7			1.0	8.8	0.0	0.0	8.8	8.8	9
	9			1.5	12.9	0.0	0.0	12.9	12.9	13
	13			7.8	65.7	1.0	4.8	70.5	70.5	71
	16			1.0	7.4	0.0	0.0	7.4	7.4	7
	18			4.2	32.2	0.0	0.0	32.2	32.2	32
	25			9.8	80.9	0.0	0.0	80.9	80.9	81
	28			3.9	32.5	0.2	0.7	33.3	33.3	33
	30			15.8	137.0	0.0	0.0	137	137	137
BOD_5	1	1.47	19.7	2.84	25.8	0.23	1.0	26.8	7.1	7
	6	4.32	62.0	1.45	15.2	0.64	2.5	17.7	-44	0
	7	4.37	58.3	0.92	8.1	0.53	2.4	10.5	-47.8	0
	9	3.83	51.4	0.41	3.5	0.13	0.6	4.1	-47.3	0
	13	1.88	24.9	4.04	34.0	1.04	5.0	39.0	14.3	14
	16	2.13	26.3	2.77	20.6	1.13	5.6	26.1	-0.2	0
	18	1.72	19.9	5.24	40.2	1.36	5.3	45.5	25.6	26
	25	2.09	26.7	6.96	57.5	2.33	10.5	68.0	41.3	41
	28	0.65	7.8	1.12	9.3	0.00	0.0	9.3	1.5	2
	30	1.95	26.2	2.04	17.7	1.89	9.0	26.7	0.5	1

EXPERIMENTER John M. Orlan DATE 8/6/84

WITNESSED BY DATE

DEC 0010442

017

14 Page No. TITLE FLOWS DATE AUGUST 84

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	OUT 001 TOT MGD	002 & 003 OUTFALLS 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	1.61	0.24	0.12	1.97	1.33	0.97	1.10	2.07	0.076
2	1.63	0.23	0.14	2.00	1.37	1.13	0.56	1.69	0.071
3	1.58	0.32	0.13	2.03	1.41	1.30	0.60	1.90	0.068
4	1.53	0.24	0.12	1.89	1.40	1.26	0.58	1.84	0.063
5	1.55	0.23	0.12	1.90	1.48	1.22	0.64	1.86	0.063
6	1.59	0.73	0.21	2.53	1.55	1.20	0.67	1.87	0.067
7	1.59	0.06	0.18	1.83	1.64	1.48	0.67	2.15	0.069
8	1.64	0.28	0.15	1.97	1.78	1.31	0.63	1.94	0.067
9	1.57	0.26	0.13	1.96	1.40	1.29	0.62	1.91	0.082
10	1.56	0.26	0.14	1.96	1.37	1.27	0.61	1.88	0.070
11	1.55	0.24	0.12	1.91	1.25	1.20	0.60	1.80	0.069
12	1.51	0.22	0.12	1.87	1.26	1.22	0.61	1.83	0.061
13	1.60	0.26	0.14	2.00	1.19	1.14	0.59	1.73	0.069
14	1.73	0.33	0.16	2.22	1.18	1.39	0.58	1.97	0.071
15	1.64	0.28	0.14	1.96	1.09	1.49	0.60	2.09	0.074
16	1.68	0.74	0.16	2.58	1.10	1.50	0.61	2.11	0.075
17	1.53	0.26	0.13	1.92	2.04	1.54	0.60	2.14	0.074
18	1.55	0.23	0.12	1.90	1.94	1.27	0.58	1.85	0.066
19	1.51	0.25	0.13	1.89	1.81	1.23	0.58	1.81	0.064
20	1.57	0.28	0.14	1.99	1.82	1.24	0.60	1.84	0.067
21	1.61	0.29	0.14	2.04	1.81	1.40	0.61	2.01	0.070
22	1.47	0.41	0.20	2.08	2.03	1.41	0.57	1.98	0.069
23	1.22	0.56	0.28	2.06	1.98	1.53	0.56	2.09	0.084
24	1.56	0.49	0.25	2.30	1.94	1.49	0.59	2.08	0.083
25	1.53	0.46	0.24	2.23	1.99	1.69	0.58	2.27	0.061
26	1.32	0.38	0.20	1.90	2.33	1.34	0.59	1.93	0.062
27	1.35	0.40	0.21	1.96	2.40	1.26	0.57	1.83	0.073
28	1.38	0.40	0.21	1.99	2.79	1.25	0.62	1.87	0.072
29	1.55	0.46	0.24	2.25	3.12	1.38	0.61	1.91	0.076
30	1.52	0.45	0.24	2.21	3.04	1.45	0.60	2.05	0.065
31	1.49	0.56	0.28	2.33	2.97	1.44	0.58	2.02	0.078

SANITARY 9/1/84 6288311
8/1/84 6266543
2,176,800

EXPERIMENTER John M. Olson DATE 9/10/84

WITNESSED BY DATE

DEC 0010442

018

TITLE pH, TEMP, OIL & GREASE DATE AUGUST 84 Page No. 15

PURPOSE Book No. E 21770

	pH 1 HR AVERAGE				001 GRAB				
	002		003					OIL & GREASE	
DATE	HIGH	LOW	HIGH	LOW	TIME	pH	°C TEMP	INTAKE mg/L	OUTFALL mg/L
1	7.6	6.9	7.7	7.0	9:05 P	7.2	38	0.4	0.3
2	7.6	7.1	7.5	6.9	5:00 P	7.5	38	0.8	0.7
3	7.6	7.3	8.1	7.1	6:30 P	7.3	36	0.6	0.6
4	7.6	7.4	7.7	7.0	6 30 P	7.4	36	0.4	0.6
5	7.6	6.8	7.4	7.2	9 00 P	7.4	26	1.1	0.7
6	7.5	7.2	7.7	7.4	6 30 P	6.9	36	1.0	0.6
7	7.6	7.2	7.7	7.2	10 00 P	7.5	36	0.6	0.8
8	7.5	7.2	7.6	7.2	9 00 P	7.6	33	0.8	1.1
9	7.6	7.3	7.7	7.5	1 30 A	7.4	36	0.8	1.0
10	7.5	7.2	7.9	7.3	6 30 P	7.2	38	0.6	1.3
11	7.5	7.3	7.7	7.2	1 00 P	7.4	39	0.4	0.6
12	7.4	7.3	7.5	7.0	1 00 P	7.4	38	0.6	0.7
13	7.6	7.4	7.4	7.0	1 00 P	7.7	37	0.8	0.5
14	7.6	7.2	7.7	7.2	1 00 P	7.5	37	0.8	0.5
15	7.6	7.3	8.0	7.4	12 30 A	7.6	41	0.5	2.4
16	7.6	7.4	7.6	7.3	5 00 P	7.5	42	1.4	0.8
17	7.7	7.0	7.7	7.3	9 15 P	6.9	37	1.4	0.6
18	7.6	7.2	7.4	7.2	4 30 P	6.9	39	1.2	1.1
19	7.6	7.4	7.8	7.0	5 30 P	7.2	39	0.6	1.1
20	7.8	7.5	7.8	6.9	4 45 P	7.4	40	0.7	0.6
21	7.8	7.5	8.0	7.4	5 00 P	7.4	39	0.6	0.5
22	7.7	7.5	7.8	7.3	4 15 P	7.4	40	1.0	0.5
23	7.7	7.5	7.9	7.1	5 P	7.7	37	0.8	0.6
24	7.8	7.5	7.7	6.9	6 15 P	7.6	38	0.6	0.3
25	7.7	7.5	7.3	6.9	4 30 P	7.3	38	0.8	1.1
26	7.7	7.5	7.2	7.1	7 00 P	7.5	38	0.8	0.6
27	7.6	7.5	7.9	7.0	9 00 A	7.6	34	0.8	1.2
28	7.8	6.8	8.0	7.2	8 05 P	7.6	38	0.6	0.6
29	7.5	7.3	7.5	6.9	7 30 P	7.6	38	~~1.0~~ 0.6	0.8
30	7.5	7.4	7.4	6.7	9 P	7.6	31	1.0	0.6
31	7.6	7.4	7.8	7.0	8 A	7.8	32	0.8	0.8

EXPERIMENTER John N. Orlan DATE 9/10/84

WITNESSED BY DATE

DEC 0010442

16 Page No. TITLE LOADINGS DATE AUGUST 84

21770 Book No. PURPOSE

FLOW FACTOR : MGD X 8.34

DATE	IN	002	003
2	14.09	9.42	4.67
7	17.93	12.34	5.59
10	15.68	10.59	5.09
13	14.43	9.51	4.92
17	17.85	12.84	5.00

DATE	IN	002	003
20	15.35	10.34	5.00
24	17.35	12.43	4.92
25	18.93	14.09	4.84
27	15.26	10.51	4.75
30	17.10	12.09	5.00

DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
2	0	0	28	264	47	220	483	483	480
7			5	62	11	61	123	123	120
10			2	24	39	198	220	220	220
13			8	76	46	226	302	302	300
17			15	193	47	235	428	428	430
20			15	155	25	125	280	280	280
24			12	149	36	177	326	326	330
[illegible]			6	85	35	169	254	254	250
27			13	137	40	190	327	327	330
30			15	181	18	90	271	271	270

2	184	2593	1377	12977	9430	43622	56599	54005	54000
7	189	3389	471	5814	10463	58465	64279	60890	61000
10	197	3089	921	9755	8660	44057	53812	50723	51000
13	208	3001	1426	13558	10010	49255	62813	59812	60000
17	204	3641	1659	21308	8201	41005	62345	58704	59000
20	298	4573	2444	25275	7329	36674	61949	57376	57000
24	220	3816	1110	13794	8609	42361	56155	52339	52000
25	220	4165	828	11670	9371	45329	57000	52835	53000
27	221	3373	1041	10939	10030	47681	58620	55247	55000
30	186	3180	900	10884	6002	30034	40918	37738	38000

2	11	155	215	2026	14	65	2091	1937	1940
7	11	197	160	1975	28	156	2131	1934	1930
10	11	172	128	1356	13	66	1422	1249	1250
13	11	159	142	1350	17	84	1434	1275	1280
17	11	196	35	450	14	70	520	323	320
20	11	169	120	1241	14	70	1311	1142	1140
24	11	191	99	1230	19	93	1324	1133	1130
[illegible]	11	208	35	493	18	87	580	372	370
27	11	168	18	189	18	86	275	107	110
30	11	188	141	1705	12	60	1765	1577	1580

EXPERIMENTER John N. Orban DATE 9/10/84

WITNESSED BY DATE

DEC 0010442

020

TITLE LOADINGS DATE AUGUST 84 Page No. 17

PURPOSE Book No. E 21770

	DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
SO4	2	30	423	441	4156	6806	31787	35943	35520	36000
	7	40	717	144	1777	6954	38858	40635	39918	40000
	10	24	376	201	2129	5969	30367	32496	32119	32000
	13	24	346	272	2586	6804	33480	36066	35720	36000
	17	57	1017	518	6653	5469	27335	33988	32978	33000
	20	40	614	232	2399	4810	24069	26468	25855	26000
	24	35	607	306	3803	5725	28170	31973	31366	31000
	25	35	663	248	3495	6407	30992	34487	33825	34000
	27	45	687	312	3279	6821	32426	35704	35017	35000
	30	44	752	292	3531	5890	29474	33005	32252	32000
P	2	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05
	7	0.00	0.00	0.01	0.12	0.02	0.11	0.24	0.24	0.24
	10	0.00	0.00	0.01	0.11	0.02	0.10	0.21	0.21	0.21
	13	0.00	0.00	0.01	0.10	0.02	0.10	0.20	0.20	0.20
	17	0.00	0.00	0.00	0.00	0.02	0.10	0.10	0.10	0.10
	20	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05
	24	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05
	25	0.00	0.00	0.01	0.14	0.01	0.05	0.19	0.19	0.19
	27	0.00	0.00	0.01	0.11	0.01	0.05	0.16	0.16	0.16
	30	0.00	0.00	0.01	0.12	0.02	0.10	0.22	0.22	0.22
NH_3-N	2	0	0	4.0	37.7	0.0	0.0	37.7	37.7	38
	7			1.8	22.2	0.0	0.0	22.2	22.2	22
	10			2.3	24.4	0.0	0.0	24.4	24.4	24
	13			2.3	21.9	0.0	0.0	21.9	21.9	22
	17			8.6	110.5	0.0	0.0	110.5	110.5	111
	20			13.5	140	0.0	0.0	140	140	140
	24			5.6	69.6	0.0	0.0	69.6	69.6	70
	25			5.6	78.9	0.0	0.0	78.9	78.9	79
	27			2.3	24.2	0.0	0.0	24.2	24.2	24
	30			1.8	21.8	0.0	0.0	21.8	21.8	22
BOD5	2	1.59	22.4	1.52	14.3	1.59	7.4	21.75	-.7	0
	7	3.82	55.9	5.82	63.1	2.88	16.1	79.2	23.2	23
	10	2.21	34.7	2.92	30.9	2.96	15.1	46.0	11.3	11
	13	2.00	28.9	2.24	21.3	0.83	4.1	25.4	-3.5	0
	17	2.33	41.6	2.08	26.7	3.33	16.7	43.4	1.8	2
	20	2.33	35.8	3.33	34.4	3.33	16.7	51.1	15.4	15
	24	2.50	43.4	3.33	41.4	2.50	12.3	53.7	10.3	10
	25	2.50	47.3	3.33	46.9	3.33	16.1	63.0	15.7	16
	27	2.50	38.2	3.33	35.0	3.33	15.8	50.8	12.7	13
	30	2.50	42.7	2.08	25.2	3.33	16.7	41.8	-0.9	0

EXPERIMENTER John M. Orlan DATE 9/10/84

WITNESSED BY DEC0010442 DATE

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	001 TOTAL MGD	002 + 003 OUT 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	1.59	0.47	0.23	2.29	3.04	1.55	0.62	2.17	0.072
2	1.53	0.28	0.14	1.95	2.91	1.21	0.56	1.77	0.068
3	1.58	0.27	0.14	1.99	2.88	1.15	0.57	1.72	0.064
4	1.50	0.23	0.12	1.85	2.59	1.15	0.62	1.75	0.069
5	1.50	0.23	0.12	1.85	2.67	1.13	0.60 ~~1.82~~	~~1.98~~	0.065
6	1.48	0.21	0.11	1.80	2.64	1.08	0.62	1.71	0.067
7	1.47	0.22	0.11	1.80	2.44	1.09	0.61	1.69	0.066
8	1.46	0.21	0.11	1.78	2.04	1.08	0.66	1.77	0.067
9	1.43	0.19	0.10	1.72	1.80	1.11	0.66	1.67	0.063
10	1.52	0.23	0.12	1.87	1.86	1.01	0.64	1.85	0.057
11	1.52	0.24	0.12	1.88	1.91	1.21	0.61	1.84	0.011
12	1.62	0.28	0.14	2.04	2.10	1.23	0.66	1.96	0.059
13	1.60	0.28	0.14	2.02	2.14	1.30	1.26	1.54	0.059
14	1.55	0.25	0.13	1.93	2.23	1.28	0.61	1.76	0.072
15	1.41	0.20	0.10	1.71	2.15	1.15	0.59	1.67	0.064
16	1.42	0.20	0.11	1.73	2.45	1.08	0.58	1.68	0.063
17	1.49	0.21	0.11	1.81	2.37	1.10	0.64	1.79	0.067
18	1.59	0.26	0.13	1.98	2.48	1.15	0.69	1.90	0.070
19	1.53	0.23	0.12	1.88	2.61	1.21	0.66	1.90	0.067
20	1.54	0.25	0.13	1.92	2.62	1.24	0.63	1.84	0.065
21	1.51	0.24	0.12	1.87	2.48	1.21	0.65	1.87	0.064
22	1.53	0.25	0.12	1.90	1.84	1.22	0.63	1.94	0.075
23	1.38	0.20	0.11	1.69	1.80	1.31	0.68	1.84	0.067
24	1.53	0.26	0.13	1.92	1.78	1.16	0.68	2.01	0.079
25	1.52	0.25	0.12	1.89	1.71	1.33	0.63	1.79	0.082
26	1.44	0.19	0.10	1.73	1.62	1.16	0.63 ~~1.85~~	1.56 ~~2.21~~	0.073
27	1.48	0.23	0.12	1.83	1.61	0.96	0.63	1.81	0.072
28	1.43	0.21	0.11	1.75	1.12	1.18	0.62	1.68	0.070
29	1.48	0.22	0.11	1.81	1.06	1.06	0.64	1.67	0.069
30	1.38	0.21	0.11	1.70	0.96	1.03	0.61	1.61	0.064

1.00!

OFF BY ONE DAY MOVE UP 1

SANITARY 10/1/84 6307993 ~~6288311~~

9/1/84 6288311

1,968,200

EXPERIMENTER John N. Olson DATE 10/8/84

WITNESSED BY DEC 0010442 DATE

TITLE pH, TEMP, OIL + GREASE DATE SEPT 84 Page No. 19

PURPOSE Book No. E 21770

	pH 1 HR AVERAGE				001 GRAB				
	002		003					OIL & GREASE	
DATE	HI	LOW	HI	LOW	TIME	pH	°C TEMP	INTAKE mg/L	OUTFALL mg/L
1	7.6	7.4	7.4	7.0	1 25 p	7.2	38	0.8	0.6
2	7.6	7.5	7.5	7.1	9 p	7.0	33	0.6	0.6
3	7.6	7.5	7.7	7.0	8 A	7.0	32	1.0	1.0
4	7.7	7.4	8.6	6.8	6 30 A	7.1	32	0.8	0.8
5	7.6	7.5	8.2	6.8	8 45 p	7.2	32	0.7	0.1
6	7.7	7.5	7.5	7.2	9 00 p	7.1	27	0.8	0.6
7	8.1	7.5	7.7	7.0	8 45 p	7.0	27	0.6	1.1
8	7.7	7.6	7.0	6.8	8 45 p	7.0	27	0.6	1.3
9	7.7	7.0	6.9	6.8	9 p	7.1	27	0.8	1.0
10	7.7	7.5	7.0	6.9	5 40 p	7.4	32	0.8	0.8
11	7.7	7.6	7.2	7.0	4 40 p	7.4	33	1.0	0.5
12	7.8	7.1	7.4	6.6	5 30 p	7.3	33	1.1	0.8
13	7.6	7.3	8.0	6.6	9 p	7.3	33	0.7	0.7
14	8.1	7.2	8.1	7.4	1 p	7.5	32	1.1	1.2
15	7.8	7.4	7.8	7.3	4 30 p	7.3	29	0.6	1.0
16	7.6	7.5	7.7	7.3	3 40 p	7.3	28	1.1	0.6
17	7.5	7.3	7.8	7.3	12 30 p	7.6	31	0.8	1.1
18	7.4	7.3	8.0	6.7	4 p	7.6	30	0.7	0.6
19	7.4	7.2	8.0	7.1	9 30 A	7.5	28	0.6	0.8
20	7.7	7.0	7.5	7.0	9 30 A	7.8	29	1.3	0.8
21	7.4	7.1	7.4	6.9	9 30 A	7.3	29	1.1	1.3
22	7.3	7.0	7.6	7.2	9 p	7.5	29	0.7	0.8
23	7.3	7.0	7.3	7.0	9 p	7.4	29	0.8	1.1
24	7.3	7.0	8.0	7.0	4 p	7.5	27	0.8	0.4
25	7.3	6.9	7.8	7.0	4 30 A	7.0	24	0.4	1.0
26	7.4	6.9	7.8	6.9	8 A	7.0	26	1.1	0.7
27	7.4	7.0	7.8	6.9	9 p	7.1	28	1.1	1.1
28	7.4	7.2	7.9	7.2	9 p	7.2	33	1.0	0.5
29	7.6	7.2	7.7	7.3	6 p	7.3	17	0.5	0.7
30	7.4	7.1	7.6	7.1	6 p	7.2	17	0.8	0.7

EXPERIMENTER John N. Orlan DATE 10/8/84

WITNESSED BY DATE

DEC 0010442

20 Page No. TITLE LOADINGS DATE ~~AUG~~ SEPT 84

E 21770 Book No. PURPOSE

FLOW FACTOR: MGD X 8.34

DATE	IN	002	003
3	14.34	9.59	4.75
5	14.08	9.01	5.00
8	14.76	9.26	5.50
10	15.43	10.09	5.34
14	14.68	9.59	5.09

DATE	IN	002	003
17	14.93	9.59	5.34
20	15.35	10.09	5.25
25	14.93	9.67	5.25
27	15.10	9.84	5.25
30	13.43	8.34	5.09

	DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
SS	3	0	0	8	77	119	566	642	642	640
	5			15	135	62	310	445	445	450
	8			9	83	33	182	265	265	270
	10			58	585	28	149	735	735	740
	14			5	48	67	341	389	389	390
	17			5	48	32	171	219	219	220
	20			20	202	38	200	401	401	400
	25			18	174	63	331	505	505	510
	27			5	49	32	168	217	217	220
	30			17	142	59	300	442	442	440
DS	3	230	3299	1020	9783	12501	59427	69210	65911	66000
	5	200	2802	1334	12016	9057	45321	57337	54535	55000
	8	190	2805	1200	11109	9870	54328	65437	62633	63000
	10	190	2932	2100	21192	10369	55346	76538	73606	74000
	14	180	2642	470	4508	13457	68461	72969	70327	70000
	17	180	2687	3423	32830	9200	49106	81936	79249	79000
	20	171	2624	1119	11292	9676	50840	62132	59508	60000
	25	180	2687	1452	14047	9870	51859	65906	63219	63000
	27	191	2883	1810	17813	7524	39533	57345	54462	54000
	30	174	2336	1510	12593	8350	42480	55073	52737	53000
Cl	3	11	158	18	173	12	57	230	72	70
	5	11	154	18	162	12	60	222	68	70
	8	11	162	12	111	12	66	177	15	20
	10	11	170	202	2038	12	64	2103	1933	1930
	14	11	161	82	786	14	71	858	696	700
	17	11	164	238	2283	19	101	2384	2220	2220
	20	11	169	64	646	14	74	719	551	550
	25	11	164	80	774	11	58	831	668	670
	27	11	166	245	2411	13	68	2479	2313	2310
	30	11	148	18	150	11	56	206	58	60

EXPERIMENTER John M. Allen DATE 10/8/84

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE SEPT. 84 Page No. 21

PURPOSE Book No. E 21770

	DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
SOL	3	40	573	266	2551	8557	40678	43229	42656	43000
	5	49	687	415	3738	6041	30229	33967	33281	33000
	8	31	459	272	2519	6736	37048	39567	39109	39000
	10	31	478	482	4864	7135	38084	42948	42470	42000
	14	28	411	170	1630	9166	46631	48262	47851	48000
	17	30	448	218	2091	6296	33606	35696	35249	35000
	20	35	537	413	4168	6666	35025	39192	38655	39000
	25	31	463	301	2912	6744	35434	38346	37884	38000
	27	34	513	225	2214	5197	27306	29520	29007	29000
	30	31	416	351	2927	5450	27726	30654	30237	30000
P	3	0.00	0.00	0.01	0.10	0.01	0.05	0.14	0.14	0.14
	5	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.10	0.10
	8	0.00	0.00	0.00	0.00	0.02	0.11	0.11	0.11	0.11
	10	0.00	0.00	0.01	0.10	0.02	0.11	0.21	0.21	0.21
	14	0.00	0.00	0.00	0.00	0.02	0.10	0.10	0.10	0.10
	17	0.00	0.00	0.00	0.00	0.02	0.11	0.11	0.11	0.11
	20	0.00	0.00	0.01	0.10	0.02	0.11	0.21	0.21	0.21
	25	0.00	0.00	0.01	0.10	0.02	0.11	0.21	0.21	0.21
	27	0.00	0.00	0.01	0.10	0.02	0.11	0.21	0.21	0.21
	30	0.00	0.00	0.01	0.08	0.02	0.10	0.18	0.18	0.18
NH_3-N	3	0	0	4.0	38.4	0.0	0.0	38.4	38.4	38
	5			19.0	171.1	0.0	0.0	171	171	171
	8			4.2	38.9	0.0	0.0	38.9	38.9	39
	10			5.6	56.5	0.0	0.0	56.5	56.5	57
	14			1.8	17.3	0.0	0.0	17.3	17.3	17
	17			4.2	40.3	0.0	0.0	40.3	40.3	40
	20			10.0	100.9	0.0	0.0	100.9	100.9	101
	25			4.0	38.7	0.0	0.0	38.7	38.7	39
	27			8.8	86.6	0.0	0.0	86.6	86.6	87
	30			4.2	35.0	0.0	0.0	35.0	35.0	35
SOLS	3	2.40	34.4	3.20	30.7	3.20	15.2	45.9	11.5	12
	5	2.40	33.6	4.00	36.0	4.80	24.0	60.1	26.4	26
	8	0.80	11.8	0.80	7.4	7.60	41.8	49.2	37.4	37
	10	1.20	18.5	2.40	24.2	1.60	8.5	32.8	14.2	14
	14	1.60	23.5	3.20	30.1	3.20	16.3	47.0	23.5	24
	17	2.40	35.8	4.80	46.0	4.00	21.4	67.4	31.6	32
	20	1.60	24.6	4.00	40.4	4.80	25.2	65.6	41.0	41
	25	0.80	11.9	2.00	19.4	2.00	10.5	29.9	17.9	18
	27	2.40	36.2	3.20	31.5	3.20	16.1	48.3	12.1	12
	30	1.60	21.5	3.20	26.7	2.40	12.2	38.9	17.4	17

EXPERIMENTER John N. Orlan DATE 10/8/84

WITNESSED BY DATE

DEC0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

22 Page No. TITLE FLOWS DATE OCTOBER 84

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	001 MGD	002 + 003 OUT 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	1.55	0.26	0.13	1.94	0.96	1.17	0.62	1.79	.068
2	1.47	0.23	0.11	1.81	1.47	1.24	0.64	1.88	.067
3	1.50	0.24	0.12	1.86	1.38	1.18	0.64	1.82	.068
4	1.52	0.26	0.13	1.91	1.32	1.28	0.64	1.92	.066
5	1.47	0.23	0.12	1.82	1.18	1.22	0.67	1.89	.068
6	1.39	0.20	0.10	1.69	0.78	1.09	0.66	1.75	.072
7	1.31	0.19	0.10	1.60	0.83	0.95	0.67	1.62	.067
8	1.38	0.21	0.11	1.70	0.87	0.93	0.66	1.59	.072
9	1.47	0.23	0.12	1.82	1.86	1.13	0.68	1.81	.069
10	1.57	0.27	0.13	1.97	0.66	1.36	0.64	2.00	.073
11	1.35	0.19	0.10	1.64	0.58	0.96	0.62	1.58	.063
12	1.12	0.15	0.07	1.34	0	0.73	0.40	1.13	.063
13	1.50	0	0.01	1.51	0	0.60	0.66	1.26	.065
14	1.52	0	0.01	1.53	0	0.79	0.69	1.48	.071
15	1.49	0	0	1.49	.01	0.71	0.68	1.39	.071
16	1.59	0	0.01	1.60	.01	0.74	0.63	1.37	.065
17	1.65	0	0.01	1.66	.02	0.69	0.66	1.35	.065
18	1.58	0.01	0.01	1.60	0	0.72	0.71	1.43	.071
19	1.51	0	0	1.51	.02	0.59	0.68	1.27	.066
20	1.59	0	0.01	1.60	.03	0.79	0.67	1.46	.085
21	1.56	0.01	0.01	1.58	.05	0.77	0.66	1.43	.067
22	1.60	0	0.01	1.61	.05	0.80	0.66	1.46	.073
23	1.60	0	0.01	1.61	.20	0.79	0.64	1.43	.071
24	1.66	0	0.02	1.68	.21	0.87	0.70	1.57	.064
25	1.63	0	0.01	1.64	0	0.76	0.79	1.55	.068
26	1.59	0	0.01	1.60	0	0.74	0.71	1.45	.068
27	1.60	0	0.01	1.61	0	0.76	0.61	1.37	.069
28	1.54	0	0	1.54	0	0.69	0.67	1.36	.062
29	1.60	0	0.01	1.61	0	0.82	0.70	1.52	.065
30	1.65	0.01	0.02	1.68	0	1.00	0.72	1.72	.062
31	1.64	0	0.01	1.65	0	0.80	0.74	1.54	.107

SANITARY 11/1 6329522
~~10/1 6288311~~
~~4121100~~
10/1 6307993
2152900

EXPERIMENTER John N. Orlan DATE 11/7/84

WITNESSED BY DATE

DEC 0010442

TITLE pH, TEMP, OIL & GREASE DATE OCTOBER 84 Page No. 23

PURPOSE Book No. E 21770

	PH 1 HR AVERAGE				001 GRAB			001 GRAB	
	002		003					OIL & GREASE	
DATE	HI	LOW	HI	LOW	TIME	pH	°C TEMP	IN mg/L	OUT mg/L
1	7.7	7.3	7.4	7.2	9 PM	7.1	23		
2	8.0	7.4	7.8	7.3	9 PM	7.0	27		
3	7.6	7.3	7.6	7.4	10 55 P	7.0	27	0.9	1.1
4	7.8	7.3	7.7	7.5	12 30 A	7.1	28		
5	7.6	7.3	7.8	7.5	9 PM	7.2	32		
6	7.6	7.3	7.9	7.6	12 30 A	7.2	32		
7	7.8	7.5	7.9	7.0	1 PM	7.1	32		
8	7.9	7.3	7.4	7.0	1 PM	7.6	34		
9	8.0	7.1	7.4	7.1	2 AM	6.8	29		
10	8.1	6.7	7.4	7.2	9 30 PM	6.7	24		
11	7.8	6.7	7.5	7.0	9 PM	7.1	29	0.8	0.8
12	8.5	7.1	8.2	7.4					
13	7.5	6.8	7.6	6.8					
14	8.4	7.0	7.5	7.2					
15	8.4	7.0	7.5	7.2					
16	7.6	7.2	7.4	7.1					
17	7.7	7.2	8.0	6.8					
18	7.7	7.2	7.6	7.3					
19	7.6	7.2	7.5	7.2					
20	7.3	6.6	7.4	7.3					
21	7.3	6.9	7.4	7.3					
22	7.2	6.9	7.5	7.2					
23	7.1	6.9	8.1	6.9					
24	7.6	7.0	7.3	7.0					
25	7.5	6.8	7.7	6.9					
26	7.4	7.0	7.8	7.2					
27	7.2	7.1	8.0	7.2					
28	7.2	7.0	7.8	6.9					
29	7.2	6.9	7.8	7.1					
30	7.6	7.1	8.3	7.1					
31	7.4	7.0	7.3	7.0					

DEC 0010442

EXPERIMENTER John N. Olson DATE 11/7/84 027

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

24 Page No. TITLE LOADINGS DATE OCTOBER 84

21770 Book No. PURPOSE

FLOW FACTORS : MGD X 8.34

DATE	IN	002	003
3	15.18	9.84	5.34
7	13.51	7.92	5.59
11	13.18	8.01	5.17
13	10.51	5.00	5.50
15	11.59	5.92	5.67

DATE	IN	002	003
18	11.93	6.00	5.92
22	12.18	6.67	5.50
23	12.93	6.59	5.34
29	12.68	6.84	5.84
31	12.84	6.67	6.17

DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
3	0	0	13	128	25	133	261	261	260
7			31	246	34	190	436	436	440
11			32	256	32	165	422	422	420
13			12	60	26	143	203	203	200
15			13	77	28	159	236	236	240
18			32	192	91	539	731	731	730
22			6	40	44	242	282	282	280
23			4	26	296	1580	1606	1606	1610 *
29			7	48	26	152	200	200	200
31			10	67	35	216	283	283	280
11	211	2780	1090	8727	7441	38476	47203	44423	44000
23	198	2361	1000	6589	10002	53387	59975	57614	58000
11	11	145	11	88	17	88	176	31	30
23	11	131	35	231	10	53	284	153	150
41	39	514	300	2402	5170	26733	29135	28621	29000
41	0.00	0.00	0.01	0.08	0.01	0.05	0.13	0.13	0.13

DEC 0010442

EXPERIMENTER John N. Orlan DATE 11/7/84

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE LOADINGS DATE OCTOBER 84 Page No. 25

PURPOSE Book No. E 21770

	DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUTFALL mg/L	002 OUTFALL #/DAY	003 OUTFALL mg/L	003 OUTFALL #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
NH3-N	3	0	0	6.3	62.0	0.0	0.0	62.0	62.0	62
	7			13.0	103.0	0.0	0.0	103.0	103.0	103
	11			3.0	24.0	0.0	0.0	24.0	24.0	24
	13			0.3	1.5	0.0	0.0	1.5	1.5	2
	15			5.0	29.6	0.0	0.0	29.6	29.6	30
	18			0.0	0.0	0.0	0.0	0.0	0.0	0
	22			0.0	0.0	0.0	0.0	0.0	0.0	0
	23			1.8	11.9	0.0	0.0	11.9	11.9	12
	29			2.5	17.1	0.0	0.0	17.1	17.1	17
	31			4.2	28.0	0.0	0.0	28.0	28.0	28
BOD5	3	1.60	24.3	4.00	39.4	2.40	12.8	52.2	27.9	28
	7	3.20	43.2	12.80	101.4	4.80	26.8	128.2	85.0	85
	11	1.60	21.1	3.20	25.6	2.40	12.4	38.0	17.0	17
	13	0.80	8.4	0.80	4.0	2.40	13.2	17.2	8.8	9
	15	0.80	9.3	1.40	8.3	1.60	9.1	17.4	8.1	8
	18	1.07	12.8	5.42	32.6	1.63	9.7	42.2	29.4	29
	22	2.32	28.3	2.40	16.0	5.50	30.3	46.3	18.0	18
	23	0.97	11.6	0.95	6.3	1.38	11.5	17.8	6.2	6
	29	0.93	9.3	0.87	6.0	0.96	5.6	11.6	2.3	2
	31	1.42	18.2	2.14	14.3	1.78	11.0	25.3	7.0	7

EXPERIMENTER John N. Orlan DATE 11/7/84

WITNESSED BY DATE

DEC 0010442

029

26 Page No. TITLE FLOWS DATE NOVEMBER 84

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	001 MGD	002 & 003 OUT 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	1.61	0.00	0.01	1.62	0	.74	.66	1.40	0.081
2	1.41	0.15	0.08	1.64		1.07	.69	1.76	0.083
3	1.23	0.12	0.08	1.43		.77	.72	1.49	0.083
4	1.21	0.09	0.07	1.37		.65	.69	1.34	0.079
5	1.33	0.14	0.08	1.55		.91	.67	1.58	0.085
6	1.27	0.13	0.08	1.48		.86	.67	1.53	0.083
7	1.30	0.10	0.07	1.47		.76	.69	1.45	0.083
8	1.23	0.09	0.07	1.39		.74	.71	1.45	0.083
9	1.23	0.11	0.07	1.41		.78	.75	1.53	0.086
10	1.20	0.13	0.08	1.41		.75	.63	1.38	0.082
11	1.18	0.06	0.06	1.30		.59	.65	1.24	0.079
12	1.24	0.08	0.07	1.39		.55	.58	1.13	0.083
13	1.22	0.10	0.07	1.39		.69	.71	1.40	0.084
14	1.42	0.19	0.10	1.71		.90	.69	1.59	0.084
15	1.24	0.12	0.08	1.44		.70	.69	1.39	0.081
16	0.54	0.39	0.18	1.11		.49	.66	1.15	0.082
17	0.48	0.38	0.18	1.04		.46	.69	1.15	0.078
18	0.47	0.37	0.18	1.02		.43	.64	1.07	0.075
19	0.61	0.40	0.19	1.20		.60	.65	1.25	0.082
20	0.47	0.38	0.18	1.03		.46	.65	1.11	0.102
21	0.53	0.38	0.18	1.09		.52	.64	1.16	0.077
22	0.50	0.38	0.18	1.06		.39	.74	1.13	0.077
23	0.41	0.38	0.18	0.97		.36	.74	1.10	0.079
24	0.39	0.36	0.17	0.92		.36	.75	1.11	0.075
25	0.34	0.37	0.18	0.89		.29	.77	1.06	0.076
26	0.16	0.36	0.17	0.69		.36	.63	0.99	0.091
27	0.37	0.37	0.18	0.92		.38	.71	1.09	0.095
28	0.42	0.37	0.18	0.97		.38	.74	1.12	0.088
29	0.46	0.38	0.18	1.02		.45	.72	1.17	0.087
30	0.37	0.37	0.18	0.92	0	.41	.68	1.09	0.100

SANITARY 12/1 6354521
11/1 6329522
2,499,900

EXPERIMENTER John N. Orlan DATE 12/10/84

WITNESSED BY DEC 0010442 DATE

TITLE Hi-Low pH DATE NOVEMBER 84 Page No. 27

PURPOSE Book No. E 21770

pH - 1 HR AVE

	002		003	
DATE	Hi	Low	Hi	Low
1	7.3	7.0	7.3	7.0
2	7.8	6.9	7.3	7.2
3	7.4	7.2	8.1	7.1
4	7.4	6.9	7.6	7.2
5	7.3	6.9	7.5	7.3
6	7.2	6.9	7.7	7.2
7	7.6	7.0	7.8	7.3
8	7.4	7.2	7.8	6.9
9	7.5	7.1	7.7	7.5
10	7.5	7.1	7.7	7.4
11	7.4	7.2	7.4	7.3
12	7.5	7.3	7.4	7.1
13	7.4	7.2	7.3	6.8
14	7.4	7.2	7.5	6.9
15	7.5	7.2	7.2	6.8
16	7.2	7.2	7.6	7.3
17	8.0	7.2	7.7	7.3
18	8.0	7.5	7.7	7.1
19	8.0	7.6	7.6	7.1
20	7.9	7.7	7.7	7.2
21	7.9	7.6	7.8	7.0
22	7.9	7.4	7.7	7.6
23	8.0	7.6	8.0	7.5
24	7.9	7.7	7.9	7.1
25	7.9	7.7	7.5	6.9
26	7.9	7.7	7.7	7.3
27	7.9	7.7	8.2	7.0
28	7.8	7.6	7.8	6.9
29	7.8	7.6	7.2	7.0
30	7.8	7.3	7.7	7.0

EXPERIMENTER John N. Orlan DATE 12/10/84

WITNESSED BY DEC 0010442 DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

28 Page No. TITLE LOADINGS DATE NOV. 84

21770 Book No. PURPOSE

FLOW FACTORS: MGD X 8.34

DATE	IN	002	003
4	11.18	5.42	5.75
6	12.76	7.17	5.59
8	12.09	6.17	5.92
12	9.42	4.59	4.84
13	11.68	5.75	5.92

DATE	IN	002	003
21	9.67	4.34	5.34
23	9.42	3.25	6.17
24	9.26	3.00	6.26
25	8.84	2.42	6.42
30	9.09	3.42	5.67

	MUNICIPAL IN		002 OUT		003 OUT		002+ 003	NET	NET ROUNDED
DATE	ug/L	#/DAY	ug/L	#/DAY	ug/L	#/DAY	#/DAY	#/DAY	#/DAY
4			2	11	15	86	97	97	100
6			4	22	7	84	105	105	110
8			3	19	15	89	107	107	110
12			4	18	7	34	52	52	50
13			3	17	49	290	307	307	310
21			5	22	38	203	225	225	230
23			8	26	53	327	353	353	350
24			10	30	54	338	368	368	370
25			18	44	25	161	204	204	200
30			4	14	48	272	286	286	290
8	192	2322	850	5246	9178	54347	59592	57271	57000
25	190	1680	531	1284	14400	73209	74493	72813	73000
8	11	133	71	438	13	77	515	382	380
25	11	104	17	78	11	53	131	27	30
8	39	472	142	876	6082	36014	36890	36419	36000
8	0.00	0.00	0.00	0.00	0.02	0.12	0.12	0.12	0.12

EXPERIMENTER John N. Orlan DATE 12/10/84

WITNESSED BY DATE

DEC 0010442

032

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE LOADINGS DATE NOV. '84 Page No. 29

PURPOSE Book No. E 21770

	DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUT mg/L	002 OUT #/DAY	003 OUT mg/L	003 OUT #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
NH3-N	4			0.0	0.0	0.0	0.0	0.0	0.0	0
	6			2.3	16.5	0.0	0.0	16.5	16.5	17
	8			0.0	0.0	0.0	0.0	0.0	0.0	0
	12			0.0	0.0	0.0	0.0	0.0	0.0	0
	13			0.0	0.0	0.0	0.0	0.0	0.0	0
	21			1.6	6.9	0.0	0.0	6.9	6.9	7
	23			0.7	2.3	0.0	0.0	2.3	2.3	2
	24			2.8	8.4	0.0	0.0	8.4	8.4	8
	25			5.8	14.0	0.0	0.0	14.0	14.0	14
	30			0.0	0.0	0.0	0.0	0.0	0.0	0
BOD5	4	0.45	5.0	0.41	2.2	0.28	1.6	3.8	-1.2	0
	6	1.29	16.5	0.80	5.7	1.41	7.9	13.6	-2.8	0
	8	3.64	44.0	2.63	16.2	4.17	24.7	40.9	-3.1	0
	12	1.17	11.0	1.27	5.8	1.61	7.8	13.6	2.6	3
	13	0.31	3.6	0.60	3.5	0.37	2.2	5.6	2.0	2
	21	3.15	30.5	5.24	22.7	6.72	35.9	58.6	28.1	28
	23	3.15	29.7	3.12	10.2	3.99	24.6	34.8	5.1	5
	24	1.15	10.7	1.79	5.4	1.83	11.5	16.8	6.2	6
	25	3.15	27.9	5.64	13.6	7.11	45.7	59.3	31.4	31
	30	1.05	9.6	1.59	5.4	1.59	9.0	14.5	4.9	5

DEC 0010442

EXPERIMENTER John N. Orlan DATE 12/10/84

WITNESSED BY DATE

30 Page No. TITLE FLOWS DATE DEC 1984

E 21770 Book No. PURPOSE

	MUNICIPAL WATER IN				001	002 & 003 OUT			SANITARY
DATE	NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	MGD	002 MGD	003 MGD	TOTAL MGD	MGD
S 1	0.27	0.36	0.17	0.80	0	0.35	0.69	1.04	.085
S 2	0.34	0.36	0.18	0.88		0.36	0.63	0.99	.083
3	0.30	0.37	0.18	0.85		0.39	0.69	1.08	.078
4	0.41	0.37	0.18	0.96		0.40	0.68	1.08	.077
5	0.63	0.40	0.19	1.22		0.59	0.67	1.26	.075
6	0.67	0.40	0.19	1.26		0.63	0.66	1.29	.073
7	0.61	0.39	0.19	1.19		0.59	0.65	1.24	.016
S 8	0.38	0.36	0.17	0.91		0.36	0.60	0.96	.002
S 9	0.51	0.39	0.19	1.09		0.36	0.68	1.04	.002
10	0.58	0.39	0.19	1.16		0.43	0.66	1.09	.106
11	0.61	0.39	0.19	1.19		0.57	0.68	1.25	.083
12	0.67	0.40	0.19	1.23		0.64	0.67	1.31	.083
13	0.60	0.40	0.19	1.19		0.56	0.66	1.22	.100
14	0.44	0.37	0.18	0.99		0.50	0.56	1.06	.092
S 15	0.40	0.37	0.18	0.95		0.38	0.54	0.92	.095
S 16	0.41	0.37	0.18	0.96		0.39	0.67	1.06	.093
17	0.64	0.40	0.19	1.23		0.62	0.63	1.25	.091
18	0.49	0.38	0.18	1.05		0.41	0.65	1.06	.090
19	0.45	0.37	0.18	1.00		0.38	0.64	1.02	.085
20	0.42	0.37	0.18	0.97		0.37	0.60	0.97	.087
21	0.42	0.37	0.18	0.97		0.49	0.66	1.15	.107
22	0.39	0.37	0.18	0.94		0.44	0.67	1.11	.095
23	0.31	0.36	0.17	0.84		0.41	0.68	1.09	.092
24	0.20	0.36	0.17	0.73		0.33	0.60	0.93	0.094
25	0.19	0.36	0.17	0.72		0.36	0.59	0.95	0.078
26	0.38	0.37	0.18	0.93		0.42	0.63	1.05	0.086
27	0.39	0.37	0.18	0.94		0.42	0.70	1.12	0.089
28	0.34	0.37	0.18	0.89		0.44	0.54	0.98	0.098
29	0.28	0.35	0.17	0.80		0.41	0.64	1.05	0.100
30	0.45	0.37	0.18	1.00		0.46	0.64	1.10	0.171
31	0.48	0.38	0.18	1.04		0.48	0.61	1.09	0.255

SAN. BACKFLOW 1605983 1/2/85 SANITARY 1/1/85 6382085
12/1/84 6354521
2,756,400

EXPERIMENTER John N. Orlan DATE 1/4/85

WITNESSED BY DEC 0010442 DATE

TITLE HIGH-LOW pH DATE DEC 1984 Page No. 31

PURPOSE Book No. E 21770

DATE	1 HR. AVE. pH			
	002		003	
	HI	LOW	HI	LOW
1	7.4	7.3	7.5	7.0
2	7.4	7.3	7.5	7.0
3	7.6	7.3	7.2	7.1
4	7.5	7.3	7.4	7.0
5	7.4	7.2	8.4	6.9
6	7.5	7.0	7.4	6.8
7	7.4	6.8	7.2	6.9
8	7.5	7.1	8.6	6.7
9	7.5	7.2	7.2	7.0
10	7.4	7.0	7.5	6.9
11	7.4	7.3	7.6	7.1
12	7.5	7.0	7.5	7.1
13	7.5	7.0	7.3	7.0
14	7.5	6.9	7.7	7.2
15	7.4	7.0	7.5	7.2
16	7.3	7.1	7.3	7.1
17	7.3	6.9	7.4	7.1
18	7.3	7.0	7.5	6.8
19	7.3	7.0	7.5	6.9
20	7.3	7.2	7.7	6.9
21	7.3	6.9	8.0	7.0
22	7.3	7.1	8.3	7.0
23	7.3	7.0	8.3	7.0
24	8.0	6.7	7.5	6.8
25	7.9	6.6	8.0	6.8
26	7.7	6.4	7.3	7.1
27	8.1	6.7	7.6	7.1
28	7.3	7.0	7.8	7.0
29	7.3	7.0	8.2	6.4
30	7.4	7.1	8.1	6.5
31	8.6	6.3	8.1	7.3

EXPERIMENTER John H. Osborn DATE 1/4/85

WITNESSED BY DATE

DEC 0010442

32 Page No. TITLE LOADINGS DATE DEC 1984

21770 Book No. PURPOSE

FLOW FACTORS MGD X 8.34

DATE	IN	002	003
2	8.26	3.00	5.25
5	10.51	4.92	5.59
9	8.67	3.00	5.67
13	10.17	4.67	5.50
16	8.84	3.25	5.59

DATE	IN	002	003
17	10.43	5.17	5.25
20	8.09	3.09	5.00
26	8.76	3.50	5.25
27	9.34	3.50	5.84
30	9.17	3.84	5.34

TOTAL SUSPENDED SOLIDS

DATE	MUNICIPAL IN		002 OUT		003 OUT		002+ 003	NET	NET ROUNDED
	mg/L	#/DAY	mg/L	#/DAY	mg/L	#/DAY	#/DAY	#/DAY	#/DAY
2	0	0	15	45	50	263	308	308	310
5			5	25	90	503	528	528	530
9			3	9	49	278	287	287	290
13			4	19	27	149	167	167	170
16			5	16	21	117	134	134	130
17			2	10	35	184	194	194	190
20			2	6	100	500	507	507	510
26			6	21	39	205	226	226	230
27			8	28	41	239	267	267	270
30			13	50	40	214	263	263	260

DISSOLVED SOLIDS

5	183	1923	670	3297	10766	60158	63455	61532	62000
17	180	1877	345	1784	9561	50235	52019	50143	50000

CHLORIDES - Cl

5	11	116	11	54	11	62	116	0	0
17	9	94	11	57	11	58	115	21	20

SULFATES - SO_4

17	66	688	184	951	6568	34510	35461	34773	35000

TOTAL PHOSPHATES - P

17	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05

EXPERIMENTER John M. Orban DATE 1/4/85

WITNESSED BY DATE

DEC 0010442

TITLE _____ DATE _____ Page No. 33

PURPOSE _____ Book No. E 21770

AMMONIA NH_3-N

DATE	MUNICIPAL IN		002 OUT		003 OUT		002 + 003	NET	NET ROUNDED
	mg/L	#/DAY	mg/L	#/DAY	mg/L	#/DAY	#/DAY	#/DAY	#/DAY
2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0
5			0.0	0.0	0.0	0.0	0.0	0.0	0
9			0.0	0.0	0.0	0.0	0.0	0.0	0
13			0.0	0.0	0.0	0.0	0.0	0.0	0
16			0.0	0.0	0.0	0.0	0.0	0.0	0
17			0.0	0.0	0.0	0.0	0.0	0.0	0
20			0.0	0.0	0.0	0.0	0.0	0.0	0
26			0.0	0.0	0.0	0.0	0.0	0.0	0
27			0.0	0.0	0.0	0.0	0.0	0.0	0
30			0.0	0.0	0.0	0.0	0.0	0.0	0

BOD_5

2	1.05	8.7	1.25	3.8	1.57	8.2	12.0	3.3	3
5	1.35	14.2	1.08	5.3	1.28	7.2	12.5	-1.7	0
9	1.28	11.1	1.91	5.7	1.63	4.0	9.7	1.4	1
13	3.63	36.9	2.84	13.3	4.74	26.1	39.4	2.5	3
16	1.09	9.6	0.92	3.0	0.96	5.4	8.4	-1.2	0
17	2.13	22.2	2.48	12.8	1.53	8.0	20.8	1.4	1
20	1.84	14.9	1.64	5.1	1.21	6.1	11.2	3.7	4
26	1.55	13.6	2.05	7.2	1.19	6.3	13.5	0.1	0
27	1.04	9.7	0.44	1.5	1.12	6.5	8.0	1.7	2
30	1.45	13.3	2.37	9.1	1.85	9.9	19.0	5.7	6

EXPERIMENTER John M. Orlan DATE 1/9/85

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

34 Page No. TITLE FLOWS DATE JAN 85

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	001 MGD	002 & 003 OUT 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	0.47	0.50	0.18	1.15	0	0.40	0.61	1.01	0.211
2	0.46	0.24	0.18	0.88		0.41	0.61	1.02	0.204
3	0.53	0.39	0.19	1.01		0.55	0.61	1.11	0.193
4	0.53	0.38	0.18	0.99		0.10	0.61	0.71	0.189
5	0.46	0.37	0.18	0.91		0.46	0.64	1.10	0.184
6	0.48	0.38	0.18	1.04		0.47	0.64	1.11	0.189
7	0.65	0.40	0.19	1.24		0.64	0.59	1.23	0.181
8	0.63	0.39	0.19	1.21		0.67	0.59	1.26	0.173
9	0.72	0.41	0.20	1.33		0.67	0.64	1.31	0.174
10	0.71	0.40	0.19	1.30		0.65	0.64	1.29	0.170
11	0.65	0.40	0.19	1.24		0.52	0.62	1.14	0.150
12	0.39	0.37	0.18	0.94		0.43	0.65	1.08	0.098
13	0.31	0.36	0.18	0.85		0.43	0.65	1.08	0.098
14	0.34	0.36	0.18	0.88		0.41	0.64	1.05	0.094
15	0.49	0.27	0.13	0.89		0.41	0.63	1.04	0.093
16	0.73	0.27	0.13	1.03		0.52	0.55	1.07	0.015
17	0.69	0.26	0.13	1.08		0.47	0.57	1.04	0
18	0.66	0.24	0.12	1.02		0.39	0.60	1.09	0.134
19	0.45	0.32	0.04	0.81		0.43	0.46	0.89	0.163
20	0	0.49	0	0.49		0.39	0.54	0.93	0.160
21	0	0.50	0	0.50		0.56	0.58	1.14	0.170
22	0.23	0.52	0	0.75		0.63	0.64	1.27	0.170
23	0.15	0.50	0	0.65		0.47	0.66	1.13	0.174
24	0.15	0.50	0.15	0.80		0.49	0.63	1.12	0.173
25	0.20	0.50	0.35	1.05		0.57	0.59	1.16	0.164
26	0.17	0.50	0.01	0.68		0.58	0.60	1.18	0.163
27	0.12	0.50	0.03	0.65		0.57	0.62	1.19	0.161
28	0.14	0.50	0	0.64		0.46	0.60	1.06	0.166
29	0.07	0.49	0	0.56		0.41	0.62	1.03	0.164
30	0.10	0.49	0.19	0.78		0.44	0.62	1.06	0.079
31	0.38	0.50	0.09	0.97		0.60	0.61	1.21	0.072

K FLOW METER NOT WORKING. CHECK VALVES NOT WORKING.

REPORTED TO CITY 2310700 - AVE OF PAST 6 MO.

SANITARY 2/1/85 6427405
1/1/85 6382085
4,532,000

EXPERIMENTER John K. Osborn DATE 2/8/85

WITNESSED BY DATE

DEC 0010442

038

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE Hi-Low pH DATE JAN 85 Page No. 35

PURPOSE Book No. E 21770

DATE	1 HOUR AVERAGE pH			
	002		003	
	Hi	Low	Hi	Low
1	7.2	6.9	7.7	6.9
2	7.1	6.4	7.6	7.0
3	7.3	6.8	7.5	7.2
4	7.3	7.0	7.9	7.3
5	7.4	7.0	8.1	7.1
6	7.3	7.0	7.6	7.2
7	7.3	6.9	7.6	7.3
8	7.3	7.0	7.6	7.0
9	7.5	6.9	8.0	6.8
10	7.4	7.0	7.7	6.8
11	7.2	6.8	7.6	7.0
12	7.2	6.8	7.2	6.9
13	7.0	6.8	8.1	7.0
14	7.6	6.8	7.2	7.0
15	7.5	7.1	7.1	6.9
16	7.3	7.1	7.3	7.1
17	7.6	7.0	7.9	7.3
18	7.7	7.0	7.7	6.8
19	7.3	7.0	7.5	6.9
20	8.4	6.5	7.9	7.0
21	8.6	6.6	8.0	7.5
22	8.2	6.7	7.8	7.7
23	7.4	6.9	7.9	7.7
24	7.5	6.8	7.9	7.8
25	7.4	7.1	7.9	7.8
26	7.7	6.5	8.0	7.5
27	7.6	7.0	8.4	7.1
28	7.7	7.0	8.4	7.4
29	7.3	6.9	7.7	7.2
30	7.5	7.0	8.2	7.0
31	7.5	6.8	7.7	7.3

EXPERIMENTER John N. Oslan DATE 2/8/85

WITNESSED BY DATE

DEC 0010442

36 Page No. TITLE LOADINGS DATE: JAN 85

21770 Book No. PURPOSE

FLOW FACTORS MGDX 8.34

DATE	IN	002	003
2	8.51	3.42	5.09
3	9.26	4.59	5.09
7	10.26	5.34	4.92
11	9.51	4.34	5.17
14	8.76	3.42	5.34

DATE	IN	002	003
16	8.92	4.34	4.59
22	10.59	5.25	5.34
24	9.34	4.09	5.25
25	9.67	4.75	4.92
30	8.84	3.67	5.17

TOTAL SUSPENDED SOLIDS

DATE	MUNICIPAL IN		002 OUT		003 OUT		002+003	NET	NET ROUNDED
	mg/L	#/DAY	mg/L	#/DAY	mg/L	#/DAY	#/DAY	#/DAY	#/DAY
2	0	0	5	17	80	407	424	424	420
3			8	37	84	427	464	464	460
7			5	27	75	369	396	396	400
11			7	30	22	114	144	144	140
14			12	41	49	262	303	303	300
16			3	13	27	124	137	137	140
22			5	26	42	224	250	250	250
[illegible]			3	12	80	420	433	430	430
[illegible]			7	33	40	197	230	230	230
30			2	7	24	124	131	131	130

DISSOLVED SOLIDS

3	186	1722	502	2303	11900	60540	62843	61121	61000
16	181	1615	781	3387	9210	42246	45633	44018	44000

CHLORIDES - Cl

3	9	83	11	50	11	56	106	23	20
16	11	98	11	48	11	50	98	0	0

SULFATES - SO_4

16	33	294	230	911	6232	28586	29497	29202	29000

TOTAL PHOSPHATES - P

16	0.00	0.00	0.00	0.00	0.02	0.09	0.09	0.09	0.09

EXPERIMENTER John N. Carlson DATE 2/8/85

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE JAN 85 Page No. 37

PURPOSE Book No. E 21770

AMMONIA NH_3-N

DATE	MUNICIPAL IN		002 OUT		003 OUT		002 + 003	NET	NET ROUNDED
	mg/L	#/DAY	mg/L	#/DAY	mg/L	#/DAY	#/DAY	#/DAY	#/DAY
2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0
3			0.0	0.0	0.0	0.0	0.0	0.0	0
7			0.0	0.0	0.0	0.0	0.0	0.0	0
11			0.0	0.0	0.0	0.0	0.0	0.0	0
14			0.0	0.0	0.0	0.0	0.0	0.0	0
16			0.0	0.0	0.0	0.0	0.0	0.0	0
22			0.0	0.0	0.0	0.0	0.0	0.0	0
24			0.0	0.0	0.0	0.0	0.0	0.0	0
25			0.0	0.0	0.0	0.0	0.0	0.0	0
30			0.0	0.0	0.0	0.0	0.0	0.0	0

BOD_5

2	1.25	10.6	0.61	2.1	0.55	2.8	4.9	-5.8	0
3	2.88	26.7	0.93	4.3	0.67	3.4	7.7	-19.0	0
7	2.89	29.7	1.84	9.8	4.32	25.3	31.1	1.4	1
11	0.84	8.0	2.02	8.8	3.57	18.5	27.2	19.2	19
14	1.56	13.7	1.35	4.6	1.40	7.5	12.1	-1.6	0
16	4.16	37.1	0.77	3.3	1.65	7.6	10.9	-26.2	0
22	3.20	33.9	8.30	43.6	5.82	31.1	74.7	40.8	41
24	2.77	25.9	0.69	2.8	2.51	13.2	16.0	-9.9	0
25	5.21	50.4	2.51	11.9	3.89	19.1	31.1	-19.3	0
30	3.76	33.2	2.49	9.1	11.44	58.9	68.0	34.8	35

EXPERIMENTER John N. Oslan DATE 2/8/85

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

38 Page No. TITLE FLOWS DATE FEB 85

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	001 MGD	002 & 003 OUT 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	0.53	0.50	0	1.03	0	0.61	0.60	1.21	0.072
2	0.52	0.47	0	0.99	0	0.40	0.60	1.00	0.070
3	0.50	0.48	0	0.98	0	0.44	0.62	1.06	0.070
4	0.28	0.50	0	0.78	0	0.53	0.36	0.89	0.072
5	0.07	0.50	0	0.57	0	0.56	0.64	1.20	0.070
6	0.17	0.49	0	0.66	0	0.58	0.57	1.15	0.068
7	0.43	0.49	0	0.92	0	0.46	0.55	1.01	0.067
8	0.37	0.50	0	0.87	0	0.58	0.59	1.17	0.069
9	0.08	0.48	0	0.56	0	0.46	0.67	1.13	0.068
10	0.11	0.43	0.01	0.55	0	0.51	0.33	0.84	0.063
[illegible]	0.35	0.25	0	0.60	0	0.54	① 0.55	1.09	0.066
[illegible]	0.41	0.27	0.01	0.69	0	0.58	① 0.55	1.13	0.058
13	0.30	0.24	0	0.24	0	0.52	① 0.55	1.07	0.071
14	0.15	0.44	0.13	0.72	0	0.57	① 0.55	1.12	0.069
15	0.23	0.32	0.05	0.60	0	0.52	① 0.55	1.07	0.066
16	0.24	0.22	0	0.26	0	0.44	① 0.55	0.99	0.064
17	0.31	0.22	0	0.53	0	0.48	① 0.55	1.03	0.060
18	0.13	0.45	0.16	0.74	0	0.66	① 0.55	1.21	0.065
19	0.09	0.46	0.17	0.72	0	0.64	① 0.55	1.19	0.065
20	0.11	0.48	0.18	0.77	0	0.66	① 0.55	1.21	0.068
21	0.03	0.46	0.16	0.65	0	0.61	① 0.55	1.16	0.091
22	0.06	0.45	0.16	0.67	0	0.23	① 0.55	0.78	0.145
23	0.01	0.45	0.16	0.62	0	0.21	① 0.55	0.76	0.195
24	0.01	0.45	0.16	0.62	0	0.44	① 0.55	0.99	0.192
25	0.13	0.46	0.17	0.76	0	0.57	0.43	1.00	0.169
26	0.04	0.45	0.16	0.65	0	0.54	0.54	1.08	0.154
27	0.11	0.47	0.17	0.75	0	0.48	0.57	1.05	0.153
28	0.04	0.47	0.17	0.68	0	0.55	0.61	1.16	0.156

~~BACKFLOW~~

① - AVE - EQUIPMENT FAILURE

SANITARY ~~3/1/85~~ 1605983 BACKFLOW
3/1/85 6453335
2/1/85 6427405
2593000

EXPERIMENTER John N. Orlan DATE 3/11/85

WITNESSED BY DATE

DEC 0010442

042

TITLE pH Hi-Low DATE FEB 85 Page No. 39

PURPOSE Book No. E 21770

DATE	1 HR AVE pH			
	002		003	
	Hi	Low	Hi	Low
1	7.9	6.9	8.4	7.2
2	7.8	6.2	7.7	6.7
3	8.6	6.8	7.3	7.1
4	8.6	6.6	7.2	7.2
5	8.5	7.2	7.4	7.2
6	7.8	7.0	7.6	7.1
7	7.5	7.0	8.4	7.2
8	7.3	7.0	7.7	7.3
9	7.6	7.3	7.7	7.2
10	8.5	6.4	7.8	7.1
11	7.9	7.0	8.2	6.7
12	9.0	1.7	8.4	7.0
13	7.7	7.2	8.0	7.4
14	7.6	6.8	8.1	7.1
15	7.1	6.8	7.7	7.5
16	7.2	6.9	8.1	7.5
17	7.2	7.0	8.1	7.6
18	7.5	6.7	7.8	7.7
19	7.7	6.7	7.8	7.7
20	7.7	7.2	8.3	7.6
21	7.6	6.8	7.8	7.4
22	7.2	6.9	7.6	7.4
23	8.0	6.2	7.9	7.3
24	7.6	7.4	7.7	7.4
25	7.8	7.3	7.7	7.5
26	7.7	7.5	7.6	7.6
27	7.5	7.4	7.6	7.3
28	7.5	7.0	7.6	7.2

EXPERIMENTER John N. Osborn DATE 3/11/85

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

40 Page No. TITLE LOADINGS DATE FEB 85

21770 Book No. PURPOSE

FLOW FACTORS MGD x 8.34

DATE	IN	002	003
1	10.09	5.09	5.00
3	8.84	3.67	5.17
6	9.59	4.84	4.75
8	9.76	4.84	4.92
11	9.09	4.50	4.59

DATE	IN	002	003
12	9.42	4.84	4.59
23	6.34	1.75	4.59
24	8.26	3.67	4.59
26	9.01	4.50	4.50
27	8.76	4.00	4.75

TSS

DATE	MUNICIPAL IN		002 OUT		003 OUT		002 + 003	NET	NET ROUNDED
	mg/L	#/DAY	mg/L	#/DAY	mg/L	#/DAY	#/DAY	#/DAY	#/DAY
1	0		6	31	47	235	266	266	270
3			5	18	38	196	215	215	220
6			3	15	29	138	152	152	150
8			2	10	36	177	187	187	190
11			3	14	50	229	243	243	240
12			7	34	43	197	231	231	230
23			6	11	27	124	134	134	130
24			8	26	31	128	154	154	150
26			15	68	35	158	225	225	230
27			7	28	28	133	161	161	160

DS

6	181	1736	530	2565	8032	38152	40717	38981	39000
26	204	1837	440	1982	5570	25085	27067	25229	25000

Cl

6	11	105	11	53	11	52	105	0	0
26	11	99	11	50	11	50	100	1	0

SO4

26	39	351	238	1072	3810	17159	18231	17879	18000

P

26	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.05	0.05

EXPERIMENTER John M. Oslan DATE 3/11/85 044

WITNESSED BY DEC 0010442 DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE LOADINGS DATE FEB 85 Page No. 41

PURPOSE Book No. E 21770

NH_3-N

DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 OUT mg/L	002 OUT #/DAY	003 OUT mg/L	003 OUT #/DAY	002+ 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
1	0		0.0	0.0	0.0	0.0	0.0	0.0	0
3			0.0	0.0	0.0	0.0	0.0	0.0	0
6			0.0	0.0	0.0	0.0	0.0	0.0	0
8			0.0	0.0	0.0	0.0	0.0	0.0	0
11			0.0	0.0	0.0	0.0	0.0	0.0	0
12			0.0	0.0	0.0	0.0	0.0	0.0	0
23			0.0	0.0	0.0	0.0	0.0	0.0	0
24			0.0	0.0	0.0	0.0	0.0	0.0	0
26			0.0	0.0	0.0	0.0	0.0	0.0	0.0
27			0.0	0.0	0.0	0.0	0.0	0.0	0

BOD_5

1	0.96	9.7	1.07	5.4	1.80	9.0	14.4	4.8	5
3	3.18	28.1	3.45	12.7	1.96	10.1	22.8	-5.3	0
6	3.90	37.4	3.64	17.6	3.78	18.0	35.6	-1.8	0
8	2.49	24.3	1.85	9.0	3.01	14.8	23.8	-0.5	0
11	2.40	21.8	1.39	6.3	3.74	17.2	23.4	1.6	2
12	3.01	28.4	1.00	4.8	0.70	3.2	8.1	-20.3	0
23	2.81	17.8	4.36	7.6	32.4	149.6	156.3	138.4	138
24	2.81	23.2	4.05	14.9	31.8	145.9	160.7	137.5	138
26	3.21	28.9	3.60	16.2	46.2	208.0	224.3	195.4	195
27	1.49	13.0	1.82	7.3	18.1	86.0	93.3	80.3	80

EXPERIMENTER John N. Orlan DATE 3/11/85

WITNESSED BY DATE

DEC 0010442

42 Page No. TITLE FLOWS DATE MARCH 85

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOUTH METER MGD	TOTAL MGD	001 MGD	002 + 003 OUT 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	0.04	0.43	0.16	0.63	0	0.50	0.55	1.05	0.141
2	0.02	0.45	0.16	0.63		0.39	0.59	0.98	0.142
3	0.04	0.46	0.16	0.66		0.44	0.62	1.06	0.234
4	0.00	0.44	0.15	0.59		0.41	0.53	0.94	0.267
5	0.05	0.45	0.16	0.66		0.49	0.55	1.04	0.214
6	0.03	0.46	0.17	0.66		0.50	0.59	1.09	0.191
7	0.11	0.45	0.16	0.72		0.51	0.61	1.12	0.176
8	0.06	0.46	0.17	0.69		0.56	0.63	1.19	0.172
9	0.06	0.46	0.17	0.69		0.55	0.65	1.20	0.162
10	0.10	0.46	0.17	0.73		0.56	0.68	1.24	0.166
11	0.08	0.46	0.17	0.71		0.51	0.62	1.13	0.158
12	0.10	0.46	0.17	0.73		0.54	0.66	1.20	0.141
13	0.05	0.44	0.16	0.65		0.53	0.59	1.12	0.140
14	0.02	0.46	0.16	0.64		0.48	0.66	1.14	0.137
15	0.02	0.45	0.16	0.63		0.49	0.65	1.14	0.129
16	0.02	0.45	0.16	0.63		0.48	0.64	1.12	0.124
17	0.01	0.43	0.15	0.59		0.40	0.61	1.01	0.112
18	0.00	0.44	0.15	0.59		0.38	0.63	1.01	0.106
19	0.01	0.45	0.17	0.63		0.41	0.61	1.02	0.093
20	0.03	0.45	0.15	0.63		0.39	0.64	1.03	0.110
21	0.03	0.45	0.16	0.64		0.42	0.65	1.07	0.102
22	0.02	0.45	0.16	0.63		0.44	0.64	1.08	0.100
23	0.03	0.42	0.15	0.60		0.43	0.60	1.03	0.094
24	0.04	0.45	0.16	0.65		0.53	0.62	1.15	0.094
25	0.02	0.44	0.16	0.62		0.40	0.65	1.05	0.097
26	0.06	0.45	0.16	0.67		0.52	0.61	1.13	0.097
27	0.04	0.49	0.16	0.69		0.50	0.62	1.12	0.065
28	0.06	0.45	0.16	0.67		0.45	0.61	1.06	0
29	0.01	0.44	0.16	0.61		0.41	0.62	1.03	0.279
30	0.02	0.44	0.16	0.62		0.37	0.61	0.98	0.144
31	0.02	0.45	0.16	0.63		0.41	0.64	1.05	0.144

SANITARY 4/1/85 6496624
3/1/85 6453335
43289 00

EXPERIMENTER John N. Orban DATE 4/10/85

WITNESSED BY DEC 0010442 DATE

TITLE PH HIGH - LOW DATE MARCH 85 Page No. 43

PURPOSE Book No. E 21770

DATE	1 HR AVE PH 002 HI	002 LOW	003 HI	003 LOW
1	7.4	6.8	8.6	7.0
2	6.9	6.7	8.7	7.1
3	7.2	6.8	7.8	6.6
4	7.2	7.1	7.5	6.9
5	7.3	6.9	7.9	6.9
6	7.3	7.0	7.8	6.5
7	7.4	7.0	8.2	6.7
8	7.2	6.8	7.5	6.8
9	7.2	6.8	7.4	6.4
10	7.2	6.8	8.1	6.6
11	8.0	7.1	7.6	7.0
12	7.7	7.4	7.7	7.3
13	7.6	7.2	7.5	6.8
14	7.6	7.4	7.5	6.8
15	7.6	7.4	7.9	6.5
16	7.7	7.5	7.7	7.2
17	7.7	7.4	7.6	7.0
18	7.8	7.5	7.3	6.8
19	7.6	7.5	8.4	7.1
20	7.6	7.4	8.5	7.0
21	7.6	7.5	7.7	7.0
22	7.7	7.5	7.2	6.9
23	8.2	6.9	8.0	6.8
24	7.7	7.3	8.1	7.6
25	7.5	7.0	8.1	7.7
26	7.5	7.3	8.7	7.6
27	7.5	7.0	8.0	7.6
28	7.1	7.0	7.9	7.7
29	7.1	6.7	7.7	7.5
30	7.3	7.0	7.9	7.5
31	7.2	7.1	8.2	7.2

EXPERIMENTER John N. Orlan DATE 4/10/85 047

WITNESSED BY DEC 0010442 DATE

44 Page No. TITLE LOADINGS DATE MARCH 1984

21770 Book No. PURPOSE

FLOW FACTORS MGD X 8.34

DATE	IN	002	003
1	8.76	4.17	4.59
7	9.34	4.25	5.09
9	10.01	4.59	5.42
15	9.51	4.09	5.42
16	9.34	4.00	5.34

DATE	IN	002	003
21	8.92	3.50	5.42
23	8.59	3.59	5.00
28	8.84	3.75	5.09
29	8.59	3.42	5.17
31	8.76	3.42	5.34

TSS

DATE	MUNICIPAL IN		002 OUT		003 OUT		002 + 003	NET	NET ROUNDED
	mg/L	#/DAY	mg/L	#/DAY	mg/L	#/DAY	#/DAY	#/DAY	#/DAY
1	0		4	17	15	69	85	85	90
7			11	47	45	229	276	276	280
9			2	9	34	184	193	193	190
15			2	8	48	260	268	268	270
16			5	20	30	160	180	180	180
21			2	7	42	228	235	235	240
23			2	7	46	230	237	237	240
[illegible]			5	19	32	163	182	182	180
29			2	7	15	78	84	84	80
31			2	7	23	123	130	130	130

DS

7	191	1784	572	2433	9201	46809	49242	47458	47000
23	190	1632	590	2116	8119	40631	42747	41115	41000

Cl

7	8	84	11	47	13	66	113	29	30
23	11	94	11	39	15	75	115	20	20

SO4

23	34	292	215	771	5413	27087	27858	27566	28000

P

23	0.00	0.00	0.00	0.00	0.02	0.10	0.10	0.10	0.10

EXPERIMENTER John N. Orlow DATE 4/10/85

WITNESSED BY DATE

DEC 0010442

TITLE _____ DATE MARCH 1985 Page No. 45

PURPOSE _____ Book No. E 21770

NH3-N

DATE	MUNICIPAL IN mg/L	MUNICIPAL IN #/DAY	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY	NET #/DAY	NET ROUNDED #/DAY
1	0.00	0.0	0.00	0.0	0.00	0.0	0.0	0.0	0
7			0.00	0.0	0.00	0.0	0.0	0.0	0
9			0.00	0.0	0.00	0.0	0.0	0.0	0
15			0.00	0.0	0.00	0.0	0.0	0.0	0
16			0.00	0.0	0.00	0.0	0.0	0.0	0
21			0.00	0.0	0.00	0.0	0.0	0.0	0
23			0.00	0.0	0.00	0.0	0.0	0.0	0
28			0.00	0.0	0.00	0.0	0.0	0.0	0
29			0.00	0.0	0.00	0.0	0.00	0.0	0
31			0.00	0.0	0.00	0.0	0.00	0.0	0

BOD5

1	2.57	22.5	3.80	15.9	2.22	10.2	26.0	3.5	4
7	0.95	8.9	2.49	10.6	7.46	38.0	48.6	39.7	40
9	3.26	32.6	1.34	6.2	1.89	10.2	16.4	-16.2	0
15	1.60	15.2	1.22	5.0	1.52	8.2	13.2	-2.0	0
16	1.60	14.9	0.78	3.1	1.07	5.7	8.8	-6.1	0
21	2.76	24.6	2.05	7.2	1.39	7.5	14.7	-9.9	0
23	1.67	14.4	2.20	7.9	1.64	8.2	16.1	1.8	2
28	4.57	40.4	6.52	24.5	5.76	29.3	53.8	13.4	13
29	1.76	15.1	2.32	7.9	3.09	16.0	23.9	8.8	9
31	1.76	15.4	2.72	9.3	2.16	11.5	20.8	5.4	5

EXPERIMENTER John N. Orban DATE 4/10/85

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

46 Page No. TITLE FLOWS DATE APRIL 85

21770 Book No. PURPOSE

DATE	MUNICIPAL WATER IN NORTH METER MGD	CENTER METER MGD	SOOTH METER MGD	TOTAL MGD	001	002 & 003 OUT 002 MGD	003 MGD	TOTAL MGD	SANITARY MGD
1	.04	.46	.16			.45	.65	1.10	.139
2	.04	.45	.16			.44	.66	1.10	.140
3	.03	.44	.16			.39	.53	.94	.130
4	.03	.46	.16			.43	.68	1.01	.176
5	.05	.44	.16			.38	.70	1.08	.196
6	.03	.45	.16			.38	.74	1.12	.167
7	.01	.44	.16			.38	.72	1.10	.154
8	.02	.45	.16			.46	.71	1.17	.153
9	.01	.45	.16			.38	.72	1.10	.145
10	.01	.43	.16			.40	.72	1.12	.131
11	.02	.44	.16			.43	.73	1.16	.130
12	.04	.45	.16			.54	.73	1.27	.123
13	.03	.45	.16			.53	.70	1.23	.119
14	.04	.45	.16			.56	.71	1.27	.119
15	.01	.45	.16			.47	.68	1.15	.113
16	.07	.45	.17			.57	.66	1.23	.083
17	.05	.46	.17			.58	.70	1.28	.089
18	.02	.44	.16			.55	.70	1.25	.111
19	.02	.48	.18			.48	.69	1.07	.094
20	0	.48	.19			.41	.69	1.10	.073
21	.01	.49	.19			.45	.68	1.13	.090
22	.02	.51	.21			.59	.69	1.38	.094
23	.02	.50	.20			.60	.68	1.28	.088
24	0	.50	.18			.44	.67	1.11	.088
25	0	.47	.20			.44	.67	1.11	.080
26	.01	.45	.18			.41	.65	1.16	.080
27	0	.50	.20			.35	.63	0.98	.078
28	0	.46	.18			.33	.53	0.86	.082
29	.02	.51	.20			.46	.59	1.05	.082
30	.01	.48	.19			.39	.58	.97	.082

SANITARY 5/1/85 6530909
4/1/85 6496624
3427500

EXPERIMENTER John M. Osborn DATE 4/10/85

WITNESSED BY DATE

DEC 0010442

050

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE pH DATE APRIL 85 Page No. 47

PURPOSE Book No. E 21770

DATE	1 HR AVE pH 002 Hi	002 Low	003 Hi	003 Low
1	7.4	6.8	8.5	7.3
2	7.1	7.1	7.8	7.2
3	7.2	7.1	8.4	7.4
4	7.4	7.0	8.3	7.0
5	7.2	7.1	8.4	7.1
6	7.2	7.0	7.9	7.1
7	7.3	7.1	8.1	7.0
8	7.4	7.1	8.1	7.5
9	7.5	7.2	8.4	7.3
10	7.4	7.0	8.1	7.2
11	7.2	7.0	7.9	6.9
12	7.3	7.1	7.8	7.3
13	7.2	6.9	8.2	7.6
14	7.2	7.1	8.4	7.2
15	7.2	7.0	8.6	7.5
16	7.1	6.7	8.4	7.3
17	7.2	7.1	8.0	7.7
18	7.2	7.0	8.2	7.9
19	7.5	7.0	8.2	7.8
20	7.4	7.1	8.1	7.8
21	7.4	6.9	7.8	7.5
22	7.3	6.9	7.7	7.2
23	7.3	6.9	7.8	7.0
24	7.4	7.1	7.7	6.6
25	7.4	7.0	8.2	6.6
26	7.6	7.0	7.7	7.0
27	7.6	7.2	7.8	7.0
28	7.4	7.2	7.2	6.8
29	7.4	7.0	7.4	6.9
30	7.8	7.1	7.4	6.7

DEC 0010442

EXPERIMENTER John M. Orlan DATE 4/10/85 051

WITNESSED BY DATE

48 Page No. TITLE LOADINGS DATE: APRIL 85

21770 Book No. PURPOSE

FLOW FACTORS 8.34 X MGD

PUT IN MAY DATES → INSTEAD OF APRIL

DATE	002	003
3 4	3.59	5.67
4 6	3.17	6.17
8 9	3.17	6.00
10 12	4.50	6.09
14 15	3.92	5.67

DATE	002	003
15 18	4.59	5.84
19 24	3.67	5.59
21 25	3.67	5.59
23 26	3.42	5.42
27 29	3.84	4.92

TSS

DATE	002 OUT mg/L	002 OUT #/DAY	003 mg/L	003 #/DAY	002+003 #/DAY	ROUNDED #/DAY
3 4	3	11	50	284	294	290
4 6	5	16	56	346	361	360
8 9	3	10	60	360	370	370
10 12	3	14	47	286	300	300
14 15	1	4	41	233	237	240
15 18	8	37	49	286	323	320
19 24	9	33	57	319	352	350
21 25	4	15	47	263	277	280
23 26	2	7	15	81	88	90
27 29	3	12	36	177	189	190

DS

6	771	2443	9325	57550	59994	60000
25	437	1604	9203	51425	53028	53000

Cl

6	11	35	13	80	185	120
25	11	40	11	61	101	100

SO4

6	232	735	6173	38097	38833	39000

P

6	0.00	0.00	0.00	0.00	0.00	0

EXPERIMENTER John N. Cohen DATE 5/13/85

WITNESSED BY DATE

DEC 0010442

052

TITLE LOADINGS DATE APRIL 85 Page No. 49

PURPOSE Book No. E 21770

NH_3-N

DATE			002 OUT mg/L	002 OUT #/DAY	003 OUT mg/L	003 OUT #/DAY	002+003 #/DAY			ROUNDED #/DAY
3 4			0.0	0.0	0.0	0.0	0.0			0
4 6			0.21	0.67	0.26	1.30	1.97			2
8 9			0.21	0.67	0.56	3.36	4.03			4
10 12			0.0	0.0	0.0	0.0	0.0			0
14 15			0.0	0.0	0.0	0.0	0.0			0
15 18			0.0	0.0	0.0	0.0	0.0			0
19 24			0.0	0.0	0.0	0.0	0.0			0
21 25			0.0	0.0	0.0	0.0	0.0			0
23 26			0.0	0.0	0.0	0.0	0.0			0
27 29			0.0	0.0	0.0	0.0	0.0			0

BOD_5

3 4			4.45	16.0	4.45	16.0	32.0			32
4 6			5.20	16.5	1.47	9.1	25.6			26
8 9			3.69	11.7	2.24	13.4	25.2			25
10 12			3.04	13.7	4.88	29.7	43.4			43
14 15			0.69	2.7	2.60	14.8	17.5			18
15 18			2.40	11.0	4.32	25.2	36.2			36
19 24			0.84	3.1	1.29	7.2	10.3			10
21 25			2.37	8.7	4.43	24.8	33.5			34
23 26			2.49	8.5	1.84	10.0	18.5			19
27 29			2.49	9.6	2.69	13.2	22.8			23

EXPERIMENTER Joshua N. Orlan DATE 5/13/85 053

WITNESSED BY DEC 0010442 DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

50 Page No. TITLE FLOWS - PH - TEMP DATE MAY 1985

21770 Book No. PURPOSE

DAY	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002 + 003 MGD	SANIT. MGD
1	0.47	7.4		~~0.58~~	6.8		1.03	
2	0.46	7.5		0.56	7.7		0.89	
3	0.45	7.3		0.43	7.6		1.01	
4	0.43	7.3		0.56	7.9		1.04	
5	0.39	7.2		0.61	7.8		0.90	
6	0.54	7.1		0.51	7.2		1.11	
7	0.46	7.2		0.57	7.4		1.06	
8	0.53	7.4		0.60	7.3		1.11	
9	0.49	7.6		0.58	7.5		1.11	
10	0.46	7.4		0.62	7.6		1.10	
11	0.44	7.4		0.64	7.7		1.08	
12	0.43	7.4		0.64	7.6		1.06	
13	0.42	7.4		0.63	7.1		1.02	
14	0.45	7.5		0.60	7.5		1.08	
15	0.43	7.6	25	0.63	7.1	25	0.96	
16	0.57	7.6		0.53	7.5		1.08	
17	0.47	7.6		0.61	7.5		1.04	
18	0.46	7.6		0.57	7.7		1.09	
19	0.47	7.6		0.63	7.7		1.11	
20	0.58	7.6		0.64	7.4		1.09	
21	0.38	7.7	16	0.61	7.1	26	1.02	
22	0.38	7.6		0.64	7.2		0.99	
23	0.38	7.5		0.61	7.2		0.97	
24	0.39	7.5		0.59	6.9		0.99	
25	0.40	7.5		0.60	7.6		1.01	
26	0.43	7.5		0.61	7.6		1.06	
27	0.42	7.6		0.63	7.4		1.06	
28	0.39	7.4		0.64	7.4		0.90	
29	0.45	7.4		0.51	7.1		1.07	
30	0.46	7.4		0.62	6.8		1.10	
31	0.45	7.4		0.64	7.4		1.07	

0.62

MOVE ALL UP 1 DAY

SANITARY 6/1/85 6554293
5/1/85 6530909
2338400

EXPERIMENTER John N. Olson DATE 6/21/85

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE MAY 1985 Page No. 51

PURPOSE Book No. E 21770

LOADING FACTORS (MGD x 8.34)

DAY	002	003
15	3.59	4.42
21	3.17	5.34

DAY	002 mg/L	002 Lb/DAY	003 mg/L	003 Lb/DAY	ROUNDED 002 + 003 Lb/DAY
TSS					
15	~~3~~ 5	18	~~4~~ 5	2~~7~~	40
21	3	10	4	21	30
TDS					
15	380	1364	7890	34874	36000
Cl					
15	10	36	11	49	90
SO_4					
15	210	754	5330	23559	24000
NH_3-N					
15	0.20	0.72	<.20	0.88	2.~~6~~
21	0.20	0.7~~2~~	0.24	1.28	2.~~0~~
BOD_5					
15	<2	7	2.3	10	17
21	<2	<6.	<2	<10	<16
COD					
15	9	32	15	66	98
21	12	38	10	53	91

	002	003
LEAD	<0.10	<0.10

DEC 0010442

EXPERIMENTER John N. Orban DATE 6/21/85

WITNESSED BY DATE

055

E. I. DU PONT DE NEMOURS & CO. (INC.)

52 Page No. TITLE FLOW - pH - TEMP DATE JUNE 1985

21770 Book No. PURPOSE

DAY	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002 + 003 MGD		SANIT MGD
1	0.45	7.4		~~0.62~~	7.6		1.07	1.09	
2	0.45	7.4		0.64	7.5		1.09	1.06	
3	0.44	7.4		0.61	7.7		1.05	1.02	
4	0.47	7.5		0.58	7.5		1.05	1.15	
5	0.39	7.5	20	0.68	7.6	25	1.07	0.98	
6	0.46	7.6		0.59	7.2		1.05	1.10	
7	0.46	7.6		0.64	7.0		1.10	1.12	
8	0.52	7.6		0.66	7.2		1.18	1.17	
9	0.48	7.6		0.65	7.3		1.13	1.10	
10	0.44	7.6		0.62	7.4		1.06	1.06	
11	0.47	7.3		0.62	7.2		1.07	1.09	
12	0.48	7.6		0.62	7.2		1.10	1.13	
13	0.60	7.7		0.65	6.8		1.25	1.23	
14	0.68	7.5		0.63	7.6		1.21	1.32	
15	0.54	7.6		0.64	7.6		1.18	1.22	
16	0.45	7.7		0.68	7.5		1.13	1.10	
17	0.55	7.6		0.65	7.3		1.20	1.17	
18	0.61	7.5	21	0.62	7.2	27	1.23	1.19	
19	0.42	7.6		0.58	7.3		1.00	1.03	
20	0.38	7.6		0.61	7.4		0.99	0.93	
21	0.36	7.6		0.55	8.0		0.91	0.99	
22	0.39	7.6		0.63	7.4		1.02	0.99	
23	0.40	7.7		0.[illegible]	7.3		0.99	0.99	
24	0.60	7.7		0.59	7.3			1.16	
25	0.64	7.6		0.56	7.3			1.23	
26	0.61	7.7		0.59	7.4			1.23	
27	0.58	7.7		0.62	7.6			1.20	
28	0.47	7.8		0.62	7.7			1.11	
29	0.47	7.7		0.64	7.8			1.07	
30	0.46	7.7		0.60	7.4			1.05	
				0.59					

0.067 AVE

OFF BY ONE DAY
MOVE ALL UP ONE

SANITARY 7/1/85 6574316
6/1/85 6554293
2002300

REV.
05985

EXPERIMENTER John M. Nelson DATE 7/15/85

WITNESSED BY DATE

DEC 0010442

056

LOADING FACTORS (MGD X 8.34)

DAY	002	003
5	3.25	~~5.67~~ 4.92
18	5.09	~~5.77~~ 4.84

DAY	002 mg/L	002 LB/DAY	003 mg/L	003 LB/DAY	ROUNDED 002 + 003 LB/DAY
TSS					
5	<5	16	10	49	70
18	2	10	7	~~36~~ 34	40 ~~50~~
TDS					
5	167	542	8750	43050	44000
Cl					
5	10	33	8.4	41	70
SO4					
5	44	143	6120	30110	30000
NH3-N					
5	0.19	0.62	0.16	0.79	1
18	0.06	0.31	0.19	0.92	1
BOD					
5	<2	~~8~~ 6.5	<2	9.8	16
18	<2	10	<2	10	20
COD					
5	6	20	7	34	54
18	6.4	32	11	53	85 ~~89~~

	002	003
LEAD	<0.10	<0.10

54 Page No. TITLE FLOW - PH - TEMP DATE: JULY 1985

21770 Book No. PURPOSE

USED pH @ 2 pM

DAY	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002 + 003 MGD	SANIT MGD
1	0.54	7.7		0.68	8.1		1.15	
2	0.65	7.5		0.47	7.7		1.12	
3	0.53	7.7		0.50	7.7		1.03	
4	0.56	7.7		0.61	7.5		1.17	
5	0.55	7.1		0.58	7.4		1.13	
6	0.54	7.7		0.62	7.5		1.16	
7	0.54	7.7	16	0.62	7.7	26	1.18	
8	0.54	7.6		0.65	7.6		1.19	
9	0.59	7.7		0.62	7.7		1.21	
10	0.63	7.7		0.59	7.8		1.22	
11	0.72	7.9		0.64	7.6		1.36	
12	0.68	7.7		0.66	7.7		1.34	
13	0.62	7.7		0.71	7.4		1.33	
14	0.57	7.6		0.70	7.5		1.27	
15	0.65	7.1		0.61	7.7		1.26	
16	0.65	7.6	16	0.62	7.5	29	1.27	
17	0.68	7.7		0.59	7.5		1.27	
18	0.67	7.8		0.64	7.5		1.31	0.062 AVE
19	0.57	7.8		0.63	7.3		1.20	
20	0.54	7.6		0.60	7.5		1.14	
21	0.51	7.6		0.41	7.6		0.92	
22	0.52	7.7		0.60	7.6		1.12	
23	0.62	7.8		0.63	7.4		1.25	
24	0.72	7.7		0.65	7.2		1.37	
25	0.78	7.8		0.70	7.2		1.48	
26	0.63	7.6		0.61	7.6		1.24	
27	0.48	7.9		0.66	7.7		1.14	
28	0.41	7.8		0.64	7.7		1.05	
29	0.63	7.7		0.62	7.8		1.25	
30	0.66	8.1		0.58	7.4		1.24	
31	0.42	7.7		0.62	7.4		1.08	

SANITARY 8/1/85 6593599
7/1/85 6574316
19283 00

BACK FLOW
1605986 OK

EXPERIMENTER John N. Osborn DATE 8/16/85

WITNESSED BY DATE

DEC 0010442

058

TITLE LOADINGS DATE JULY 1985 Page No. 55

PURPOSE Book No. E 21770

LOADING FACTORS (MGD x 8.34)

DATE	002	003
7	4.50	5.17
16	5.42	5.17

DAY	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	(ROUNDED) 002 + 003 #/DAY
TSS					
7	~~<2.5~~ <2	~~14~~ 9	~~41~~ 19	~~212~~ 98	~~170~~ 110
16	<2.5	14	41	212	230
TDS					
7	310	1395	10300	53251	55000
Cl					
7	14	63	14	72	140
SO4					
7	12	54	6800	35156	35000
NH3-N					
7	~~<~~0.21	1	<0.20	1	2
16	<0.2	1	0.22	1	2
BOD5					
7	<2	9	<2	10	19
16	<2	11	<2	10	21
COD					
7	~~5.2~~ 6.0	27	~~6.3~~ 10.0	52	79
16	5.0	27	6.3	33	60

Pb: 002 <0.10
003 <0.10

EXPERIMENTER John R. Orlan DATE 8/16/85

WITNESSED BY DEC 0010442 DATE

56 Page No. TITLE FLOW - PH - TEMP DATE AUGUST 1985

21770 Book No. PURPOSE

PH @ 6:00 PM DAILY

DAY	002 MGD	002 PH	002 °C	003 MGD	003 PH	003 °C	002 + 003 MGD
1	0.61	7.7		0.62	7.2		1.23
2	0.70	7.9		0.59	7.3		1.29
3	0.41	8.0		0.57	7.2		0.98
4	0.58	7.8		0.44	7.8		1.02
5	0.66	8.0		0.62	7.4		1.28
6	0.62	8.0		0.71	8.1		1.33
7	0.58	8.0	19	0.70	7.4	28	1.28
8	0.59	7.7		0.67	7.5		1.26
9	0.66	7.6		0.60	7.6		1.26
10	0.42	7.4		0.60	7.9		1.02
11	0.43	8.0		0.22	7.3		0.65
12	0.62	7.7		0.60	7.5		1.22
13	0.62	7.6		0.64	7.5		1.26
14	0.58	7.7		0.63	7.6		1.21
15	0.57	7.8		0.62	7.6		1.19
16	0.60	7.8		0.62	7.8		1.22
17	0.08	6.6		0.30	8.1		0.38
18	0.19	6.6		0.23	8.1		0.41
19	0.18	6.6		0.14	8.1		0.32
20	0.22	6.6	16	0.16	8.1	16	0.38
21	0.16	6.6		0.12	8.1		0.28
22	0.21	6.6		0.15	8.1		0.36
23	0.20	6.6		0.57	7.6		0.77
24	0.23	6.6		0.61	7.7		0.84
25	0.33	7.2		0.59	7.3		0.92
26	0.59	7.5		0.61	8.0		1.20
27	0.62	7.4		0.64	8.0		1.26
28	0.60	7.4		0.64	8.0		1.24
29	0.52	7.4		0.63	7.8		1.15
30	0.58	7.6		0.62	7.8		1.20
31	0.62	7.5		0.62	7.7		1.24

SANITARY 9/1/85 6612614
8/1/85 6593599
1901560

EXPERIMENTER John N. Orban DATE 9/12/85

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE AUGUST 1985 Page No. 57

PURPOSE Book No. E 21770

LOADING FACTORS (MGD X 8.34)

DATE	002	003
7	4.84	5.84
20	1.83	1.33

DAY	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
7	<2	10	16	93	100
20	4	7	<2	3	10
TDS					
7	580	2807	9110	53202	56000
Cl					
7	11	53	10	58	110
SO4					
7	310	1500	6150	35916	37000
NH_3-N					
7	0.28	1.4	<0.20	1.2	2
20	<0.20	0.4	<0.20	0.3	1
BOD_5					
7	<2	10	<2	12	22
20	<2	4	<2	3	7
COD					
7	24	116	27	158	274
20	21	38	<5	7	45

LEAD	002	003	
	<0.10	<0.10	8/7/85

EXPERIMENTER John N. Orban DATE 9/12/85

WITNESSED BY DEC 0010442 DATE

58 Page No. TITLE FLOW, pH, TEMP DATE SEPTEMBER 85

1770 Book No. PURPOSE

USE pH @ 10:00 PM

DAY	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.61	7.6		0.65	7.6		1.26
2	0.51	7.6		0.64	7.0		1.15
3	0.58	7.8		0.73	7.4		1.31
4	0.55	7.86		0.65	8.1 ~~7.4~~		1.20
5	0.61	7.6		0.78	8.0		1.39
6	0.54	7.5		0.64	8.0		1.18
7	0.58	7.5		0.70	8.0		1.28
8	0.49	7.5 ~~7.7~~	17	0.64	7.6 ~~8.0~~	27	1.13
9	0.60	7.4		0.62	7.2		1.22
10	0.56	7.5		0.61	7.5		1.17
11	0.30	7.5		0.61	7.4		0.91
12	0.58	7.2		0.36	7.8		0.94
13	0.55	7.4		0.67	7.2		1.17
14	0.55	7.6		0.62	7.8		1.17
15	0.69	7.6		0.64	7.8		1.33
16	0.66	7.4		0.59	7.6		1.25
17	0.71	7.4	21	0.66	7.6	28	1.37
18	0.75	7.6		0.65	7.6		1.40
19	0.74	7.7		0.64	7.7		1.38
20	0.55	7.7		0.64	7.7		1.19
21	0.52	7.8		0.64	7.7		1.16
22	0.60	7.4		0.71	7.7		1.31
23	0.53	7.7		0.61	7.4		1.14
24	0.57	7.7		0.59	7.1		1.16
25	0.40	7.7		0.62	7.4		1.02
26	0.46	7.3		0.61	7.4		1.07
27	0.54	7.3		0.61	7.5		1.15
28	0.49	7.4		0.56	7.4		1.05
29	0.51	7.4		0.66	7.5		1.17
30	0.45	7.7		0.64	7.3		1.09

SANITARY 10/1/85 6631335
9/1/85 6612614
1872100

EXPERIMENTER John N. Orban DATE 10/10/85

WITNESSED BY DEC 0010442 DATE

062

TITLE LOADINGS DATE SEPT. '85 Page No. 59

PURPOSE Book No. E 21770

LOADING FACTORS (~~MGD~~ MGD X 8.34)

DATE	002	003
8	4.09	5.34
17	5.92	5.50

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
8	3	12	12	64	80
17	7	41	18	99	140
TDS					
8	167	683	9329	49817	51000
			( )	( )	~~COLLECTED FOR~~
Cl					
8	10	41	9.2	49	90
SO4					
8	46	188	6800	36312	37000
NH3-N					
8	0.15	0.6	<0.2	1.1	2
17	0.26	1.5	0.27	1.5	3
BOD5					
8	<2	8	<2	11	19
17	<2	12	<2	11	23
COD					
8	7	29	6	32	61
17	6.9	41	8.5	47	88

LEAD	002	003	
	<0.10	<0.10	9/8/85

EXPERIMENTER John N. Olson DATE 10/10/85

WITNESSED BY DEC 0010442 DATE

60 Page No. TITLE Flow, pH, Temp DATE Oct 1985

E 21770 Book No. PURPOSE

DAY	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.57	7.5		0.62	7.2		1.19
2	0.58	7.4		0.61	7.3		1.19
3	0.49	7.4		0.69	7.4		1.18
4	0.60	7.4		0.68	7.5		1.28
5	0.55	7.4		0.72	7.2		1.27
6	0.56	7.3		0.66	7.1		1.22
7	0.72	7.3	21	0.71	7.4	24	1.43
8	0.73	7.4		0.67	7.6		1.40
9	0.60	7.4		0.69	7.6		1.29
10	0.59	7.4		0.68	7.7		1.27
11	0.66	7.7		0.75	7.7		1.41
12	0.59	7.7		0.79	7.5		1.38
13	0.59	7.7		0.71	7.2		1.30
14	0.71	7.6	19	0.71	7.7	26	1.42
15	0.63	7.2		0.69	7.7		1.32
16	0.67	7.4		0.62	7.6		1.29
17	0.73	7.4		0.72	7.5		1.45
18	0.66	7.4		0.71	7.0		1.37
19	0.55	7.4		0.71	7.7		1.26
20	0.51	7.3		0.68	7.7		1.19
21	0.52	7.4		0.74	7.7		1.26
22	0.59	7.3		0.68	7.6		1.27
23	0.78	7.3		0.72	7.7		1.50
24	0.78	7.3		0.70	7.7		1.48
25	0.64	7.3		0.72	7.4		1.36
26	0.60	7.4		0.72	7.7		1.32
27	0.48	7.4		0.61	7.4		1.09
28	0.59	7.4		0.69	6.9		1.28
29	0.75	7.3		0.66	7.1		1.41
30	0.67	7.3		0.67	7.6		1.34
31	0.68	7.4		0.71	7.7		1.39

SANITARY 11/1/85 6649498
6631335
1816300

BACKFLOW 1605987 OK

EXPERIMENTER John M. Olson DATE 11/8/85

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE OCT 1985 Page No. 61

PURPOSE Book No. E 21770

LOADING FACTORS (MGD x 8.34)

DATE	002	003
7	6.00	5.92
14	5.92	5.92

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
7	<2	12	19	113	130
14	<2	12	14	83	100
TDS					
7	574	3447	9020	53411	57000
Cl					
7	11	66	104	616	680
SO_4					
7	340	2042	6040	35765	38000
NH_3-N					
7	0.37	2.2	0.26	1.5	4
14	<0.20	1.2	0.38	2.3	4
BOD_5					
7	<2	12	<2	12	24
14	<2	12	3	18	30
COD					
7	6.9	41	6.9	41	82
14	6.9	41	20	118	159

MIX UP WITH CONTRACT LAB. NO PP OR VOLITLE ORGANICS THIS MONTH

EXPERIMENTER John N. Orlan DATE 11/8/85 065

WITNESSED BY DATE

DEC 0010442

62 Page No. TITLE Flow, pH, TEMP DATE: NOVEMBER 85

21770 Book No. PURPOSE

USE pH @ 4:00 PM

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.67	7.0		0.71	7.5		1.38
2	0.53	7.2		0.69	7.5		1.22
3	0.57	7.5		0.67	7.3		1.24
4	0.65	7.3	21	0.71	6.8	27	1.36
5	0.55	7.1		0.71	6.8		1.26
6	0.69	7.2		0.75	7.2		1.44
7	0.54	8.0		0.66	7.2		1.20
8	0.48	7.5		0.57	7.0		1.05
9	0.49	7.3		0.69	7.7		1.18
10	0.51	7.4		0.69	7.6		1.20
11	0.71	7.3		0.67	7.7		1.38
12	0.62	7.4		0.69	7.8		1.31
13	0.46	7.2		0.67	7.6		1.13
14	0.47	7.3		0.62	7.6		1.09
15	0.64	7.2		0.55	7.8		1.19
16	0.52	7.7		0.71	7.8		1.23
17	0.53	7.4		0.69	7.9		1.22
18	0.66	7.8		0.74	7.8		1.40
19	0.62	7.6		0.69	7.6		1.31
20	0.73	8.0		0.70	7.6		1.43
21	0.56	7.7		0.66	7.5		1.22
22	0.66	8.5		0.61	7.3		1.23
23	0.50	7.2	27	0.73	7.2	26	1.23
24	0.51	7.5		0.75	7.4		1.26
25	0.55	7.6		0.59	7.6		1.14
26	0.62	7.8		0.66	7.4		1.28
27	0.47	7.7		0.66	7.7		1.13
28	0.46	7.6		0.69	8.1		1.15
29	0.47	8.2		0.70	7.7		1.17
30	0.51	7.6		0.74	7.6		1.25

SANITARY 12/1/85 6674627
11/1/85 6649498
2,512,900

EXPERIMENTER John N. Osborn DATE 12/12/85

WITNESSED BY DATE

DEC 0010442

066

TITLE LOADINGS DATE NOVEMBER 85 Page No. 63

PURPOSE Book No. E 21770

LOADING FACTORS (MGD X 8.34)

DATE	002	003	
4	5.42	5.92	(4.29) *FLOW CORRECTON
23	4.17	6.09	

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
4	<2	11	40	237	250
23	<2	8	29	177	180
TDS					
4	590	3198	9620	56950	60000
				(41270)	(44000) *COLLECTED FOR FLOW ERROR
Cl					
4	12	65	12	71	140
SO4					
4	340	1843	6800	40266	42000
				(29172)	(31,000) *
NH_3-N					
4	0.42	2.28	0.39	2.31	5
23	0.55	2.29	0.38	2.31	5
BOD_5					
4	<2	11	<2	12	23
23	<2	8	<2	12	20
COD					
4	<5	27	6	36	63
23	<5	21	<5	30	51

11/23 pb 002 <0.10
003 <0.10

EXPERIMENTER John M. Orlan DATE 12/12/85

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

64 Page No. TITLE Flow, pH, Temp DATE DECEMBER 85

1770 Book No. PURPOSE

USE pH @ 10:00 PM

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.41	7.7		0.66	7.6		1.07
2	0.41	8.0	↑.8	0.68	7.3	↑	1.09
3	0.45	7.4	20	0.70	7.4	28	1.15
4	0.53	7.6		0.68	7.1		1.21
5	0.51	7.6		0.65	7.6		1.16
6	~~0.55~~ 0.60	7.7		0.63	7.8		1.23
7	0.48	7.6		0.69	7.7		1.17
8	0.46	7.6		0.68	7.6		1.14
9	0.52	7.8		0.75	7.7		1.27
10	0.49	7.6		0.65	7.6		1.14
[illegible]	0.63	7.6		0.73	7.8		1.36
[illegible]	0.54	7.7		0.72	8.0		1.26
13	0.42	7.4		0.71	7.6		1.13
14	0.40	7.6		0.66	7.8		1.06
15	0.38	7.7		0.72	7.7		1.10
16	0.45	7.6	21	0.73	7.7	26	1.18
17	0.44	7.6		0.61	7.6		1.05
18	0.47	7.7		0.66	7.6		1.13
19	0.44	7.7		0.67	7.6		1.11
20	0.43	7.7		0.64	7.3		1.07
21	0.42	7.7		0.71	7.6		1.13
22	0.31	7.7		0.57	7.5		0.88
23	0.40	7.6		0.53	7.7		0.93
24	0.40	7.6		0.54	7.7		0.94
25	0.39	7.5		0.63	7.7		1.02
26	0.41	7.7		0.60	7.7		1.01
27	0.40	7.6		0.56	7.4		0.96
28	0.38	7.8		0.58	7.3		0.96
29	0.37	7.7		0.62	7.7		0.99
30	0.41	7.5		0.66	7.4		1.07
31	0.39	7.8		0.66	7.6		1.05

1605988

SANITARY 1/1/86 6694982
12/1/85 6674627
20355 00

068

EXPERIMENTER John N. Orlan DATE 1/10/86

WITNESSED BY DATE

DEC 0010442

LOADING FACTORS (MGD x 8.34)

DATE	002	003	
2	3.42	5.67	(4.11) * FLOW ERROR
16	3.75	6.09	

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
2	8	27	18	102	130
16	3	11	180	1096	1100
			124-93 109 AVE	629	630
TDS					
2	960	3283	9540	54890	57000
				(39197)	(42,000)
Cl					
2	14.4	49	28.9	164	210
SO4					
2	620	2120	6840	38783	41000
				(28103)	(30,000)
NH_3-N					
2	0.29	0.99	<0.20	1.13	2
16	0.25	0.94	<0.20	1.22	2
BOD_5					
2	<2	7	<2	11	18
16	<2	8	2	12	20
COD					
2	<5	17	<5	28	45
16	<5	19	5	30	49

* CONTRACT LAB RESULTS - BASED ON E.C. DUPLICATE ANALYSES

* COLLECTED FOR FLOW ERROR

66 Page No. TITLE FLOW, pH, TEMP DATE ~~DECEMBER 8~~ JANUARY 86

21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 & 003 MGD
1	~~0.39~~	7.8		0.70	7.6		1.13
2	0.43	7.8		0.68	7.6		1.07
3	0.39	7.7		0.68	7.3		1.08
4	0.40	7.3		0.68	7.6		1.02
5	0.34	7.3		0.66	7.6		0.98
6	0.32	7.3		0.59	7.6		0.94
7	0.35	7.4	20	0.64	7.5	17	1.01
8	0.37	7.3		0.64	7.2		1.02
9	0.38	7.3		0.69	7.2		1.12
10	0.43	7.3		0.73	7.4		1.15
11	0.42	7.4		0.62	7.3		0.94
[illegible]	0.32	7.2		0.59	7.4		0.87
[illegible]	0.28	7.3		0.69	7.2		1.06
14	0.37	7.4	19	0.63	7.4	27	0.96
15	0.33	7.5		0.65	7.2		0.97
16	0.32	7.5		0.71	7.1		1.11
17	0.40	7.4		0.66	7.2		1.00
18	0.34	7.4		0.75	7.0		1.08
19	0.33	7.4		0.61	7.2		0.86
20	0.25	7.3		0.68	7.3		1.01
21	0.33	7.6		0.66	7.4		0.98
22	0.32	7.5		0.65	7.4		1.01
23	0.36	7.5		0.70	7.3		1.10
24	0.40	7.6		0.65	7.2		0.97
25	0.32	7.5		0.68	7.4		0.98
26	0.30	7.2		0.63	7.7		0.92
27	0.29	7.4		0.81	7.4		1.20
28	0.39	7.7		0.73	7.2		1.35
29	0.62	7.3		0.61	7.2		0.99
30	0.38	8.0		0.64	7.7		0.96
31	0.32	7.7		0.68	7.4		1.02
	0.34						

COLUMN OFF BY ONE DAY

SANITARY 2/1/86 6707871
1/1/86 6694982
1,288,900

EXPERIMENTER J. N. Orban DATE 2/11/86

WITNESSED BY DATE

DEC 0010442

070

TITLE LOADINGS DATE JAN 86 Page No. 67

PURPOSE Book No. E 21770

LOADING FACTORS (MGD x 8.34)

	002	003
1/7	3.89	5.34 *(3.87)
1/14	2.75	5.25

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
1/7	3	~~25~~ 9	35	187	200
1/14	7	19	68	357	380
TDS					
1/7	878	2713	9870	52703	55000
				(38193)	(41,000)* CORRECTED FOR FLOW ERROR
Cl					
1/7	12	37~~00~~	33	176	210
SO4					
1/7	580	1792	6580	35137	36000
				(25462)	(27,000)*
NH3-N					
1/7	0.48	1.48	0.24	1.28	2
1/14	<0.20	0.55	0.26	1.37	2
BOD5					
1/7	<2	6.2	<2	10.7	17
1/14	<2	5.5	<2	10.5	16
COD					
1/7	7	22	9	48	70
1/14	<5	14	<5	26	40

EXPERIMENTER J. N. Orlan DATE 2/11/86

WITNESSED BY DATE

DEC0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

68 Page No. TITLE FLOW, pH, TEMP. DATE FEBRUARY 86

1770 Book No. PURPOSE

pH @ 6:00 AM

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.29	7.5		0.64	7.5		0.93
2	0.29	7.6		0.73	7.4		1.02
3	0.24	7.6	19	0.60	7.2	18	0.84
4	0.35	7.6		0.69	7.2		1.04
5	0.35	7.6		0.67	7.6		1.02
6	0.35	7.7		0.58	7.3		0.93
7	0.34	7.7		0.69	7.4		1.03
8	0.28	7.7		0.59	7.3		0.87
9	0.23	7.7		0.63	6.8		0.86
10	0.29	7.8		0.61	7.3		0.90
[illegible]	0.41	7.1		0.70	7.4		1.11
[illegible]	0.36	7.0	21	0.63	7.1	26	0.99
13	0.74	7.2		0.66	7.1		1.40
14	0.33	7.3		0.58	7.5		0.91
15	0.32	7.5		0.64	7.6		0.96
16	0.33	7.4		0.66	7.5		0.99
17	0.26	7.2		0.59	7.8		0.85
18	0.35	7.6		0.67	7.7		1.02
19	0.27	7.3		0.66	8.0		0.93
20	0.19	7.1		0.72	7.5		0.91
21	0.16	7.1		0.68	7.6		0.84
22	0.13	7.3		0.65	7.6		0.78
23	0.16	7.2		0.68	7.7		0.84
24	0.18	7.5		0.67	7.5		0.85
25	0.20	7.2		0.67	7.3		0.87
26	0.23	7.5		0.63	7.6		0.86
27	0.16	7.5		0.56	7.5		0.72
28	0.15	7.6		0.55	7.6		0.70

SANITARY 3/1/86 6729927
2/1/86 6707871
2,205,600

EXPERIMENTER John N. Orban DATE 3/11/86

WITNESSED BY DEC 0010442 DATE

072

TITLE LOADINGS DATE FEBRUARY 86 Page No. 69

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 x MGD)

	002	003
2/3	2.00	5.00 * (3.62)
2/12	3.00	5.25

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
3	4	8	28	140	150
12	2	6	7	37	40
TDS					
3	780	1560	7700	38500	40000
				(27899)	(29,000) * COLLECTED FOR FLOW ERROR
Cl					
3	12	24	86	430	450
SO4					
3	480	960	5320	26600	28000
				(19275)	(20,000)
NH3-N					
3	<0.2	0.4	0.6	3.0	3
12	<0.2	0.6	<0.2	1.1	2
BOD5					
3	<2	4	3	15	19
12	<2	6	2	11	17
COD					
3	<5	10	15	95	100
12	16	48	20	105	150

EXPERIMENTER John N. Orlan DATE 3/11/86 073

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

70 Page No. TITLE FLOW, pH, TEMP DATE MARCH 86

21770 Book No. PURPOSE

pH @ 8:00 PM

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.18	7.2		0.69	7.6		0.87
2	0.13	7.5		0.63	7.5		0.76
3	0.16	7.6		0.66	7.2		0.82
4	0.17	7.3		0.67	7.8		0.84
5	0.16	7.4		0.63	7.4		0.79
6	0.13	7.6		0.64	8.1		0.77
7	0.16	7.4		0.66	7.3		0.82
8	0.16	7.4		0.66	7.5		0.82
9	0.16	7.5	18	0.66	7.7	26	0.82
10	0.14	7.5		0.63	7.8		0.77
11	0.16	7.4		0.69	7.9		0.85
12	0.15	7.4		0.14	7.8		0.29
13	0.23	7.4		0.69	7.9		0.92
14	0.19	7.4		0.71	7.8		0.90
15	0.15	7.7		0.72	7.4		0.87
16	0.17	7.6	16	0.70	7.6	20	0.87
17	0.14	7.4		0.46	7.5		0.60
18	0.18	7.4		0.72	7.7		0.90
19	0.15	7.6		0.53	7.6		0.68
20	0.16	7.4		0.66	7.6		0.82
21	0.20	7.6		0.68	7.3		0.88
22	0.14	7.8		0.69	7.5		0.83
23	0.18	7.7		0.67	7.2		0.85
24	0.17	7.8		0.68	7.8		0.85
25	0.20	7.8		0.74	7.4		0.94
26	0.15	7.7		0.64	7.7		0.79
27	0.18	7.7		0.64	7.6		0.82
28	0.19	7.7		0.64	7.6		0.83
29	0.18	7.4		0.71	7.7		0.89
30	0.18	8.0		0.73	7.7		0.91
31	0.20	7.6		0.68	7.7		0.88

SANITARY 4/1/86 6735890
ERROR IN FLOW 3/1/86 3/1/86 6729927
SHOULD READ 6720927 5963

EXPERIMENTER John N. Orlan DATE 4/14/86

WITNESSED BY DATE

DEC 0010442

074

TITLE LOADINGS DATE MARCH 86 Page No. 71

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 X MGD)

	002	003
3/9	1.33	5.50 * (3.99)
3/16	1.42	5.84

DATE 9+16	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
9	<2	3	27	149	150
16	<2	3	12	70	70
TDS					
9	990	1317	11950	65725	67000
				(47680)	(49,000) * CORRECTED FOR FLOW ERROR
Cl					
9	14	19	16	88	110
SO_4					
9	620	825	8300	45650	46000
				(33117)	(34000) *
NH_3-N					
9	<0.2	0.3	<0.2	1.1	1
16	<0.2	0.3	<0.2	1.2	1
BOD_5					
9	3	4	4	22	26
16	<2	3	<2	12	15
COD					
9	<5	7	6	33	40
16	<5	7	6	35	42

DEC 0010442

EXPERIMENTER John N. Orlan DATE 4/14/86

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

72 Page No. TITLE Flow, pH, TEMP DATE April 86

21770 Book No. PURPOSE

pH @ 8:00 PM

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.20	7.8		0.83	6.8		1.03
2	0.11	7.6		0.53	7.3		0.64
3	0.16	7.9		0.72	7.8		0.88
4	0.18	7.7		0.78	7.4		0.96
5	0.17	7.6		0.75	7.9		0.92
6	0.16	7.8	19	0.72	8.5	22	0.88
7	0.16	7.8		0.77	7.5		0.93
8	0.15	7.7		0.74	7.7		0.89
9	0.21	7.7		0.71	8.6		0.92
10	0.24	7.7		0.57	7.4		0.81
11	0.18	7.7		0.56	7.7		0.74
12	0.19	7.4		0.56	7.7		0.75
13	0.23	7.3		0.67	8.3		0.90
14	0.19	7.4		0.61	7.8		0.80
15	0.17	7.4	20	0.61	7.8	22	0.78
16	0.13	7.5	~~20~~	0.59	8.1	~~22~~	0.72
17	0.15	7.4		0.59	8.2		0.74
18	0.17	7.3		0.76	7.5		0.93
19	0.20	7.3		0.68	7.4		0.88
20	0.17	7.3		0.66	7.5		0.83
21	0.17	7.4		0.53	7.5		0.70
22	0.14	7.5		0.49	7.3		0.63
23	0.13	7.3		0.58	7.4		0.71
24	0.17	7.86		0.64	7.7		0.81
25	0.17	7.47		0.64	7.6		0.81
26	0.17	7.64		0.55	7.7		0.72
27	0.17	7.56		0.69	7.7		0.86
28	0.16	7.5		0.67	7.9		0.83
29	0.16	7.5		0.65	7.7		0.81
30	0.13	7.4		0.68	7.5		0.81

SANITARY 5/1/86 6747773
4/1/86 6735890
1,188,300

BACK FLOW 1605991 5/2/86

EXPERIMENTER John N. Osborne DATE 5/9/86

WITNESSED BY DATE

DEC 0010442

076

TITLE LOADINGS DATE APRIL 86 Page No. 73

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 x MGD)

	002	003
4/6	1.33	6.00 * (4.35)
4/15	1.42	5.09

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
6	7	~~389~~ 9	3	18	30
15	<2	3	42	214	220
TDS					
6	673	895	7740	46440	47000
				(33652)	(35000) * COLLECTED FOR FLOW ERROR
Cl					
6	10	13	13	78	90
SO4					
6	480	638	5310	31860	32 000
				(23087)	(24,000) *
NH3N					
6	0.27	0.36	<0.20	1.20	2
15	<0.20	0.28	<0.20	1.02	1
BOD					
6	<2.0	2.7	<2.0	12.0	15
15	<2.0	2.8	<2.0	10.2	13
COD					
6	5.7	7.6	<5	30	38
15	6.8	9.7	<5	25.5	35

EXPERIMENTER John M. Nelson DATE 5/9/86 077

WITNESSED BY DATE

DEC 0010442

74 Page No. TITLE Flow, pH, Temp DATE: MAY 86

21770 Book No. PURPOSE

pH @ 6:00 PM

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 & 003 MGD
1	0.17	7.1		0.61	7.6		0.78 /10
2	0.16	7.3		0.69	7.2		0.85
3	0.15	7.4	22	0.64	7.8	28	0.79
4	0.13	7.2		0.69	7.3		0.82
5	0.14	7.3		0.59	7.3		0.73
6	0.16	7.3		0.18	7.7		0.34
7	0.18	7.3		0.10	7.7		0.28
8	0.18	7.3		0.38	7.7		0.56
9	0.19	7.4		0.84	7.8		1.03
10	0.14	7.3		0.56	7.4		0.70
11	0.17	7.7		0.67	7.3		0.84
12	0.16	7.3		0.69	7.0		0.85
13	0.14	7.4		0.70	7.0		0.84
14	0.16	7.4		0.80	7.3		0.96
15	0.15	7.3		0.75	7.0		0.90
16	0.16	7.6		0.76	7.2		0.92
17	0.16	7.7		0.68	6.9		0.84
18	0.15	7.8		0.62	7.0		0.77
19	0.15	8.1	23	0.61	7.5	29	0.76
20	0.14	8.0		0.63	7.4		0.77
21	0.11	8.1		0.60	7.6		0.71
22	0.16	8.1		0.67	7.5		0.83
23	0.14	8.3		0.61	7.3		0.75
24	0.13	8.0		0.62	7.4		0.75
25	0.14	8.2		0.53	7.4		0.67
26	0.17	7.9		0.61	7.4		0.68
27	0.15	8.3		0.58	7.3		0.73
28	0.16	8.1		0.56	7.3		0.72
29	0.16	8.0		0.58	7.6		0.74
30	0.20	8.0		0.66	7.3		0.86
31	0.14	8.0		0.65	7.5		0.79

SANITARY 6/1/86 6762094
5/1/86 6747773
1,432,100

EXPERIMENTER John N. Orban DATE 06/12/86

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE MAY 86 Page No. 75

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 X MGD)

	002	003	
5/3	1.25	5.34*( )	(L.FACT X mg/L = LBS)
5/19	1.25	5.09	

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
3	<2	3	120	641	640
19	<2	3	44	224	230
TDS					
3	680	850	11200	59808	60 000
				(48696)	(50 000) * COLLECTED FOR FLOW ERROR
Cl					
3	12	15	29	155	170
SO4					
3	448	560	7500	40050	41000
				(32609)	(33000) * COLLECTED FOR FLOW ERROR
NH3-N					
3	0.24	0.3	0.26	1.4	2
19	0.36	0.3	0.22	1.1	1
BOD					
3	<2	3	<2	10	13
19	<2	3	8.0	41	44
COD					
3	6.4	8	9.8	52	60
19	14	18	12	61	79

* NOTE: SO_4 AND TDS LEVELS INCREASING SINCE JULY 1985. (003 OUTFALL)
CHECK OF SULFURIC ACID CONSUMED FROM JAN 86 TO MAY 86 SHOWED AVE CONSUMPTION OF ABOUT 20,000 LBS/DAY.
HAND MEASUREMENT OF WEIR AT 003 SHOWED 346 GPM WHILE PROBE WAS READING 440 GPM. THE PROBE WAS CLEANED AND THE FLOW INDICATED 320 GPM. OR A CHANGE OF 38%
(120 DROP/320 = 38%)
THE VALUES MARKED WITH A * ARE CORRECTED FOR THIS FLOW DIFF.

PROBE CLEANED 6/5/86

EXPERIMENTER John N. Orlow DATE 6/12/86

WITNESSED BY DEC 0010442 DATE

76 Page No. TITLE FLOW-pH-TEMP DATE JUNE 86

21770 Book No. PURPOSE

pH @ 10AM

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	002 + 003 MGD
1	0.15	7.9	21	0.47	8.2	24	0.62
2	0.19	7.8		0.44	7.0		0.63
3	0.18	7.8		0.45	7.3		0.63
4	0.18	7.6		0.45	7.6		0.63
5	0.17	7.8		0.51	7.0		0.68
6	0.18	8.1		0.36	7.1		0.54
7	0.20	8.3		0.49	7.2		0.69
8	0.16	8.4		0.55	7.6		0.71
9	0.12	8.1		0.35	7.8		0.47
10	0.16	8.1		0.42	8.2		0.58
11	0.15	8.1		0.49	8.1		0.64
12	0.18	8.1		0.50	7.8		0.68
13	0.19	7.9		0.56	8.2		0.75
14	0.19	7.9		0.55	8.3		0.74
15	0.17	8.0		0.52	7.5		0.69
16	0.20	8.1		0.50	7.1		0.70
17	0.19	8.3		0.60	7.6		0.79
18	0.21	8.0	24	0.48	7.1	28	0.69
19	0.20	8.3		0.54	7.4		0.74
20	0.15	8.1		0.50	7.7		0.65
21	0.17	8.3		0.52	7.4		0.79
22	0.16	7.7		0.57	7.7		0.73
23	0.17	8.3		0.52	8.1		0.69
24	0.18	8.1		0.54	7.8		0.72
25	0.16	8.3		0.52	7.7		0.68
26	0.16	8.3		0.50	7.1		0.66
27	0.17	7.8		0.55	7.8		0.72
28	0.20	8.0		0.60	7.8		0.80
29	0.20	7.7		0.52	7.8		0.72
30	0.15	7.7		0.52	7.8		0.67

SANITARY 7/1/86 6778260
6/1/86 6762094
16166 X 100

EXPERIMENTER J. N. Orban DATE 7/10/86

WITNESSED BY DATE

DEC 0010442

080

TITLE LOADINGS DATE JUNE 86 Page No. 77

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 x MGD)

	002	003
6/1	1.25	3.92
6/18	1.75	4.00

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
1	5	6	8	31	40
18	2	4	9	36	40
TDS					
1	540	675	8350	32732	33000
Cl					
1	11	14	22	86	100
SO4					
1	320	400	5500	21560	22000
NH3-N					
1	0.26	0.33	0.24	0.94	1
18	0.31	0.54	0.27	1.08	2
BOD					
1	2	2.5	2	7.8	10
18	2	3.5	2	8.0	12
COD					
1	9.3	11.6	5.0	19.6	31
18	6.2	10.9	11.0	44.0	55

EXPERIMENTER J. N. Orlow DATE 7/10/86

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

78 Page No. TITLE Flow, pH, TEMP DATE: July 86

21770 Book No. PURPOSE

pH @ 10 PM

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002 + 003 MGD
1	0.15	7.7	24	0.50	8.0	28	0.65
2	0.15	7.4		0.53	7.4		0.68
3	0.15	7.7		0.51	7.4		0.66
4	0.13	7.8		0.54	7.5		0.67
5	0.15	7.1		0.55	7.4		0.70
6	0.14	7.9		0.56	7.6		0.70
7	0.13	7.7		0.52	7.6		0.65
8	0.13	7.4		0.51	7.6		0.64
9	0.18	8.2		0.54	8.0		0.72
10	0.20	7.8		0.41	7.0		0.61
11	0.20	7.8		0.50	7.6		0.70
12	0.19	7.8		0.53	7.6		0.72
13	0.18	7.9	22	0.49	7.4	30	0.67
14	0.19	7.6		0.50	7.6		0.69
15	0.18	7.6		0.58	7.8		0.76
16	0.18	7.4		0.52	7.5		0.70
17	0.17	7.8		0.55	8.2		0.72
18	0.17	7.7		0.53	7.9		0.70
19	0.17	7.7		0.47	7.9		0.64
20	0.19	7.7		0.55	7.9		0.74
21	0.17	7.7		0.57	7.9		0.74
22	0.17	7.7		0.56	7.8		0.73
23	0.15	7.9		0.53	7.7		0.68
24	0.16	8.3		0.60	7.4		0.76
25	0.16	7.8		0.42	8.0		0.58
26	0.17	7.3		0.48	7.8		0.65
27	0.17	7.8		0.53	7.7		0.70
28	0.19	7.8		0.58	7.5		0.77
29	0.15	7.6		0.49	7.3		0.64
30	0.17	7.8		0.54	7.4		0.71
31	0.17	7.8		0.55	7.6		0.72

BACKFLOW 1605996 8/1/86 SANITARY 8/1/86 6795916
7/1/86 6778260
1,765,600

EXPERIMENTER John N. Orlan DATE 8/8/86

WITNESSED BY DATE

DEC 0010442

082

TITLE LOADINGS DATE JULY 86 Page No. 79

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 X MGD)

	002	003
7/1	1.25	4.17
7/13	1.50	4.09

DATE	002 Mg/L	002 #/DAY	003 Mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
1	4	5	29	121	130
13	4	6	53	217	60
TDS					
1	587	734	9690	40407	41000
Cl					
1	9.4	12	14	58	70
SO4					
1	360	450	4010	16722	17000
NH_3-N					
1	0.2	0.3	0.2	0.8	1
13	0.2	0.3	0.2	0.8	1
BOD					
1	2	3	2	8	11
13	2	3	2	8	11
COD					
1	11	14	9.8	41	55
13	22	33	11	45	78

EXPERIMENTER John N. Orlan DATE 8/8/86

WITNESSED BY DEC 0010442 DATE

80 Page No. TITLE Flow, pH, TEMP DATE AUGUST 86

21770 Book No. PURPOSE

pH @ 9:00 PM

DATE		002 MGD	002 pH	002 °C TEMP		003 MGD	003 pH	003 °C TEMP		002 + 003 MGD	
1		0.18	8.2	H		0.53	7.1			0.71	/10
* 2	H	0.23	8.2	24		0.55	L 7.0	33		0.78	
3	L	0.09	7.4		L	0.44	7.4			0.53	L
4		0.14	7.6			0.50	7.4			0.64	
5		0.13	7.4			0.56	7.4			0.69	
6		0.14	7.1	L		0.57	7.8			0.71	
7		0.12	7.5			0.55	7.5			0.67	
8		0.19	7.4			0.54	7.5			0.73	
9		0.18	7.3			0.56	7.3			0.74	
10		0.21	7.2			0.61	7.5			0.82	
11		0.16	7.8			0.47	7.6			0.63	
12		0.18	7.6	25		0.53	7.6	32		0.71	
13		0.19	7.8			0.57	7.7			0.76	
14		0.17	7.5			0.52	7.4			0.69	
15		0.18	7.6			0.55	7.5			0.73	
16		0.19	7.5			0.55	7.5			0.74	
17		0.19	7.6			0.53	7.5			0.72	
18		0.19	7.6			0.55	7.6			0.74	
19		0.18	7.7			0.55	7.7			0.73	
20		0.17	7.5			0.55	H 8.6			0.72	
21		0.18	7.7			0.52	7.7			0.70	
22		0.17	7.7			0.55	7.7			0.72	
23		0.20	7.7			0.47	8.2			0.67	
24		0.18	7.6			0.54	7.5			0.72	
25		0.18	7.6			0.53	8.2			0.71	
26		0.18	7.6			0.55	7.3			0.73	
27		0.19	7.7			0.54	7.4			0.73	
28		0.17	7.6			0.53	7.4			0.70	
29		0.20	7.8		H	0.62	7.0			0.82	H
30		0.16	7.7			0.47	7.5			0.63	
31		0.19	7.7			0.56	8.0			0.75	

SANITARY 9/1/86 6807935
8/1/86 6795916
1,201,900

EXPERIMENTER J. N. Orban DATE 9/11/86

WITNESSED BY DEC 0010442 DATE

TITLE LOADINGS DATE AUGUST 86 Page No. 81

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 x MGD)

	002	003
8/2	1.92	4.59
8/12	1.50	4.42

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
2	6	12	140	643	660
12	2	3	48	212	220
TDS					
2	340	653	10800	49572	50 000
Cl					
2	11	21	13	60	80
SO4					
2	180	346	7750	35573	36 000
NH_3-N					
2	0.22	0.4	0.24	1.1	2
12	0.2	0.3	0.2	0.9	1
BOD					
2	2	4	2	9	13
12	2	3	2	9	12
COD					
2	5	10	8	37	47
12	6	9	6	27	36

EXPERIMENTER J. N. Orlan DATE 9/11/86

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

82 Page No. TITLE pH, FLOW, TEMP DATE SEPT 86

21770 Book No. PURPOSE

pH @ 8:00 AM

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002 + 003 MGD
1	0.18	7.6		0.60	8.0	~~8~~	0.78 /10
2	0.19	7.7		0.56	8.3		0.75
3	0.16	7.6	26	0.51	7.6	33	0.67
4	0.16	7.7		0.48	8.1		0.64
5	0.16	7.5		0.51	7.6		0.67
6	0.18	7.7		0.53	7.6		0.71
7	0.17	7.7		0.59	7.8		0.76
8	0.17	7.3		0.53	7.7		0.70
9	0.15	7.3		0.53	7.8		0.68
10	0.14	7.6		0.62	7.8		0.76
11	0.16	7.7		0.57	7.4		0.73
12	0.21	7.6		0.63	7.3		0.84
13	0.13	7.7		0.44	7.4		0.57
14	0.18	7.7	25	0.58	7.6	34	0.76
15	0.17	7.6		0.50	7.6		0.67
16	0.18	7.8		0.54	7.5		0.72
17	0.17	7.7		0.62	7.1		0.79
18	0.16	7.6		0.56	7.4		0.72
19	0.17	8.3		0.58	7.4		0.75
20	0.18	7.6		0.56	7.9		0.74
21	0.18	7.7		0.56	7.7		0.74
22	0.16	7.6		0.55	7.3		0.71
23	0.16	7.4		0.57	7.1		0.73
24	0.18	7.6		0.59	7.4		0.77
25	0.16	7.6		0.51	7.3		0.67
26	0.16	7.6		0.54	7.8		0.70
27	0.19	7.5		0.67	7.8		0.86
28	0.15	7.4		0.56	7.7		0.71
29	0.17	7.8		0.61	7.6		0.79
30	0.18	7.4		0.60	7.7		0.78

SANITARY 10/1/86 6821764
9/1/86 6807935
1382900

EXPERIMENTER John M. Orban DATE 10/3/86

WITNESSED BY DATE

DEC 0010442

086

TITLE LOADINGS, DATE SEPT. 86 Page No. 83

PURPOSE Book No. E 21770

LOADING FACTORS (8.34 x MGD)

	002	003
9/3	1.33	4.25
9/14	1.50	4.84

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
3	2	3	57	242	250
14	2	3	54	242	250
TDS					
3	393	523	9530	40503	41000
Cl					
3	12	16	11	47	60
SO_4					
3	200	266	6940	29495	30000
NH_3-N					
3	<0.2	0.3	<0.2	0.9	1
14	<0.2	0.3	0.3	1.3	2
BOD					
3	<2	3	<2	9	12
14	<2	3	<2	9	12
COD					
3	5.0	7	6.0	26	33
14	61	92	57	255	347

EXPERIMENTER John K. Orlan DATE 10/3/86

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

84 Page No. TITLE pH, FLOW, TEMP DATE OCT. 86

21770 Book No. PURPOSE

pH GRAB @ 10:00 AM DAILY

SHOWS 003 AS COLLECTED — THESE NOT USED ON REPORT

FLOWS AS REPORTED — SHOWN ON REPORT

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002+003 MGD	003 MGD	002+003 MGD
1	0.21	7.6		0.42	7.4		0.63	0.59	0.80
2	0.15	7.4		0.37	7.3		0.42	0.54	0.69
3	0.16	7.0		0.40	7.4		0.56	0.58	0.74
4	0.17	7.2		0.48	7.3		0.65	0.66	0.83
5	0.16	6.8		0.39	7.4		0.55	0.57	0.73
6	0.15	7.3		0.36	7.2		0.51	0.54	0.69
* 7	0.14	7.2	22	0.37	7.1	33	0.51	0.54	0.68
8	0.18	7.5		0.46	7.3		0.64	0.63	0.81
9	0.13	7.6		0.32	7.4		0.45	0.50	0.63
10	0.15	7.7		0.37	7.5		0.52	0.54	0.69
11	0.14	7.6		0.34	7.4		0.48	0.51	0.65
[illegible]	0.15	7.9		0.36	7.6		0.51	0.53	0.68
[illegible]3	0.16	7.7		0.23	7.7		0.39	0.40	0.56
* 14	0.17	7.6	22	0.30	7.6	31	0.47	0.47	0.64
15	0.18	7.9		0.27	7.0		0.45	0.44	0.62
16	0.19	6.5		0.32	7.1		0.51	0.49	0.68
17	0.24	6.4		0.45	7.4		0.69	0.62	0.86
18	0.19	6.8		0.37	8.6		0.54	0.54	0.73
19	0.20	6.7		0.49	8.1		0.69	0.66	0.86
20	0.27	7.0		0.50	8.0		0.77	0.67	0.94
21	0.19	6.6		0.54	7.6		0.73	0.72	0.91
22	0.18	10.5		0.55	9.1		0.63	0.73	0.91
23	0.21	6.7		0.64	7.8		0.85	0.82	1.03
24	0.17	11.6		0.22	7.6		0.39	0.39	0.56
25	0.17	7.2		0.28	7.8		0.45	0.46	0.63
26	0.16	7.1		0.51	7.6		0.67	0.51	0.67
27	0.19	6.8		0.40	7.9		0.59	0.40	0.59
28	0.19	7.0		0.53	7.8		0.62	0.53	0.72
29	0.09	6.9		0.48	7.6		0.57	0.48	0.57
30	0.09	7.0		0.37	8.0		0.46	0.37	0.46
31	0.09	7.0		0.51	7.3		0.60	0.51	0.60

SANITARY 11/1/86 6833018
10/1/86 6821764
NOT USED 1125400
6 MO. AVG 1431200

1659518

EXPERIMENTER J. N. Carlson DATE 11/12/86

WITNESSED BY DATE

DEC 0010442

088

TITLE LOADINGS DATE OCT. 86 Page No. 85

PURPOSE Book No. E 21770

LOADING FACTORS (MGD X 8.34)

	002	003	003 (NOT CORRECTED FOR FLOW ERROR USED ON REPORT)
10/7	1.17	3.09	4.50
10/14	1.42	2.50	3.92

DATE	002 mg/LIT	002 #/DAY	003 mg/LIT	003 #/DAY	002 + 003 ROUNDED #/DAY	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS							
7	5	6	118	365	370	531	540
14	10	14	62	155	170	279	290
TDS							
7	432	505	15900	49131	50000	71550	72000
Cl							
7	14.9	17	12.8	40	60	58	70
SO4							
7	210	246	11600	35844	36000	51750	52000
NH_3-N							
7	0.25	0.3	0.25	0.8	1	1.1	1
14	0.20	0.3	0.20	0.5	1	0.8	1
BOD							
7	2.7	3	<2.0	6	9	9	12
14	<2.0	3	<2.0	5	8	8	11
COD							
7	18	21	11	34	55	50	71
14	8	11	22	55	66	86	97

EXPERIMENTER J. N. Osborn DATE 11/12/86 089

WITNESSED BY DEC 0010442 DATE

86 Page No. TITLE 003 OUTFALL FLOW CALIBRATION DATE

E 21770 Book No. PURPOSE

10/30/86

Subject: 003 outfall Flow

The 003 outfall flow was checked on 10/24/86 and found to be in error. At the time the check was made the recorder was reading 160 gallons per minute. A physical measurement of the level in the wier indicated an actual flow of 40 gallons per minute. Inspection of the measuring probe showed a large build-ups of solids on it. After the probe was cleaned and re-installed the recorder was in agreement with the physically measured flow i.e. 40 gallons per minute.

Maurice J. Gomes Jr
INSTRUMENT MECHANIC

DON'T SAY IT—WRITE IT

To John (ORBAN) Location

From Zig (ONDO) Location Phone No.

Subject H_2SO_4 Purchased by "LuDox" Date 11-3-86

Thru Oct. Y.T.D. — 6231 M lbs. 100% WT.

(6231000 LBS/304 DAYS = 20,497 LBS H_2SO_4 PER DAY) JNO

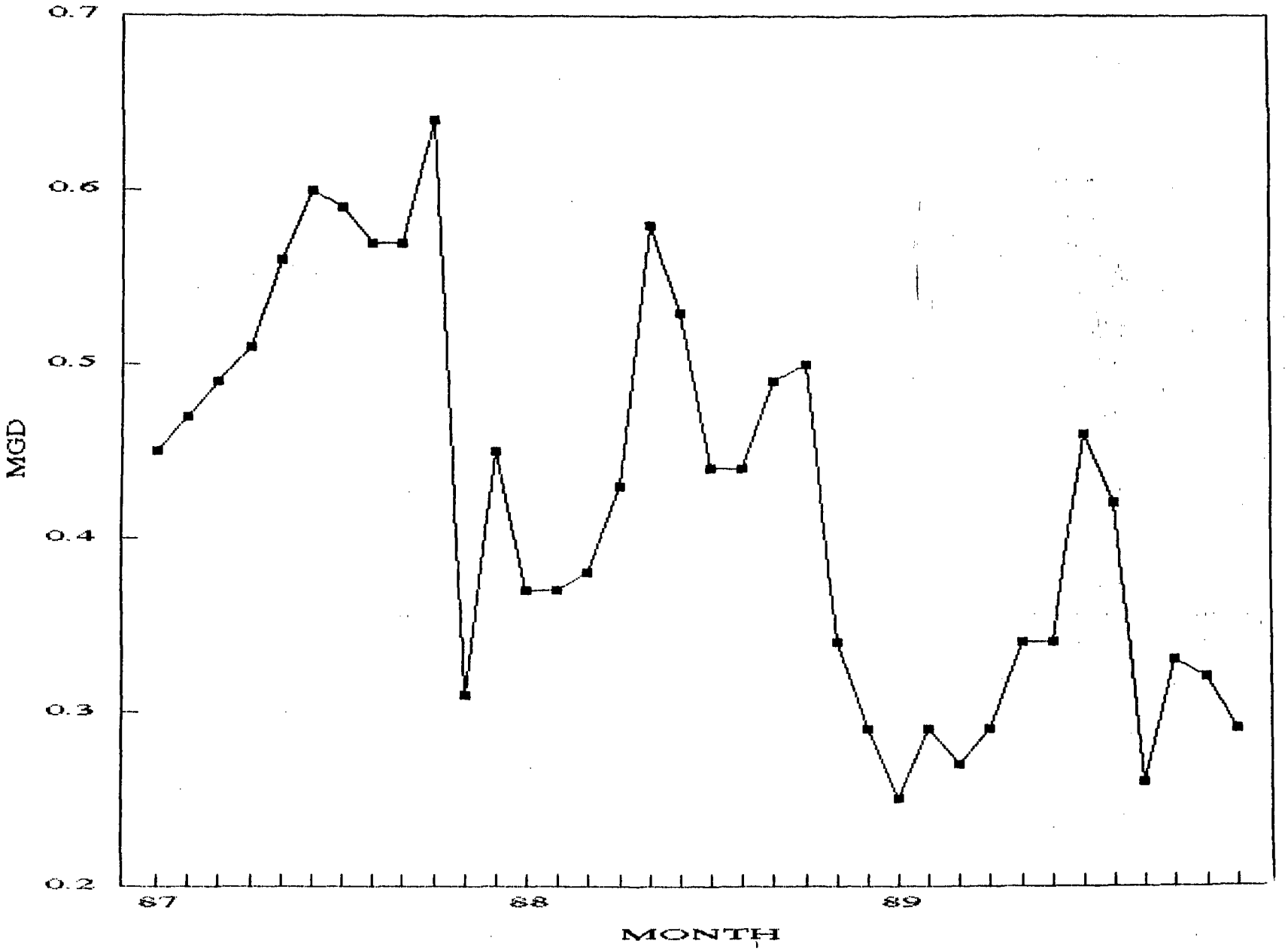
EXPERIMENTER John N. Orban DATE 10/28/86

WITNESSED BY DEC 0010442 DATE 090

003 FLOWS

YEAR	MONTH	MGD	GPM
87	JAN	0.45	313
	FEB	0.47	326
	MAR	0.49	340
	APR	0.51	354
	MAY	0.56	389
	JUN	0.6	417
	JUL	0.59	410
	AUG	0.57	396
	SEP	0.57	396
	OCT	0.64	444
	NOV	0.31	215
	DEC	0.45	313
88	JAN	0.37	257
	FEB	0.37	257
	MAR	0.38	264
	APR	0.43	299
	MAY	0.58	403
	JUN	0.53	368
	JUL	0.44	306
	AUG	0.44	306
	SEP	0.49	340
	OCT	0.5	347
	NOV	0.34	236
	DEC	0.29	201
89	JAN	0.25	174
	FEB	0.29	201
	MAR	0.27	188
	APR	0.29	201
	MAY	0.34	236
	JUN	0.34	236
	JUL	0.46	319
	AUG	0.42	292
	SEP	0.26	181
	OCT	0.33	229
	NOV	0.32	222
	DEC	0.29	201

003 FLOWS



COPIES TO ALL STAFF

ALTHOUGH PERRY WON'T BE HERE I'D LIKE TO GET THE GROUP TOGETHER TOMORROW @ 9:00 AM. WE'LL DISCUSS (MEET 1/23/90 @ 9 AM)

(1) FUC IN TIME. VS. 36MM# CAPACITY
(2) PLANS FOR EL PASO
(3) EFH @ HOUSTON WK OF 1/29
(4) STAFF ITEMS.

Jim

BOB EVANS

EL PASO - 15 PEOPLE

GAS 15
10
15
6
20
66

119 M/80

290,000

201 GAM

63200 /DAY

.170000 MGD

ABOUT 2120 GAM CURRENT RATE

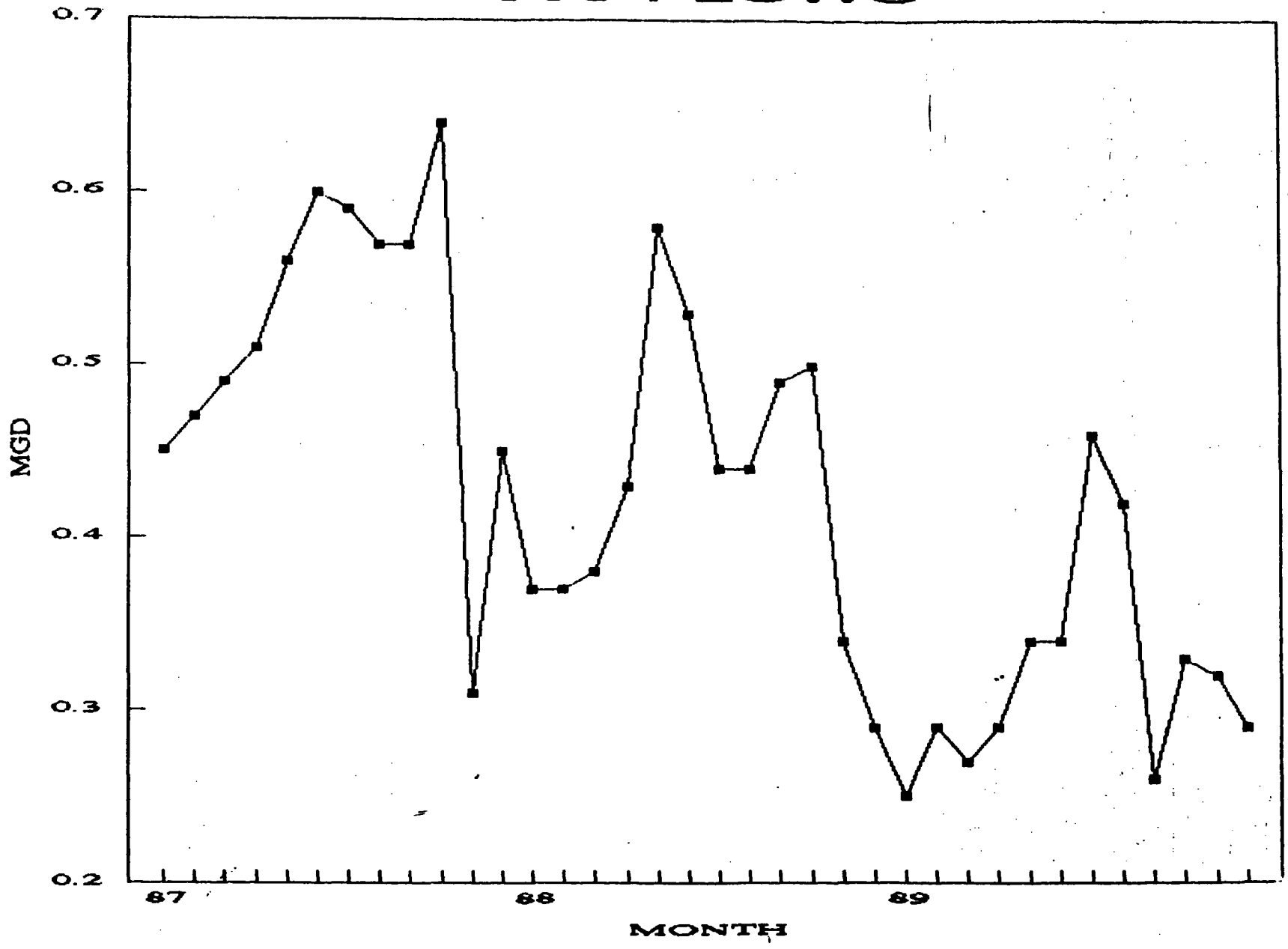
150

.100000/DAY @36 MM LBS LUDOX

EVC % SiO_2?

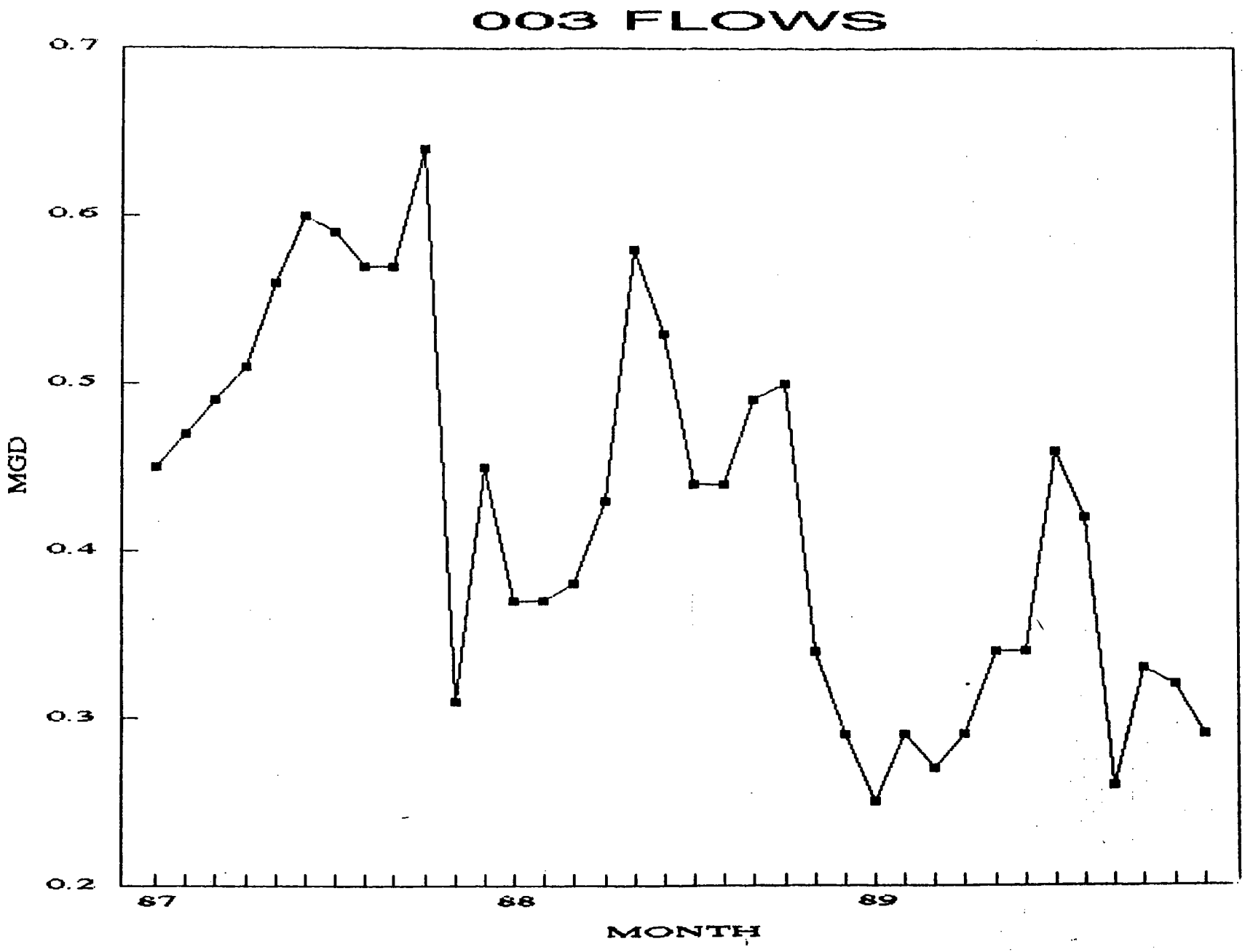
264106 183

DEC 0010442



DEC 0010442

095



DEC 0010442

003 FLOWS

YEAR	MONTH	MGD	GPM
87	JAN	0.45	313
	FEB	0.47	326
	MAR	0.49	340
	APR	0.51	354
	MAY	0.56	389
	JUN	0.6	417
	JUL	0.59	410
	AUG	0.57	396
	SEP	0.57	396
	OCT	0.64	444
	NOV	0.31	215
	DEC	0.45	313
88	JAN	0.37	257
	FEB	0.37	257
	MAR	0.38	264
	ARP	0.43	299
	MAY	0.58	403
	JUN	0.53	368
	JUL	0.44	306
	AUG	0.44	306
	SEP	0.49	340
	OCT	0.5	347
	NOV	0.34	236
	DEC	0.29	201
89	JAN	0.25	174
	FEB	0.29	201
	MAR	0.27	188
	APR	0.29	201
	MAY	0.34	236
	JUN	0.34	236
	JUL	0.46	319
	AUG	0.42	292
	SEP	0.26	181
	OCT	0.33	229
	NOV	0.32	222
	DEC	0.29	201

003 FLOWS

YEAR	MONTH	MGD	GPM
87	JAN	0.45	313
	FEB	0.47	326
	MAR	0.49	340
	APR	0.51	354
	MAY	0.56	389
	JUN	0.6	417
	JUL	0.59	410
	AUG	0.57	396
	SEP	0.57	396
	OCT	0.64	444
	NOV	0.31	215
	DEC	0.45	313
88	JAN	0.37	257
	FEB	0.37	257
	MAR	0.38	264
	ARP	0.43	299
	MAY	0.58	403
	JUN	0.53	368
	JUL	0.44	306
	AUG	0.44	306
	SEP	0.49	340
	OCT	0.5	347
	NOV	0.34	236
	DEC	0.29	201
89	JAN	0.25	174
	FEB	0.29	201
	MAR	0.27	188
	APR	0.29	201
	MAY	0.34	236
	JUN	0.34	236
	JUL	0.46	319
	AUG	0.42	292
	SEP	0.26	181
	OCT	0.33	229
	NOV	0.32	222
	DEC	0.29	201

TITLE 003 OUTFALL FLOW CALIBRATION DATE Page No.

PURPOSE Book No. E 21770

THE SOURCE FOR SULFATES AT THE 003 OUTFALL IS THE SULFURIC ACID PURCHASED FOR THE REGENERATION OF ION EXCHANGE RESIN. THE WASTE STREAM CONTAINS Na_2SO_4 DISSOLVED SALTS AND SOME FREE SULFURIC ACID. THE ACID IS USED TO NEUTRALIZE THE ALKALINTY OF THE SURGE TANKS THERFORE FORMING MORE Na_2SO_4.

THE SO_4 AND DISSOLVED SOLIDS (Na_2SO_4) ~~LEVEL~~ LOADINGS WERE SHOWING INCREASES IN EARLY 1986. INCREASES CAN BE CAUSED BY ANALYTICAL ERRORS, INCREASED USAGE OF H_2SO_4, OR FLOW ERRORS.

SEE NOTE FROM ZIGGY ONDO ON PAGE 86. OUR AVE USAGE OF SULFURIC ACID HAS BEEN 20,500 LBS PER DAY OR 20,0082 LBS/DAY AS SO_4.

SEE LOADINGS SINCE JAN. 1986 BELOW:

	AVG FLOW		LOADINGS 003	
	MGD	GPM	SO_4	
JAN	.67	465	35000	
FEB	.64	444	27000	
MAR	.65	451	46000	
APR	.65	450	37000	
MAY	.60	424	40000	— FLOW CORRECTED
JUN	.50	347	22000	
JUL	.52	361	17000	
AUG	.54	375	36000	
SEP	.56	389	29000	— FLOW CORRECTED

THE FLOW METER ~~WAS~~ MEASURING PROBE WAS CLEANED IN JUNE AND VALUES WERE AS EXPECTED IN JUNE + JULY BUT INCREASING IN AUGUST. THE PROBE WAS FOUND TO BE READING 120 GPM HIGH IN OCTOBER AND WAS AGAIN CLEANED. (SEE INSTRUMENT MECHANIC NOTE PAGE 86

EXPERIMENTER J. N. Orban DATE 10/28/86

WITNESSED BY DATE

88 Page No. TITLE pH, FLOW, TEMP DATE NOV. 1986

E 21770 Book No. PURPOSE

DATE	002 MGD	002 PH	002 °C TEMP	003 MGD	003 PH	003 °C TEMP	002 + 003 MGD
1	0.12	7.0		0.47	6.8		0.59
2	0.12	6.8		0.47	7.1		0.59
3	0.31	8.6		0.48	6.5		0.79
* 4	0.29	6.9	21	0.41	6.8	22	0.70
5	0.27	6.9		0.41	6.6		0.68
6	0.28	6.6		0.24	7.8		0.52
7	0.31	7.1		0.36	7.0		0.67
8	0.26	7.2		0.47	7.0		0.73
9	0.19	7.0		0.40	6.3		0.59
10	0.39	7.1		0.41	6.8		0.80
11	0.30	6.5		0.37	6.4		0.67
* 12	0.12	8.4	20	0.33	7.4	20	0.45
13	0.25	6.4		0.41	6.7		0.66
14	0.43	8.1		0.39	6.8		0.82
15	0.35	6.7		0.38	6.9		0.73
16	0.38	6.8		0.42	6.9		0.80
17	0.47	6.7		0.39	6.8		0.86
18	0.36	6.9		0.39	6.9		0.75
19	0.42	6.1		0.42	7.1		0.84
20	0.30	7.8		0.45	7.3		0.75
21	0.30	7.3		0.44	6.4		0.74
22	0.25	7.1		0.43	7.5		0.68
23	0.27	7.2		0.41	7.7		0.68
24	0.32	7.3		0.36	7.1		0.68
25	0.34	7.4		0.40	7.2		0.74
26	0.26	7.8		0.39	7.4		0.65
27	0.25	7.4		0.46	7.4		0.71
28	0.21	7.4		0.37	7.8		0.58
29	0.21	7.4		0.41	7.5		0.62
30	0.23	7.5		0.38	7.7		0.61

12/1/86 6847754
SANITARY 10/1/86 6833018
1,473,600

ERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

100

TITLE LOADINGS DATE NOV. 1986 Page No. 89

PURPOSE Book No. E 21770

LOADING FACTORS (MGD X 8.34)

	002	003
11/4	2.42	3.42
11/12	1.00	2.75

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
4	20	48	82	280	330
12	2	2	92	253	260
TDS					
4	2410	5832	12 700	43434	49000
Cl					
4	12	29	13	44	70
SO4					
4	1440	3485	8400	28728	32000
NH_3-N					
4	0.26	0.6	0.42	1.4	2
12	0.2	0.2	<0.2	0.6	1
BOD5					
4	<2	4.8	3.4	11.6	16
12	2	2	5.1	14.0	16
COD					
4	20	48	30	103	151
12	12	12	7.1	19.5	32

EXPERIMENTER DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

90 Page No. TITLE pH, FLOW, TEMP DATE DECEMBER 86

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002 + 003 MGD
1	0.41	7.0		0.37	7.2		0.78
2	0.30	7.8	10	0.38	8.2	20	0.68
3	0.32	6.7		0.40	7.6		0.72
4	0.39	7.1		0.37	7.4		0.76
5	0.20	7.2		0.42	7.4		0.62
6	0.20	7.8		0.44	7.4		0.64
7	0.23	7.0		0.47	7.2		0.70
8	0.23	7.3		0.47	7.5		0.70
9	0.33	7.5		0.39	7.4		0.72
10	0.35	7.2		0.36	7.4		0.71
11	0.20	7.4		0.43	7.4		0.63
12	0.20	7.0		0.44	7.6		0.64
13	0.21	7.6	10	0.41	7.0	15	0.62
14	0.21	7.7		0.46	7.6		0.67
15	0.29	8.0		0.48	7.3		0.77
16	0.15	7.7		0.52	7.3		0.67
17	0.17	8.8		0.47	7.3		0.64
18	0.19	8.0		0.36	7.2		0.55
19	0.16	7.7		0.42	7.4		0.58
20	0.23	7.3		0.49	7.5		0.62
21	0.18	7.3		0.41	7.1		0.59
22	0.19	8.1		0.45	7.7		0.64
23	0.19	7.4		0.42	7.7		0.61
24	0.20	8.2		0.37	7.5		0.57
25	0.19	7.5		0.38	7.5		0.57
26	0.18	7.4		0.47	7.0		0.65
27	0.18	7.6		0.47	6.9		0.65
28	0.21	7.1		0.50	6.9		0.71
29	0.31	7.0		0.43	7.1		0.74
30	0.29	8.0		0.43	7.6		0.72
31	0.28	8.0		0.37	8.2		0.65

R- 1659518

SANITARY 1/1/87 6862130
12/1/86 8847754
14376 00

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

102

TITLE LOADINGS DATE DEC. 86 Page No. 91

PURPOSE Book No. E 21770

LOADING FACTORS (MGD x 8.34)

	002	003
12/2	2.50	3.17
12/13	1.75	3.42

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002+003 ROUNDED #/DAY
TSS					
2	12	30	35	111	140
13	8	14	30	103	120
TDS					
2	548	1370	9590	30400	32000
Cl					
2	13.4	34	15.3	49	80
SO4					
2	375	938	7320	23204	24000
NH4-N					
2	0.58	1.5	0.72	2.3	4
13	0.27	0.5	0.30	1.0	2
BOD5					
2	<2.0	5.0	<2.0	6.3	11
13	<2.0	3.5	<2.0	6.8	10
COD					
2	<5.0	12.5	<5.0	15.9	28
13	15	26.3	10	34.2	61

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

92 Page No. TITLE pH, FLOW, TEMP DATE JAN 87

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002+003 MGD	SANITARY ~~Flow~~ HUNDREDS G/D
1	0.22	7.4		0.35	7.6		0.57	338
2	0.21	7.5		0.34	7.3		0.55	346
3	0.21	7.6		0.37	7.6		0.58	345
4	0.23	7.5		0.40	7.8		0.63	374
5	0.22	8.2		0.37	7.7		0.59	365
6	0.28	8.3		0.23	7.0		0.51	357
* 7	0.23	8.4	12	0.28	7.0	19	0.51	363
8	0.25	7.6		0.31	6.8		0.56	338
9	0.33	8.5		0.41	7.1		0.74	342
10	0.19	7.3		0.45	7.2		0.64	325
* 11	0.19	7.2	10	0.44	7.2	12	0.63	327
12	0.26	7.6		0.56	7.8		0.82	343
13	0.18	7.6		0.59	7.5		0.77	338
14	0.19	7.7		0.61	7.6		0.80	367
15	0.17	7.6		0.56	7.7		0.73	331
16	0.18	7.3		0.56	7.0		0.74	86?
17	0.18	7.8		0.63	7.2		0.81	0?
18	0.18	7.2		0.57	7.4		0.75	469
19	0.22	7.8		0.56	7.8		0.78	357
20	0.26	7.5		0.57	7.8		0.83	317
21	0.25	8.2		0.49	7.9		0.74	299
22	0.25	8.5		0.53	7.8		0.78	323
23	0.20	8.2		0.42	7.6		0.62	280
24	0.21	8.5		0.49	8.0		0.70	286
25	0.24	8.0		0.45	7.6		0.69	272
26	0.20	8.2		0.44	7.6		0.64	292
27	0.18	8.4		0.35	8.2		0.53	300
28	0.18	8.3		0.44	8.2		0.62	267
29	0.18	8.6		0.44	8.3		0.62	269
30	0.20	8.6		0.41	8.1		0.61	181?
31	0.11	8.1		0.35	7.3		0.46	0?

SANITARY 2/1/87 6871327
1/1/87 6862130
9197.00

EXPERIMENTER DATE

WITNESSED BY DATE

DEC · 0010442

TITLE LOADINGS DATE JAN 87 Page No. 93

PURPOSE Book No. E 21770

LOADING FACTORS (MGD x 8.34)

	002	003
1/7	1.92	2.34
1/11	1.58	5.09

DATE	002		003		002+003 ROUNDED
	MG/L	#/D	MG/L	#/D	#/DAY
TSS					
7	<2	4	26	61	70
11	<2	3	11	56	60
TDS					
7	810	1555	7820	18299	19000
Cl					
7	11	21	18	42	60
SO4					
7	575	1104	5840	13666	15000
NH4-N					
7	<0.2	0.4	0.41	0.0	1
11	<0.2	0.3	<0.2	1.0	1
BOD5					
7	<2	4	10	23	27
11	<2	3	<2	10	13
COD					
7	<5	10	20	47	57
11	<5	8	<5	25	33

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

94 Page No. TITLE pH, FLOW, TEMP DATE FEB, 87

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	002 + 003 MGD	SANIT GPM ~~HUNDREDS~~ ~~GPD~~
1	0.18	7.9		0.42	8.0		0.60	005
2	0.19	7.7		0.39	7.5		0.58	"
* 3	0.32	7.6	10	0.42	7.2	14	0.74	"
4	0.30	7.4		0.44	7.5		0.74	"
5	0.17	8.6		0.48	8.1		0.65	"
6	0.21	8.1		0.45	7.3		0.66	"
7	0.32	7.0		0.56	7.5		0.88	"
8	0.48	7.9		0.54	7.7		1.02	21
9	0.17	7.9		0.48	8.3		0.65	22
10	0.26	7.9		0.50	7.4		0.76	22
* 11	0.19	8.2	12	0.42	8.3	16	0.61	22
12	0.22	8.4		0.52	7.6		0.74	22
13	0.27	7.7		0.51	7.6		0.78	22
14	0.09	7.8		0.44	7.6		0.53	20
15	0.09	7.6		0.47	7.4		0.56	21
16	0.52	8.2		0.44	7.2		0.96	22
17	0.52	7.5		0.44	7.3		0.96	21
18	0.18	7.8		0.48	7.6		0.66	20
19	0.44	7.9		0.49	7.7		0.93	24
20	0.34	7.9		0.43	7.4		0.77	20
21	0.34	7.5		0.43	7.6		0.77	19
22	0.08	8.0		0.46	7.5		0.54	19
23	0.23	8.1		0.49	7.4		0.72	20
24	0.07	8.0		0.48	7.3		0.58	20
25	0.16	8.1		0.50	7.6		0.66	20
26	0.15	7.9		0.47	7.6		0.62	20
27	0.15	8.0		0.47	7.4		0.62	20
28	0.08	8.0		0.44	7.7		0.52	26

SANITARY 3/1/87 6877978
2/1/87 6871328

TO CORR TO FULL MONTH $\frac{6600}{21} \times 28 = 8800.00$

3-R 1660702

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE FEB 87 Page No. 95

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
2/3	2.67	3.50
2/11	1.58	3.50

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
3	4	11	22	77	90
11	6	9	94	329	340
TDS					
3	980	2617	5820	20370	23000
Cl					
3	13	35	22	77	110
SO4					
3	610	1629	3700	12950	15000
NH3-N					
3	<.2	0.5	<.20	0.7	1
11	0.22	0.4	<0.20	0.7	1
BOD5					
3	<2.0	5.3	<2.0	7.0	12
11	<2.0	3.2	<2.0	7.0	10
COD					
3	6	16	8	28	44
11	<5	8	11	39	47

EXPERIMENTER DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

96 Page No. TITLE FLOW, pH, TEMP DATE MARCH 87

21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002+003 MGD	SANIT GPM
1	0.10	7.8	8	0.43	7.5	18	0.53	29
2	0.25	7.8		0.46	8.7		0.71	29
3	0.16	7.1		0.42	7.5		0.58	27
4	*0.22	7.6		0.47	7.4		0.69	28
5	*0.22	8.3		0.42	7.7		0.64	28
6	0.22	7.7		0.51	7.4		0.73	32
7	0.13	8.5		0.40	7.8		0.53	26
8	0.19	7.8		0.46	7.7		0.65	28
9	0.18	8.0		0.48	7.8		0.66	23
10	0.18	7.8		0.48	7.6		0.66	24
11	0.14	7.8		0.49	7.2		0.63	25
12	0.18	8.8		0.48	6.7		0.66	25
13	0.28	6.1		0.41	8.3		0.69	24
14	0.28	8.5		0.42	8.3		0.70	26
15	0.11	7.4	6	*0.49	6.5	20	0.60	23
16	0.11	6.9		0.52	6.9		0.63	25
17	0.23	7.8		0.55	8.2		0.78	26
18	0.28	6.5		0.49	7.1		0.77	22
19	0.24	7.2		0.57	7.1		0.81	25
20	0.21	7.4		0.52	7.8		0.73	24
21	0.18	7.2		0.56	7.0		0.64	10
22	0.42	7.2		0.55	7.3		0.97	36
23	0.35	7.6		0.55	7.4		0.90	29
24	0.29	7.6		0.57	7.5		0.86	31
25	0.28	8.2		0.52	7.6		0.80	30
26	0.25	7.7		0.49	7.5		0.74	31
27	0.25	7.9		0.50	7.5		0.75	38
28	0.26	7.5		0.50	7.6		0.76	19
29	0.24	7.5		0.48	7.4		0.72	25
30	0.29	8.0		0.39	7.3		0.68	23
31	0.23	7.0		0.51	7.2		0.74	27

* AVG.

R 1660702

SANITARY 4/1 6889857
3/1 6897978
11879

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

FLOW FACTORS (MGD X 8.34)

	002	003
3/1	0.83	3.59
3/15	0.92	4.09

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
1	<2	2	<2	7	10
15	<2	2	26	106	110
TDS					
1	1020	847	8710	31269	32000
Cl					
1	13	11	15	54	70
SO4					
1	700	581	5800	20822	21000
NH3-N					
1	0.27	0.2	0.27	1.0	1
15	<0.20	0.2	<0.20	0.8	1
BOD					
1	<2.0	0.2	3.4	12.2	12
15	2.5	2.3	<2.0	8.2	11
COD					
1	14	12	<5	18	30
15	11	10	9	37	47

98 Page No. TITLE FLOW, pH, TEMP DATE APRIL 87

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002+003 MGD	SANITARY GPM	21
1	0.23	7.4		0.51	7.1			0.74	21
2	0.19	8.2		0.52	7.6			0.71	23
3	0.20	8.2		0.52	7.5			0.72	22
4	0.18	6.5		0.48	7.1			0.66	28
5	0.18	7.5		0.51	7.4			0.69	25
* 6	0.15	8.0	7	0.50	7.2	15		0.65	29
7	0.21	8.2		0.56	7.5			0.77	20
8	0.20	8.5		0.37	7.2			0.57	25
9	0.31	7.2		0.50	6.7			0.81	25
10	0.18	8.5		0.50	7.7			0.68	25
11	0.25	6.8		0.52	7.6			0.77	23
12	0.10	7.1		0.50	7.2			0.60	28
13	0.34	7.0		0.56	7.0			0.90	16
14	0.21	7.0		0.43	7.0			0.64	43
* 15	0.18	8.0	15	0.50	7.0	23		0.68	30
16	0.30	7.4		0.50	7.0			0.80	28
17	0.20	7.1		0.52	7.4			0.72	28
18	0.13	8.7		0.52	7.8			0.65	30
19	0.15	8.1		0.55	7.0			0.70	30
20	0.22	7.6		0.50	6.9			0.72	26
21	0.22	8.8		0.51	7.5			0.73	31
22	0.23	8.1		0.59	7.5			0.81	31
23	0.21	8.2		0.60	7.4			0.81	28
24	0.20	8.3		0.54	7.6			0.74	20
25	0.17	7.2		0.58	7.6			0.75	0
26	0.16	7.1		0.48	7.6			0.64	0
27	0.27	7.4		0.50	7.6			0.77	39
28	0.15	8.2		0.35	7.6			0.50	31
29	0.24	7.4		0.50	7.2			0.74	14
30	0.21	7.8		0.54	7.7			0.75	

SANITARY 5/1/87 6900637
4/1/87 6889857
1078000

PERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE APRIL 87 Page No. 99

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
4/6	1.25	4.17
4/15	1.50	4.17

DATE	002 mg/LIT	002 #/DAY	003 mg/LIT	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
6	18	23 ~~90~~	90	375	400
15	9	14	48	200	210
TDS					
6	[illegible]0	900	10500	43785	45000
Cl					
6	15	19	10	42	60
SO4					
6	500	625	7880	32860	33000
NH3-N					
6	0.36	0.5	0.25	1.0	2
15	<0.20	0.3	0.49	2.0	2
BOD5					
6	<2.0	2.5	<2.0	8.3	11
15	<2.0	3.0	2.1	8.8	11
COD					
6	<5.0	6.3	5.0	20.9	27
15	<5.0	7.5	5.0	20.9	28

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

100 Page No. TITLE Flow, pH, TEMP DATE MAY 87

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 TEMP	003 MGD	003 pH	003 TEMP	TOTAL 002+003 MGD	SANIT GPM
1	0.21	7.8		0.53	7.6		0.74	
2	0.22	7.6		0.56	7.5		0.78	
3	0.14	7.0	16	0.56	7.4	25	0.70	
4	0.14	8.2		0.53	7.8		0.67	
5	0.27	8.0		0.51	7.7		0.78	
6	0.25	7.6		0.52	7.9		0.77	
7	0.23	7.8		0.54	7.6		0.77	
8	0.32	8.4		0.56	7.3		0.88	
9	0.17	7.3		0.59	7.3		0.76	
10	0.16	7.7	22	0.57	7.2	30	0.73	
11	0.15	7.4		0.49	6.9		0.64	
12	0.17	8.3		0.58	7.5		0.75	
13	0.17	7.5		0.51	7.5		0.68	
14	0.31	6.6		0.52	7.5		0.83	
15	0.28	6.9		0.50	8.1		0.78	
16	0.17	7.8		0.60	8.2		0.77	
17	0.11	7.6		0.54	7.6		0.65	
18	0.12	6.7		0.55	7.3		0.67	
19	0.28	7.0		0.56	6.8		0.84	
20	0.27	6.8		0.59	7.2		0.86	
21	0.20	7.3		0.59	7.4		0.79	
22	0.19	6.8		0.58	7.1		0.77	
23	0.30	7.2		0.59	7.4		0.89	
24	0.31	6.6		0.55	7.4		0.86	
25	0.14	6.8		0.59	7.0		0.73	
26	0.20	7.1		0.59	7.6		0.79	
27	0.20	8.0		0.57	7.7		0.77	
28	0.30	7.4		0.58	7.0		0.88	
29	0.31	7.7		0.69	7.1		1.00	
30	0.20	8.3		0.60	8.6		0.80	
31	0.29	7.1		0.56	7.4		0.85	

SANITARY PUMP OUT - AUXILARY PUMP BY-PASSED METER 6/1 8900986
THEN METER TRANSMITTER FAILED 5/1 6900 837
AVG. OF NOV 86 TO APRIL 87 - (6 MO) = 1,162800 34900?

EXPERIMENTER DATE

DEC 0010442

WITNESSED BY DATE

FLOW FACTORS (MGD X 8.34)

	002	003
6/9	0.0917	4.75
6/11	0.0751	5.09
6/22	0.0584	4.59

DATE	002 MG/LIT	002 #/DAY	003 MG/L	003 #/DAY	TOTAL #/DAY ROUNDED
TSS					
9	54	5	42	200	210
* 11	63	5	32	163	168
22	10	1	68	312	310
TDS					
9	15000	~~10700~~ 1516	10700	50825	52000
* 11	1210	91	7740	39397	39500
Cl					
9	13	1	11	52	50
* 11	11	1	13	66	67
SO4					
9	10200	935	7380	35055	36000
* 11	810	61	5250	26723	26800
NH3-N					
9	1.2	0.1	0.6	2.9	3
* 11	1.8	0.1	0.5	2.5	3
22	0.5	0.0	0.4	1.8	2
BOD					
9	<2	0.2	<2	9.5	10
* 11	2	0.2	3	15.3	16
22	<2	0.1	<2	9.2	9
COD					
9	9	0.8	17	81	82
* 11	11	0.8	11	56	57
22	5	0.3	6	28	28

E. I. DU PONT DE NEMOURS & CO. (INC.)

104 Page No. TITLE FLOW, pH, TEMP DATE JULY 87

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002 & 003 MGD	SANIT GPM
1	0.01	7.6		0.69	6.7		0.70	45
2	0.01	7.5		0.57	7.6		0.58	39
3	0.01	7.6		0.68	7.6		0.69	37
4	0.01	7.9		0.66	8.0		0.67	38
5	0.01	8.0		0.65	7.6		0.66	51
6	0.02	7.8	24	0.71	7.6	28	0.73	57
7	0.02	7.2		0.69	8.0		0.71	54
8	0.01	7.0		0.67	7.2		0.68	55
9	0.01	7.2		0.67	7.4		0.68	62
10	0.01	7.0		0.69	7.5		0.70	59
11	0.01	7.6		0.73	7.3		0.74	51
12	0.01	7.3		0.65	7.5		0.66	45
13	0.04	7.1	25	0.63	8.1	30	0.67	41
14	0.14	7.5		0.63	7.8		0.77	38
15	0.12	7.0		0.30	7.6		0.42	38
16	0.06	7.1		0.64	7.3		0.70	41
17	0.08	7.8		0.60	7.3		0.68	45
18	0.12	7.0		0.60	7.2		0.72	45
19	0.12	8.4		0.56	7.2		0.68	42
20	0.09	7.2		0.57	7.5		0.66	52
21	0.08	7.4		0.52	7.8		0.60	48
22	0.17	7.4		0.52	8.1		0.69	47
23	0.09	7.2		0.58	7.6		0.67	44
24	0.09	7.0		0.58	6.8		0.67	45
25	0.02	7.0		0.57	7.1		0.59	40
26	0.03	7.0		0.47	7.2		0.50	33
27	0.12	6.9		0.51	6.9		0.63	42
28	0.15	7.2		0.54	7.1		0.69	34
29	0.01	6.9		0.55	6.8		0.56	39
30	0.01	7.7		0.45	7.2		0.46	35
31	0.01	8.5		0.53	7.3		0.54	38

SANITARY 8/1/87 6939738
7/1/87 6919851
1,988,700

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE JULY 87 Page No. 105

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
7/6	0.17	5.92
7/13	0.33	5.25

DATE	002 mg/LIT	002 #/DAY	003 mg/LIT	003 #/DAY	TOTAL #/DAY ROUNDED
TSS					
6	36	6	18	107	110
13	11	4	22	116	120
TDS					
6	6400	1088	1800	10656	11700
Cl					
6	15	3	14	83	90
SO_4					
6	4050	689	880	5210	5900
NH_3-N					
6	0.4	0.1	0.6	3.6	4
13	<0.2	0.1	<0.2	1.1	1
BOD					
6	<2	0.3	<2	11.8	12
13	<2	0.7	<2	10.5	11
COD					
6	10	1.7	8	47.4	49
13	5.1	1.7	7.6	39.9	41

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

106 Page No. TITLE FLOW, pH, TEMP DATE AUG 87

21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002 + 003 MGD	SANITARY GPM	
1	0.01	6.8		0.54	7.2		0.55	38	
2	0.02	7.5		0.54	7.4		0.56	41	
3	0.06	7.6		0.52	7.5		0.58	40	
4	0.21	7.6		0.43	7.4		0.64	8	
5	0.01	7.7		0.50	7.5		0.51	36	
6	0.15	7.6		0.48	7.4		0.63	36	
7	0.12	7.7		0.62	7.6		0.74	40	
8	0.11	7.5		0.61	7.6		0.72	421	*
9	0.03	7.8		0.61	7.6		0.64	510	*
10	0.03	7.5		0.58	7.8		0.61	181	*
11	0.09	7.2		0.53	6.9		0.62	48	
12	0.17	7.2	26	0.53	7.8	24	0.70	40	
13	0.10	6.8		0.56	6.9		0.66	52	
14	0.14	6.6		0.58	6.8		0.72	45	
15	0.10	7.4		0.65	7.8		0.75	48	
16	0.03	7.4		0.64	7.9		0.67	157	*
17	0.08	7.8	24	0.59	7.8	31	0.67	77	
18	0.13	7.5		0.59	7.4		0.72	66	
19	0.17	7.6		0.58	7.8		0.75	68	
20	0.13	7.5		0.60	7.6		0.73	71	
21	0.10	7.4		0.57	7.9		0.67	73	
22	0.10	7.4		0.56	7.6		0.66	64	
23	0.12	7.4		0.65	7.2		0.77	58	
24	0.13	7.5		0.53	6.3		0.66	41	
25	0.15	7.6		0.62	7.3		0.77	74	
26	0.19	7.5		0.61	8.0		0.80	83	
27	0.16	7.4		0.53	8.0		0.69	60	
28	0.14	7.0		0.65	7.6		0.79	49	
29	0.04	7.5		0.59	7.8		0.63	50	
30	0.02	6.5		0.63	8.2		0.65	49	
31	0.02	6.8		0.49	7.2		0.51	41	

2,012,800 REPORTED
* BACKED OUT SANITARY 9/1/87 6978148 (6978148)
8/1/87 6939738
3,941,000

EXPERIMENTER DATE

DEC 0010442

WITNESSED BY

TITLE LOADINGS DATE AUG 87 Page No. 107

PURPOSE Book No. E 21770

FLOW FACTORS (MGD x 8.34)

	002	003
8/12	1.42	4.42
8/17	0.67	4.92

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	TOTAL #/DAY ROUNDED
TSS					
12	2.5	4	26	115	120
17	5	3	10	49	60
TDS					
12	1120	1590	5220	23072	24700
Cl					
12	14	20	20	88	110
SO4					
12	320	454	2290	10122	10600
NH3-N					
12	0.4	0.6	0.2	0.9	2
17	0.2	0.1	0.2	1.0	1
BOD					
12	2	2.8	2	8.8	12
17	2	1.3	2	9.8	11
COD					
12	5	7	51	225	232
17	5	3	5	25	30

EXPERIMENTER DEC 0010442 DATE 119

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

108 Page No. TITLE FLOW, pH, TEMP DATE SEPT. 87

21770 Book No. PURPOSE

ORIGINAL FLOWS IN ELLOR 9/3 9/12

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 002+003 MGD	SANIT GPM	003 MGD	TOT MGD
1	0.06	7.0		0.42	7.1		0.48	43		
2	0.04	7.0		0.40	7.3		0.44	33		
3	0.04	6.7		0.70	7.3		0.74	35	0.49	0.53
4	0.04	7.2		0.94	8.2		0.98	34	0.73	0.77
5	0.03	7.5		0.73	7.2		0.76	43	0.52	0.55
6	0.02	7.8		0.87	7.7		0.89	34	0.66	0.68
7	0.03	7.0		0.79	7.3		0.82	31	0.58	0.61
8	0.06	7.0	26	0.82	7.0	26	0.88	30	0.63	0.69
9	0.06	7.0	26	0.73	7.0	26	0.79	30	0.52	0.58
10	0.05	7.4		0.61	7.9		0.66	31	0.40	0.45
11	0.04	8.0		0.72	7.2		0.76	31	0.51	0.55
12	0.02	7.5		0.56	7.5		0.58	30		
13	0.02	7.2		0.58	7.8		0.60	27		
14	0.04	7.1	22	0.61	7.6	26	0.65	30		
15	0.05	6.9		0.67	7.6		0.72	31		
16	0.03	7.2		0.56	7.4		0.59	34		
17	0.05	7.6		0.56	7.8		0.61	29		
18	0.06	7.8		0.66	7.6		0.72	27		
19	0.02	7.8		0.63	7.6		0.65	28		
20	0.02	7.3		0.63	7.2		0.65	25		
21	0.05	7.2		0.61	7.1		0.66	34		
22	0.02	7.5		0.56	7.0		0.58	36		
23	0.03	7.4		0.56	7.0		0.59	35		
24	0.02	7.0		0.54	7.2		0.56	35		
25	0.04	7.2		0.59	7.0		0.63	70		
26	0.04	7.2		0.59	7.8		0.63	71		
27	0.03	7.2		0.67	7.6		0.70	66		
28	0.08	7.5		0.61	7.2		0.69	66		
29	0.04	7.8		0.60	7.4		0.64	34		
30	0.05	7.4		0.59	7.1		0.64	24		

SANITARY 10/1/87 6994109
9/1/87 6978148
1596100

EXPERIMENTER DATE

DEC 0010442

WITNESSED BY DATE

120

TITLE LOADINGS DATE SEPT. 87 Page No. 109

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
9/8	0.50	5.25
9/14	0.33	5.09

DATE	002 mg/LIT	002 #/DAY	003 mg/LIT	003 #/DAY	TOTAL #/DAY ROUNDED
TSS					
8	<2	1	50	263	260
14	<2	1	11	56	60
TDS					
8	458	229	9504	49896	50 000
Cl					
8	<5	3	13	68	70
SO4					
8	290	145	6330	33233	33000
NH_3-N					
8	<0.2	0.1	<0.2	1.1	1
14	<0.2	0.1	0.4	2.0	2
BOD					
8	<2.0	1	<2.0	10.5	12
14	<2.0	1	<2.0	10	11
COD					
8	<5	2.5	<5	26.3	29
14	<5	1.7	<5	25.5	27

SO4 ANALYSIS OF 9/8 003:

ml's SPL	20	20
GMS $BaSO_4$	0.3067	0.3086
X.4115	0.1262	0.1270
mg/LIT	6310	6349
AVE	6330	

TDS ANALYSES OF 9/8 003:

ml's SPL	100	100
FINAL WT	34.2215	35.6790
DISH WT	33.2716	34.7281
SOLIDS WT	0.9499	0.9509
mg/L AVE	9504	

ANALYSES BY J. N. Orlan

EXPERIMENTER J. N. Orlan DATE 10/19/87

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

110 Page No. TITLE FLOW, pH, TEMP DATE OCTOBER 87

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002 + 003 MGD	SANIT GPM
1	0.06	7.4		0.61	8.0		0.67	25
2	0.06	7.4		0.61	7.8		0.67	25
3	0.03	7.1		0.72	7.7		0.75	24
4	0.03	7.5		0.65	7.3		0.68	21
5	0.03	7.2		0.78	7.5		0.81	26
6	0.04	7.8		0.67	7.9		0.71	20
7	0.06	7.3	22	0.73	7.5	22	0.79	11
8	0.07	7.4		0.71	7.6		0.78	25
9	0.05	7.2		0.77	6.8		0.82	25
10	0.03	7.2		0.86	7.0		0.89	26
11	0.04	7.0		0.75	7.4		0.79	25
12	0.08	7.3		0.52	7.6		0.60	21
13	0.06	7.4		0.43	7.5		0.49	23
14	0.05	7.4	24	0.38	7.5	26	0.43	23
15	0.06	7.2		0.80	7.4		0.86	20
16	0.04	7.4		0.31	6.9		0.35	21
17	0.03	7.4		0.41	6.8		0.44	21
18	0.03	7.4		0.41	6.8		0.44	22
19	0.03	7.2		0.45	7.2		0.48	22
20	0.07	7.3		0.61	7.4		0.68	24
21	0.03	7.6		0.75	7.2		0.78	22
22	0.05	7.4		0.65	7.2		0.70	23
23	0.07	7.4		0.72	6.7		0.79	21
24	0.03	7.2		0.76	8.6		0.79	5
25	0.03	7.2		0.67	7.7		0.70	0
26	0.04	7.5		0.69	7.6		0.73	1
27	0.05	6.9		0.64	6.8		0.69	38
28	0.05	7.4		0.74	7.2		0.79	42
29	0.03	6.8		0.56	7.1		0.59	48
30	0.02	7.6		0.71	7.5		0.73	47
31	0.12	7.0		0.87	7.2		0.99	63

SANITARY 11/1/87 7005800
12/1/87 6994109
11691,00

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE OCTOBER 87 Page No. 111

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	10/7	10/14
002	0.50	6.09
003	0.42	3.17

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
7	3	2	54	329	330
14	<2	1	4	13	10
TDS					
7	802	401	8490	51704	52000
Cl					
7	12	6	46	280	290
SO4					
7	450	225	4350	26492	27000
NH3-N					
7	<0.2	0.1	<0.2	1.2	1
14	<0.2	0.1	<0.2	0.6	1
BOD					
7	<2.0	1	7.6	46	47
14	<2.0	1	9	29	30
COD					
7	6	3	23	140	140
14	<5	2	22	70	72

EXPERIMENTER DEC 0010442 DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

112 Page No. TITLE DATE

E 21770 Book No. PURPOSE

FLOWS ENTERED ON WRONG LINE

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	TOTAL 002+003 MGD	SANITARY GPM
1	0.13			~~0.58~~				
2	0.11			0.35				
3	0.03			0.55				
4	0.01			0.43				
5	0.07			0.23				
6	0.06			0.35				
7	0.06			0.35				
8	0.01			0.38				
9				0.27				
10				0.45				
11	0.04			0.44				
12	0.08			0.53				
13	0.09			0.47				
14	0.01			0.67				
15	0.02			0.48				
16	0.01			0.46				
17				0.60				
18				0.73				
19				0.69				
20				0.70				
21				0.70				
22				0.65				
23				0.60				
24				0.60				
25	0.07			0.59				
26	0.05			0.53				
27	0.02			0.49				
28	0.02			0.44				
29	0.02			0.32				
30	0.02			0.46				
/	0.09			0.58				

SANITARY 12/1/87 7020361
11/1/87 7005800
1,456,100

PERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

124

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE _____ DATE _____ Page No. 113

PURPOSE _____ Book No. E 21770

EXPERIMENTER DEC 0010442 DATE 125

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

114 Page No. TITLE FLOW, TEMP, pH DATE NOVEMBER 87

21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C	003 MGD	003 pH	003 °C	TOTAL 002+003 MGD	SANIT. GPM
1	0.11	7.0	22	0.35	7.4	24	0.46	
2	0.03	7.0		0.55	7.5		0.58	
* 3	0.05	7.6		0.43	7.4		0.48	
4	0.07	8.0		0.23	7.5		0.30	
5	0.06	7.4		0.35	7.8		0.41	
6	0.06	7.3		0.35	7.1		0.41	
* 7	0.05	7.4		0.38	7.5		0.43	
* 8	0.05	7.8	20	0.27	7.5	24	0.32	
* 9	0.05	7.0		0.45	7.4		0.50	
10	0.04	7.6		0.15	7.2		0.19	
11	0.08	7.0		0.24	7.4		0.32	
12	0.04	7.4		0.19	7.5		0.23	
13	0.01	6.8		0.39	7.4		0.40	
14	0.02	8.7		0.19	7.4		0.21	
15	0.01	7.0		0.17	6.9		0.18	
* 16	0.05	7.2		0.31	8.6		0.36	
* 17	0.05	7.2		0.44	7.6		0.49	
* 18	0.05	6.8		0.41	7.4		0.46	
19	0.17	6.9		0.41	7.3		0.58	
20	0.01	7.3		0.41	7.4		0.42	
21	0.02	6.9		0.36	7.4		0.38	19
22	0.02	7.0		0.38	7.4		0.40	20
23	0.03	7.0		0.38	7.5		0.41	20
24	0.07	7.1		0.40	6.9		0.47	20
25	0.05	6.6		0.24	7.6		0.29	21
26	.017	7.1		0.21	8.1		0.23	18
27	.015	7.1		0.15	7.3		0.17	21
28	.020	7.0		0.03	7.0		0.05	21
29	.023	6.9		0.17	7.4		0.19	17
30	.087	6.9		0.29	7.5		0.37	21

→ METER NOT FUNCTIONING PROPERLY RANGING FROM 0 TO 300 GPM

* METER OUT - AVG USED ON 002

EXPERIMENTER DEC 0010442 DATE 126

WITNESSED BY DATE

TITLE LOADINGS DATE NOV. 87 Page No. 115

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	11/1	11/8
002	0.92	2.92
003	0.42	2.25

DATE	002		003		002+003 #/DAY ROUNDED
	mg/L	#/DAY	mg/L	#/DAY	
TSS					
1	2.5	2	17	50	50
8	2	1	4	9	10
TDS					
1	1156	1064	10500	30660	31000
Cl					
1	65	60	42	123	180
SO4					
1	710	653	7600	22192	23000
NH3-N					
1	0.2	0.2	2.0	5.8	6
8	0.2	0.1	0.4	0.9	1
BOD					
1	2.0	1.8	2.0	5.8	*7
8	2.0	0.8	2.0	4.5	5
COD					
1	5	4.6	9.6	28.0	33
8	5	2.1	7.7	17.3	19

EXPERIMENTER DEC 0010442 DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

116 Page No. TITLE FLOW, TEMP, pH DATE DEC. 1987

21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C		003 MGD	003 pH	003 °C	TOTAL 002 + 003 MGD	SANIT GPM
1	0.04	6.9			0.58	7.7		0.62	18
2	0.04	7.4	19		0.47	7.4	23	0.51	19
3	0.04	7.3	—		0.72	7.5		0.76	19
4	0.10	7.3			0.72	7.8		0.82	21
5	0.02	7.0			0.53	7.6		0.55	18
6	0.03	6.9			0.66	7.2		0.69	22
7	0.03	7.4			0.71	7.7		0.74	22
8	0.08	6.9			0.57	6.7		0.65	25
9	0.05	7.4	14		0.69	7.3	22	0.74	27
10	0.08	7.2			0.71	7.3		0.79	19
11	0.07	7.4			0.34	7.3		0.41	19
12	0.02	7.3			0.33	7.4		0.35	19
13	0.02	7.1		X	0.~~42~~ 45	7.4		0.47	19
14	0.04	6.9		X	0.~~08~~ 45	7.3		0.49	23
15	0.01	7.1		X	0.~~10~~ 45	7.2		0.46	22
16	0.02	7.1		X	0.~~09~~ 45	7.1		0.47	21
17	0.02	7.2		X	0.~~08~~ 45	7.2		0.47	18
18	0.02	7.0		X	0.~~05~~ 45	7.3		0.47	22
19	0.01	7.4			0.32	7.4		0.33	28
20	0.01	8.2			0.43	7.6		0.44	25
21	0.03	7.1			0.40	7.4		0.43	21
22	0.05	7.2			0.32	7.4		0.37	28
23	0.01	7.4			0.30	7.6		0.31	29
24	0.01	7.3			0.32	7.4		0.33	22
25	0.02	7.2			0.32	7.4		0.34	24
26	0.02	7.0			0.34	7.3		0.36	24
27	0.02	7.2			0.34	7.2		0.36	24
28	0.04	7.0			0.34	7.1		0.38	23
29	0.04	7.0			0.35	7.2		0.39	25
30	0.02	7.1			0.30	7.0		0.32	24
31	0.02	7.0			0.24	7.3		0.26	23
					0.45				

* NEW FLOWMETER INSTALLED USED MONTHLY AVE FOR THESE DAYS
RANGE OF RECORDER CHANGED FROM 0-2000 GPM TO 0-1000 GPM
12/15/87 USE INTEGRATOR X 50

SANITARY 1/1/88 7030335
12/1/87 7020361
997,400

EXPERIMENTER DATE

DEC 0010442

WITNESSED BY DATE

128

TITLE LOADINGS DATE DEC. 1987 Page No. 117

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	2	9
002	0.33	3.92
003	0.42	5.75

DATE	002 mg/L ~~MGD~~	002 #/DAY ~~DH~~	003 mg/L ~~G~~	003 #/DAY	002 + 003 #/DAY ROUNDED
TSS					
2	<2	1	152	596	600
9	2	1	33	190	190
TDS					
2	1350	446	9130	35790	36000
Cl					
2	12	4	14	55	60
SO4					
2	920	304	2800	10976	11000
NH_3-N					
2	<0.2	0.1	<0.2	0.8	1
9	<0.2	0.1	0.3	1.7	2
BOD					
2	<2.0	1	2.4	9	10
9	<2.5	1	<2.5	14	15
COD					
2	21	7	5.4	21	28
9	<5	2	6.2	36	38

EXPERIMENTER DEC 0010442 DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

118 Page No. TITLE FLOW, TEMP, pH DATE JAN 88

21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002 & 003 MGD	SANIT MGD ~~GPM~~
1	0.02	7.2		0.44	7.1		0.46	.038
2	0.02	7.1		0.36	7.4		0.38	.033
3	0.03	6.6	13	0.31	7.4	18	0.34	.034
4	0.04	6.8		0.30	8.4		0.34	.031
5	0.02	6.8		0.38	7.6		0.40	.020
6	0.06	7.0		0.36	7.1		0.42	.005
7	0.12	7.5		0.65	7.3		0.77	.025
8	0.06	8.1		0.17	7.1		0.23	.038
9	0.03	7.5		0.36	7.2		0.39	.037
10	0.03	7.1		0.37	7.3		0.40	.034
11	0.06	7.2	10	0.39	7.4	16	0.45	.033
12	0.06	6.9		0.39	7.2		0.45	.033
13	0.07	6.9		0.36	7.3		0.43	.028
14	0.07	7.2		0.33	7.3		0.40	.030
15	0.04	7.4		0.29	7.5		0.33	.029
16	0.33	7.2		0.42	7.6		0.75	.028
17	0.23	7.1		0.42	7.2		0.65	.037
18	0.28	7.2		0.23	7.4		0.51	.030
19	0.28	7.9		0.37	7.2		0.65	.036
20	0.31	6.9		0.43	7.3		0.74	.033
21	0.29	7.2		0.35	7.2		0.64	.033
22	0.25	8.1		0.32	7.4		0.57	.029
23	0.29	7.7		0.37	7.6		0.66	.033
24	0.28	7.4		0.39	7.4		0.67	.031
25	0.30	7.3		0.32	7.4		0.62	.031
26	0.31	6.9		0.40	7.1		0.71	.032
27	0.27	7.6		0.30	7.8		0.57	.030
28	0.29	8.0		0.28	7.7		0.57	.030
29	0.30	6.7		0.30	7.4		0.60	.030
30	0.33	8.0		0.52	8.0		0.85	.036
31	0.29	7.8		0.48	7.8		0.77	.038
AVE	0.17			0.37				0.031

SANITARY 2/1/88 7039965
1/1/88 7030335
963000

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE JAN 88 Page No. 119

PURPOSE Book No. E 21770

FLOW FACTORS (MGD x 8.34)

	1/3	1/11
002	0.25	~~2.59~~ 0.50
003	2.59	3.25

DATE	002 mg/LIT	002 #/DAY	003 mg/LIT	003 #/DAY	002 + 003 ROUNDED #/DAY
TSS					
3	13	3	54	140	140
11	7	4	15	49	50
TDS					
3	3060	765	9390	24320	25000
Cl					
3	8	~~04~~ 2	12	31	30
SO_4					
3	173	~~1384~~ 43	5800	15022	15000
NH_3-N					
3	<0.2	0.1	<0.2	0.5	1
11	0.26	0.1	0.22	0.7	1
BOD					
3	<2.0	0.5	<2.0	5	6
11	<2.0	1.0	<2.0	6.5	8
COD					
3	27	6.8	23	59.6	66
11	7.4	3.7	9.0	29.3	33

EXPERIMENTER DEC 0010442 DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

120 Page No. TITLE FLOW, TEMP, pH DATE FEB 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 002+003 MGD	SANIT MGD
1	0.28	6.8	14	0.35	7.6	20	0.63	.033
2	0.25	6.8		0.31	7.6		0.56	.020
3	0.25	7.4		0.31	7.4		0.56	.020
4	0.26	6.4		0.48	7.8		0.74	.067
5	0.20	7.6		0.43	7.8		0.63	.032
6	0.18	7.7		0.33	7.5		0.51	.032
7	0.10	7.5		0.32	7.1		0.42	.033
8	0.26	7.0	17	0.31	7.2	14	0.57	.030
9	0.22	7.6		0.26	7.6		0.48	.029
10	0.26	7.3		0.41	7.1		0.67	.033
11	0.24	7.6		0.36	7.6		0.60	.030
12	0.25	7.0		0.44	7.4		0.69	.031
13	0.24	7.2		0.37	7.6		0.61	.028
14	0.26	7.3		0.30	8.1		0.56	.031
15	0.30	7.4		0.35	7.6		0.65	.035
16	0.20	7.1		0.35	7.0		0.55	.031
17	0.21	7.1		0.35	7.8		0.56	.029
18	0.29	7.4		0.40	7.3		0.69	.033
19	0.26	7.2		0.52	7.2		0.78	.037
20	0.27	7.5		0.41	7.8		0.68	.032
21	0.30	7.0		0.39	7.3		0.69	.029
22	0.25	6.4		0.44	7.7		0.69	.033
23	0.20	7.2		0.44	7.7		0.64	.032
24	0.23	7.4		0.40	7.3		0.63	.025
25	0.24	7.8		0.29	7.9		0.53	.036
26	0.19	7.6		0.38	7.9		0.57	.033
27	0.27	7.5		0.42	7.6		0.69	.037
28	0.30	6.8		0.39	7.4		0.69	.030
29	0.24	7.2		0.34	7.4		0.58	.031

SANITARY 3/1/88 7049261
2/1/88 7039965
9296 00

EXPERIMENTER DATE

DEC 0010442

WITNESSED BY DATE

TITLE LOADINGS DATE MAY, 87 Page No. 101

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
5/3	1.17	4.67
5/10	1.33	4.75

DATE	002 MG/LIT	002 #/DAY	003 MG/LIT	003 #/DAY	TOTAL #/DAY ROUNDED
TSS					
3	8	9	26	121	130
10	2	3	24	114	120
TDS					
3	790	924	7970	37220	38000
Cl					
3	13	15	15	70	90
SO4					
3	600	702	5000	23350	24000
NH_3-N					
3	<0.20	0.2	<0.20	0.9	1
10	0.26	0.4	0.25	1.2	2
BOD					
3	<2.0	2	<2.0	9	11
10	<2.0	3	<2.0	10	13
COD					
3	<5	6	22	103	109
10	<5	7	6	29	36

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

102 Page No. TITLE FLOW, PH, TEMP DATE JUNE 87

21770 Book No. PURPOSE

DATE	002 MGD	002 PH	002 °C TEMP	003 MGD	003 PH	003 °C TEMP	TOTAL 002+003 MGD	SANIT GPM
1	0.022	7.1		0.62	7.4		0.64	0
2	0.010	7.4		0.30	7.6		0.31	0
3	0.010	6.9		0.76	6.8		0.77	0
4	0.013	7.1		0.48	7.4		0.49	56
5	0.014	7.4		0.60	8.0		0.61	38
6	0.012	7.3		0.62	8.5		0.63	50
7	0.013	8.4		0.62	8.3		0.63	46
8	0.015	7.4		0.62	7.4		0.64	47
9	0.011	7.9	22	0.57	7.5	24	0.58	46
10	0.011	7.6		0.66	7.4		0.67	43
11	0.009	7.8		0.61	7.4		0.62	43
12	0.008	7.3		0.56	7.4		0.57	52
13	0.008	7.0		0.74	7.4		0.75	47
14	0.007	7.5		0.50	7.4		0.51	57
15	0.009	7.0		0.54	7.7		0.55	39
16	0.007	7.2		0.61	7.6		0.62	46
17	0.011	7.7		0.58	7.7		0.59	47
18	0.008	8.0		0.58	7.6		0.59	46
19	0.006	8.4		0.64	7.6		0.65	45
20	0.008	8.0		0.64	7.3		0.65	55
21	0.007	7.6		0.57	7.5		0.58	46
22	0.007	7.4	24	0.55	7.5	30	0.56	44
23	0.007	7.9		0.62	7.3		0.63	47
24	0.008	7.7		0.60	7.2		0.61	45
25	0.007	7.5		0.56	7.3		0.57	53
26	0.006	7.6		0.60	7.1		0.61	49
27	0.006	7.7		0.61	7.8		0.62	44
28	0.006	7.8		0.68	7.3		0.69	51
29	0.006	7.5		0.55	6.8		0.56	44
30	0.018	6.7		0.67	7.2		0.69	39

SANITARY 7/1/87 6919851
6/1/87 6900987
1,886,400

VALUE IS HIGH BUT NO PROOF
BACKFLOW METER NOT WORKING

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

114

TITLE LOADINGS DATE FEB 88 Page No. 121

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
2/1	2.34	2.92
2/8	2.17	2.59

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	002+003 ROUNDED #/DAY
TSS					
1	2.5	6	16	47	50
8	12	26	9.5	25	50
TDS					
1	1400	3269	9540	27847	31000
Cl					
1	15	35	24	70	110
SO4					
1	970	2265	4620	13486	16000
NH3-N					
1	0.19	0.44	0.34	0.99	1
8	0.65	1.41	0.57	1.47	3
BOD					
1	2.0	4.7	2.9	8.5	13
8	7.3	15.8	2.0	5.2	21
COD					
1	5.3	12.4	16	46.7	59
8	380	824	15	38.8	863

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

122 Page No. TITLE Flow, Temp, pH DATE MARCH 88

E 21770 Book No. PURPOSE

DATE	002 MGD ~~MGD~~	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 002+003 MGD	SANITARY MGD
1	0.24	6.7	24	0.28	7.5	16	0.51	.034
2	0.21	6.8		0.50	7.5		0.71	.030
3	0.19	7.0	—	0.44	7.6		0.64	.031
4	0.23	6.8		0.41	7.3		0.64	.029
5	0.21	6.8		0.44	7.4		0.65	.016
6	0.25	7.2		0.48	7.9		0.73	.033
7	0.21	7.2		0.23	7.8		0.44	.029
8	0.21	6.9		0.38	7.7		0.59	.030
9	0.25	6.8		0.46	7.1		0.71	.023
10	0.25	6.9		0.43	7.1		0.68	.011
11	0.29	6.9		0.43	7.1		0.71	.016
12	0.22	7.3		0.47	7.6		0.69	.042
13	0.21	7.9		0.41	7.2		0.61	.031
14	0.33	7.2		0.35	6.4		0.68	.032
15	0.23	7.0	16	0.24	7.1	19	0.47	.021
16		7.0		0.28	6.8		0.48	.041
17		8.2		0.31	8.6		0.51	.027
18		7.2		0.29	6.9		0.49	.029
19		7.4		0.34	7.6		0.54	.026
20		7.8		0.36	7.5		0.56	.027
21		7.4		0.26	7.5		0.46	.029
22		7.3		0.33	7.4		0.53	.025
23		7.4		0.40	7.3		0.60	.033
24		7.2		0.44	7.1		0.64	.032
25		7.4		0.45	6.9		0.65	.029
26		7.0		0.43	7.1		0.63	.032
27		6.7		0.34	6.9		0.54	.024
28		6.9		0.46	7.0		0.66	.033
29		6.8		0.29	7.2		0.49	.033
30		6.9		0.37	6.8		0.57	.033
31		7.0		0.34	7.2		0.54	.040

METER OUT

SANITARY 4/1/88 7058259
4/1/88 7049261
~~3/1/88~~ 8998 00

EXPERIMENTER DEC 0010442 DATE

WITNESSED BY DATE

TITLE LOADINGS DATE MARCH 88 Page No. 123

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

002 003

3/1

3/15

DATE	002 MG/LIT	002 #/DAY	003 MG/LIT	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
1	2.5	5	10	23	30
15	2.5	5	23	46	50
TDS					
1	950	1902	7130	16650	19000
Cl					
1	12	24	5	12	40
SO_4					
1	580	1161	4550	10625	12000
NH_3-N					
1	.04	.08	.36	.84	1
15	.04	.08	.16	.32	0
BOD					
1	2.2	4.4	12.0	28.0	32
15	2.0	3.8	2.5	5.0	9
COD					
1	5.2	10.4	23	53.7	64
15	7.4	14.2	14	28.0	42

EXPERIMENTER DEC 0010442 DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

124 Page No. TITLE FLOW, TEMP, pH DATE APRIL 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 0020003 MGD	SANITARY MGD
1	AUG 0.08	7.4		0.35	7.2		0.43	0.041
2	FLOW METER OUT	7.4		0.44	7.4		0.52	0.038
3		7.1		0.33	7.2		0.41	0.043
4	0.09	6.9	18	0.44	7.2	24	0.52	0.045
5	0.03	7.1		0.43	7.2		0.46	0.053
6	0.12	6.9		0.53	7.0		0.65	0.044
7	0.13	6.8		0.48	7.2		0.61	0.046
8	0.16	8.1		0.44	7.1		0.60	0.044
9	0.03	6.8		0.41	7.4		0.43	0.042
10	0.05	7.4		0.39	7.3		0.44	0.038
11	0.13	7.2		0.48	7.1		0.60	0.044
12	0.18	6.8		0.36	7.4		0.54	0.040
13	0.09	7.2		0.45	7.3		0.54	0.039
14	0.03	7.3		0.43	7.1		0.46	0.044
15	0.03	6.9		0.43	7.4		0.46	0.044
16	0.02	6.9		0.38	7.3		0.41	0.039
17	0.02	7.2		0.51	7.7		0.53	0.043
18	0.12	7.2	20	0.45	7.3	24	0.57	0.038
19	0.17	7.0		0.42	7.2		0.59	0.040
20	0.07	6.8		0.38	7.5		0.45	0.039
21	0.02	7.0		0.42	8.2		0.45	0.041
22	0.05	7.4		0.48	8.0		0.53	0.037
23	0.02	7.6		0.41	8.0		0.43	0.033
24	0.02	7.6		0.40	7.6		0.42	0.036
25	0.13	7.2		0.43	7.7		0.57	0.043
26	0.17	7.0		0.42	7.8		0.59	0.039
27	0.03	7.6		0.40	8.0		0.43	0.029
28	0.18	6.9		0.45	7.8		0.63	0.018
29	0.14	7.3		0.49	7.8		0.63	0.015
30	0.02	7.2		0.36	7.6		0.39	0.014

REV. FLOW 1660702

SANITARY 5/1/88 ~~[illegible]~~ 7069744
4/1/88 ~~[illegible]~~ 7058259
1148500

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

136

TITLE LOADINGS DATE APRIL 88 Page No. 125

PURPOSE Book No. E 21770

FLOW FACTORS (MGD x 8.34)

	002	003
4/4	0.75	3.67
4/18	1.00	3.75

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
4	2.5	2	39	143	150
18	2.5	3	72	270	270
TDS					
4	1170	878	8030	29467	30000
Cl					
4	16	12	17	62	70
SO4					
4	750	563	5280	19375	20000
NH3N					
4	<0.02	0.02	<0.02	0.07	0
18	<0.02	0.02	<0.02	0.08	0
BOD					
4	2.4	1.8	<2.0	7.3	9
18	<2.0	2.0	<2.0	7.5	10
COD					
4	5.2	3.9	5.2	19.[illegible]	23
18	16	16.0	17	63.8	80

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

126 Page No. TITLE FLOW, pH, TEMP DATE MAY 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 002+003 MGD	SANITARY MGD
1	0.03	7.2		0.39	7.3		0.42	0.014
2	0.09	7.2		0.24	7.2		0.32	.014
3	0.06	7.0	20	0.37	7.3	23	0.43	.016
4	0.02	7.0		0.42	7.6		0.44	.014
5	0.07	7.1		0.46	7.5		0.53	.015
6	0.17	7.1		0.55	7.4		0.72	.016
7	0.05	7.8		0.60	7.2		0.65	.019
8	0.08	7.5		0.50	7.3		0.58	.014
9	0.08	7.4		0.44	7.4		0.52	.019
10	0.06	7.8		0.50	7.3		0.56	.015
11	0.17	7.2		0.53	7.6		0.70	.019
12	0.09	7.0		0.47	7.4		0.56	.018
13	0.04	7.6		0.50	7.4		0.54	.015
14	0.04	6.9		0.43	7.3		0.47	.017
15	0.04	7.4	22	0.56	7.2	24	0.60	.021
16	0.09	7.2		0.59	7.9		0.68	.017
17	0.12	7.0		0.59	7.5		0.70	.015
18	0.14	7.2		0.38	7.7		0.52	.013
19	0.15	7.9		0.42	7.6		0.57	.000
20	0.04	8.0		0.53	7.4		0.56	.028
21	0.03	7.9		0.47	7.3		0.50	.013
22	0.04	7.9		0.54	7.4		0.58	.016
23	0.04	7.5		0.53	7.4		0.58	.023
24	0.10	7.6		0.63	7.3		0.73	.015
25	0.05	7.6		0.58	7.5		0.63	.014
26	0.11	7.5		0.57	7.2		0.68	.021
27	0.09	7.0		0.61	7.3		0.69	.021
28	0.03	7.8		0.47	7.8		0.51	.021
29	0.05	7.8		0.47	7.7		0.72	.031
30	0.04	7.4		0.49	7.7		0.53	.023
31	0.12	7.4		0.62	7.7		0.74	.027

SANITARY 6/1/88 7075178
5/1/88 7069744
543,400

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

TITLE LOADINGS DATE MAY 88 Page No. 127

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

DATE	002	003
5/3	0.50	3.09
5/15	0.33	4.67

DATE	002 MG/LIT	002 #/DAY	003 MG/LIT	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
3	3	2	20	62	60
15	3.5	1	46	215	220
TDS					
3	1090	545	13770	42491	43000
Cl					
3	14	7	14	43	50
SO4					
3	700	350	9990	30827	31000
NH3-N					
3	0.02	0.01	0.11	0.34	0
15	0.20	0.07	0.20	0.93	1
BOD					
3	2.0	1.0	2.0	6.2	7
15	2.0	0.7	2.0	9.3	10
COD					
3	9.1	4.6	9.1	28.1	33
15	5.9	2.0	7.1	33.2	35

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

128 Page No. TITLE Flow, pH, TEMP DATE JUNE 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002+003 MGD	SANITARY MGD
1	0.11	7.3		0.48	7.8		0.59	.026
2	0.05	7.1		0.57	7.4		0.61	.015
3	0.05	8.2		0.57	7.9		0.61	.015
4	0.04	7.5		0.57	7.1		0.61	.014
5	0.05	7.6	20	0.47	8.0	24	0.51	.019
6	0.17	7.4		0.42	7.7		0.59	.027
7	0.17	7.9		0.53	7.7		0.70	.029
8	0.12	7.6		0.57	7.9		0.69	.018
9	0.12	7.5		0.44	7.7		0.56	.013
10	0.17	6.9		0.59	7.4		0.76	.017
11	0.02	7.8		0.66	7.6		0.68	.023
12	0.04	7.3		0.52	7.5		0.56	.020
13	0.04	7.7	22	0.55	7.7	26	0.59	.027
14	0.12	7.9		0.48	7.6		0.60	.018
15	0.09	7.8		0.54	7.8		0.63	.021
16	0.03	7.8		0.44	7.2		0.47	.017
17	0.14	8.0		0.52	7.7		0.66	.018
18	0.01	8.1		0.58	7.4		0.59	.023
19	0.04	8.4		0.54	7.7		0.58	.021
20	0.09	7.7		0.53	7.4		0.61	.041
21	0.16	7.6		0.47	7.0		0.63	.026
22	0.17	7.5		0.52	7.0		0.69	.019
23	0.17	7.2		0.52	7.2		0.69	.019
24	0.10	7.1		0.51	6.8		0.61	.024
25	0.02	7.4		0.51	7.6		0.53	.025
26	0.04	6.8		0.48	7.8		0.51	.015
27	0.14	7.6		0.54	7.9		0.68	.021
28	0.14	7.9		0.54	7.7		0.68	.021
29	0.14	7.9		0.58	7.6		0.72	.021
30	0.10	8.0		0.53	7.6		0.63	.021

SANITARY 7/1/88 7081509
6/1/88 7075178
633100

PERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE JUNE 88 Page No. 129

PURPOSE Book No. E 21770

FLOW FACTORS (8.34 X MGD)

DATE	002	003
6/5	0.42	3.92
6/13	0.33	4.59

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
5	2	1	127	498	500
13	2.5	1	69	317	320
TDS					
5	480	200	9380	36768	37000
CL					
5	12	5	12	47	50
SO4					
5	220	92	5180	20305	20400
NH3-N					
5	0.19	0.08	0.10	0.39	0
13	0.20	0.07	0.20	0.92	1
BOD					
5	2.0	0.8	2.0	7.8	9
13	2.0	0.7	2.0	9.2	10
COD					
5	5.9	2.5	12.0	47.0	49
13	11	3.7	8.1	37.2	41

EXPERIMENTER DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

130 Page No. TITLE FLOW, pH, TEMP DATE JULY 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002+003 MGD	SANITARY MGD
1	0.14	7.6		0.50	7.3		0.64	.019
2	0.16	7.4		0.59	7.8		0.75	.019
3	0.03	8.2		0.55	8.2		0.58	.022
4	0.03	8.2	—	0.52	8.1		0.55	.024
5	0.03	7.6		0.56	8.2		0.59	.029
6	0.03	7.8	26	0.53	7.3	33	0.56	.033
7	0.03	7.8		0.48	7.8		0.51	.034
8	0.11	7.4		0.30	8.2		0.41	.036
9	0.06	7.5		0.40	7.8		0.46	.023
10	0.12	7.6		0.39	7.3		0.51	.024
11	0.12	7.2		0.40	7.8		0.52	.023
12	0.06	7.2		0.30	7.0		0.36	.023
13	0.12	7.2		0.15	7.7		0.27	.023
14	0.12	7.1		0.40	7.2		0.52	.024
15	0.12	7.1		0.40	8.1		0.52	.023
16	0.16	7.7		0.36	7.0		0.52	.035
17	0.04	7.6		0.01	7.7		0.05	.032
18	0.16	6.8	26	0.25	7.7	31	0.41	.036
19	0.16	7.5		0.59	6.9		0.75	.032
20	0.15	7.8		0.52	6.9		0.67	.033
21	0.17	7.4		0.54	7.2		0.71	.029
22	0.18	8.2		0.51	7.1		0.69	.033
23	0.09	8.0		0.50	7.6		0.59	.030
24	0.06	7.9		0.49	7.3		0.55	.036
25	0.04	7.9		0.45	8.2		0.50	.031
26	0.11	7.6		0.45	7.6		0.56	.034
27	0.16	7.3		0.48	7.5		0.64	.045
28	0.12	7.3		0.45	7.1		0.57	.041
29	0.12	6.9		0.47	7.8		0.59	.042
30	0.24	7.2		0.60	7.7		0.84	.056
31	0.23	7.3		0.53	7.7		0.77	.043

SANITARY 8/1/88 7090746
7/1/88 7081509
923,700

ERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE JULY 88 Page No. 131

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

DATE	002	003
7/6	0.25	4.42
7/18	1.33	2.09

DATE	002		003		TOTAL ROUNDED
	MG/L	#/DAY	MG/L	#/DAY	#/DAY
TSS					
7/6	6	2	170	751	750
7/18	2.5	3	23	48	50
TDS					
7/6	340	85	7920	35008	35100
Cl					
7/6	13	3	11	49	50
SO4					
7/6	180	45	5350	23648	23700
NH3-N					
7/6	0.01	0.00	0.01	0.04	0
7/18	0.01	0.01	0.01	0.02	0
BOD					
7/6	2.0	0.5	2.0	8.8	9
7/18	2.0	2.7	2.1	4.4	7
COD					
7/6	6.8	1.7	7.7	34.0	36
7/18	6.7	8.9	14	29.2	38

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

132 Page No. TITLE Flow, pH, TEMP DATE August 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002 + 003 MGD	SANITARY MGD
1	0.23	7.4		0.41	7.6		0.64	.049
2	0.22	7.0		0.44	7.8		0.66	.049
3	0.28	7.0		0.44	7.6		0.72	.046
4	0.26	7.4		0.44	7.6		0.70	.038
5	0.27	7.2		0.44	7.6		0.71	.037
6	0.31	7.2		0.44	7.8		0.75	.034
* 7	0.23	7.0	28	0.44	7.3	32	0.67	.025
8	0.29	7.4		0.43	7.7		0.73	.056
9	0.29	7.8		0.46	7.7		0.74	.041
10	0.29	7.4		0.46	8.0		0.74	.041
11	0.29	7.0		0.46	7.2		0.74	.041
12	0.30	7.0		0.45	6.7		0.75	.043
13	0.28	7.1		0.42	7.3		0.71	.042
14	0.30	7.9		0.44	7.6		0.74	.040
15	0.32	9.0		0.53	8.2		0.85	.049
16	0.25	8.0		0.39	7.8		0.64	.041
* 17	0.31	7.5	30	0.42	7.9	36	0.73	.048
18	0.28	7.8		0.54	7.4		0.81	.036
19	0.30	7.0		0.51	7.3		0.80	.031
20	0.30	7.2		0.43	7.4		0.73	.034
21	0.32	7.8		0.35	7.3		0.67	.031
22	0.36	7.9		0.49	7.1		0.84	.031
23	0.27	7.5		0.38	7.7		0.65	.029
24	0.26	7.4		0.42	7.9		0.69	.022
25	0.28	7.4		0.36	7.9		0.64	.027
26	0.31	7.4		0.48	7.8		0.79	.024
27	0.28	7.5		0.43	7.5		0.70	.022
28	0.34	7.8		0.42	7.3		0.77	.019
29	0.30	7.5		0.50	7.3		0.70	.018
30	0.29	7.8		0.35	7.2		0.65	.021
31	0.31	7.3		0.55	7.3		0.86	.025

SANITARY 9/1/88 7102060
8/1/88 7090746
1,131,400

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE AUGUST 88 Page No. 133

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

DATE	002	003
8/7	1.92	3.67
8/17	2.59	3.50

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
7	2.5	5	3.5	13	20
17	2.5	6	24	84	90
TDS					
7	370	710	5240	19229	20000
Cl					
7	15	29	16	59	90
SO_4					
7	230	441	4000	14678	15000
NH_3-N					
7	0.10	0.19	0.10	0.37	1
17	0.10	0.26	0.10	0.35	1
BOD					
7	2.0	3.8	2.0	7.3	11
17	2.0	5.2	2.0	7.0	12
COD					
7	5.7	10.9	9.4	34.5	45
17	14	36.2	13	45.5	82

EXPERIMENTER DATE

WITNESSED BY DATE

134 Page No. TITLE FLOW, PH, TEMP DATE SEPT 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 PH	002 °C TEMP	003 MGD	003 PH	003 °C TEMP	TOTAL 002+003 MGD	SANITARY MGD
1	0.30	7.6		0.48	7.5		0.77	.027
2	0.26	7.6		0.38	7.1		0.64	.021
3	0.32	8.1		0.60	7.9		0.93	.024
4	0.33	8.2		0.60	8.0		0.94	.019
5	0.31	8.5	20	0.49	7.6	22	0.80	.019
6	0.31	7.0		0.49	8.0		0.80	.018
7	0.30	7.0		0.47	7.8		0.76	.023
8	0.28	7.5		0.49	7.8		0.77	.022
9	0.30	7.6		0.43	7.7		0.73	.021
10	0.30	7.3		0.44	7.4		0.74	.022
11	0.34	7.8		0.52	7.5		0.87	.029
12	0.25	7.3		0.46	7.8		0.71	.021
13		7.2		0.49	7.3		0.79	.018
14		7.3	20	0.54	7.7	26	0.84	.019
15		7.5		0.54	7.8		0.84	.018
16		7.0		0.52	7.2		0.82	.019
17		7.3		0.46	7.5		0.76	.024
18		7.1		0.58	7.7		0.88	.023
19		7.0		0.53	7.6		0.83	.023
20		7.2		0.50	7.3		0.80	.018
21		7.4		0.45	7.5		0.75	.021
22		7.2		0.41	7.4		0.71	.029
23		7.0		0.53	7.0		0.83	.020
24		7.4		0.53	7.8		0.83	.020
25		7.0		0.49	7.2		0.79	.023
26		6.8		0.39	7.4		0.69	.025
27		7.0		0.41	7.8		0.71	.023
28		7.8		0.39	7.4		0.69	.020
29		7.2		0.43	7.3		0.73	.024
30		7.4		0.58	7.3		0.88	.025
AVG	0.30			0.49			0.79	

STRIKE DUE TO LIGHTNING

AVG. 0.30

SANITARY 10/1/88 7108640
9/1/88 7102060
6580

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE SEPT 88 Page No. 135

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

DATE 002 003

9/5

9/14

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
5	2.5	6	25	102	110
14	2.5	6	4.5	20	30
TDS					
5	320	827	11900	48631	49500
Cl					
5	13	34	13	53	90
SO4					
5	60	155	7900	32284	32400
NH3-N					
5	0.10	0.26	0.10	0.41	1
14	0.10	0.25	0.10	0.45	1
BOD					
5	2.0	5.2	2.0	8.2	13
14	2.0	5.0	2.0	9.0	14
COD					
5	2.9	7.5	1.9	7.8	15
14	14	35.0	7.6	34.2	69

EXPERIMENTER DATE

WITNESSED BY DATE

E. I. DU PONT DE NEMOURS & CO. (INC.)

136 Page No. TITLE FLOW, pH, TEMP DATE OCT 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOTAL 002 + 003 MGD	SANITARY MGD
1	0.06	8.0		0.54	7.5		0.60	.024
2	0.06	8.0		0.59	7.4		0.65	.016
3	0.06	7.5	19	0.49	7.2	27	0.55	.020
4	0.06	7.8		0.43	7.1		0.49	.015
5	0.06	7.5		0.50	7.2		0.56	.016
6	0.06	7.6		0.49	7.5		0.55	.017
7	0.15	7.2		0.67	7.3		0.82	.020
8	0.06	7.7		0.26	7.7		0.32	.008
9	0.03	7.9		0.34	7.6		0.37	.013
10	0.21	7.2		0.36	6.9		0.57	.016
11	0.19	7.4	20	0.56	7.2	26	0.76	.013
12	0.11	7.2		0.49	7.4		0.61	.013
13	0.06	7.5		0.46	7.5		0.52	.021
14	0.06	7.4		0.45	6.8		0.51	.019
15	0.01	7.6		0.41	7.2		0.41	.017
16	0.03	7.6		0.49	7.2		0.52	.023
17	0.03	7.6		0.55	7.3		0.58	.034
18	0.03	7.7		0.52	7.3		0.54	.023
19	0.03	7.6		0.49	7.8		0.51	.019
20	0.03	7.4		0.45	8.0		0.47	.019
21	0.03	7.6		0.41	6.9		0.44	.018
22	0.03	7.3		0.52	7.3		0.55	.025
23	0.01	7.3		0.54	7.8		0.55	.016
24	0.01	7.2		0.56	7.2		0.57	.006
25	0.01	7.4		0.57	7.1		0.59	.041
26	0.01	7.2		0.44	7.4		0.45	.011
27	0.03	7.0		0.58	7.5		0.61	.016
28	0.01	7.2		0.48	7.5		0.49	.019
29	0.04	6.6		0.61	7.8		0.65	.021
30	0.03	6.9		0.57	7.1		0.61	.021
31	0.14	7.0		0.51	7.1		0.65	.039

SANITARY 11/1/88 ~~7108640~~ 7114238
10/1/88 7108640
559800

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE OCT 88 Page No. 137

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

DATE	002	003
3	0.50	4.09
11	1.58	4.67

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/DAY	TOTAL LOADED #/DAY
TSS					
3	2.5	1	38	155	160
11	2.5	4	12	56	60
TDS					
3	340	170	5850	23907	24100
Cl					
3	12	6	13	53	60
SO_4					
3	110	55	4100	16755	16800
NH_3-N					
3	0.10	.05	.10	.41	0
11	0.10	.16	.15	.70	1
BOD					
3	2.0	1.0	2.0	8.2	9
11	2.0	3.2	2.0	9.3	13
COD					
3	7.6	3.8	7.6	31.1	35
11	8.6	13.6	4.8	22.4	36

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

138 Page No. TITLE FLOW, PH, TEMP DATE NOV 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 PH	002 °C TEMP	003 MGD	003 PH	003 °C TEMP	TOTAL 002 + 003 MGD	SANITARY MGD
1	0.03	6.8	18	0.22	7.4	29	0.25	0.019
2	0.09	6.9		0.56	7.4		0.65	0.020
3	0.08	7.0		0.48	7.2		0.57	0.021
4	0.18	8.5		0.59	7.1		0.77	0.026
5	0.03	7.0		0.45	7.1		0.49	0.016
6	0.03	7.5		0.29	7.8		0.31	0.013
7	0.19	7.0		0.44	7.4		0.63	0.019
8	0.20	7.0		0.41	7.4		0.61	0.021
9	0.13	7.1		0.56	7.3		0.70	0.034
10	0.14	6.7		0.51	6.9		0.65	0.022
11	0.14	7.3		0.40	7.1		0.54	0.022
12	0.15	6.9		0.51	6.9		0.66	0.023
13	0.04	7.2	18	0.48	7.1	30	0.52	0.020
14	0.19	6.9		0.38	6.8		0.57	0.025
15	0.17	6.9		0.05	6.2		0.22	0.029
16	0.08	7.4		0.00	7.4		0.08	0.021
17	0.11	7.2		0.01	8.6		0.12	0.024
18	0.09	7.0		0.38	8.0		0.47	0.026
19	0.00	7.4		0.39	7.5		0.39	0.024
20	0.00	6.9		0.23	7.2		0.23	0.022
21	0.12	7.0		0.24	7.4		0.36	0.022
22	0.04	7.8		0.23	7.2		0.27	0.024
23	0.05	7.8		0.40	7.2		0.45	0.021
24	0.04	7.3		0.45	6.8		0.49	0.021
25	0.04	7.5		0.33	7.2		0.37	0.020
26	0.03	7.2		0.25	7.4		0.28	0.020
27	0.04	7.0		0.25	7.2		0.29	0.018
28	0.12	7.2		0.14	7.1		0.26	0.024
29	0.08	6.9		0.15	6.9		0.22	0.012
30	0.20	7.0		0.37	7.6		0.57	0.027

SANITARY 12/1/88 7120982
11/1/88 7114238
6744 00

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

TITLE LOADINGS DATE NOV 88 Page No. 139

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

DATE	002	003
11/1	0.25	1.83
11/13	0.33	4.00

DATE	002 MG/LIT	002 LBS/DAY	003 MG/LIT	003 LBS/DAY	TOTAL ROUNDED LBS/DAY
TSS					
1	2	1	5	9	10
13	2.5	1	3	12	10
TDS					
1	270	68	8830	16201	16300
Cl					
1	13	3	13	24	30
SO4					
1	140	35	5900	10825	10900
NH_3-N					
1	0.1	0.03	0.1	0.18	0
13	0.1	0.03	0.1	0.40	0
BOD					
1	2.0	0.5	2.0	3.7	4
13	2.0	0.7	2.0	8.0	9
COD					
1	5.7	1.4	7.6	13.9	15
13	4.6	1.5	5.5	22.0	24

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

140 Page No. TITLE FLOW, pH, TEMP DATE DEC 88

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 002+003 MGD	SANITARY MGD
1	0.12	7.0		0.42	7.6		0.54	0.019
2	0.03	7.7		0.28	7.6		0.31	.017
3	0.15	7.8		0.44	8.4		0.58	.020
4	0.04	6.9		0.31	7.8		0.35	.019
5	0.18	6.4	10	0.28	8.1	38	0.46	.020
6	0.20	6.4		0.35	7.7		0.55	.018
7	0.16	6.4		0.27	8.0		0.43	.016
8	0.16	6.8		0.32	8.0		0.48	.015
9	0.16	6.4		0.32	8.0		0.48	.015
10	0.16	7.2		0.32	7.4		0.48	.015
11	0.03	7.1		0.29	7.2		0.32	.017
12	0.13	6.4		0.21	7.3		0.35	.017
13	0.19	6.6	11	0.22	7.0	13	0.41	.014
14	0.11	6.2		0.30	7.7		0.42	.012
15	0.04	6.8		0.26	7.8		0.30	.012
16	0.26	6.8		0.27	7.8		0.53	.014
17	0.09	7.3		0.12	7.8		0.21	.007
18	0.05	7.5		0.61	7.8		0.66	.011
19	0.08	6.9		0.08	7.7		0.16	.002
20	0.02	7.5		0.31	7.8		0.33	.022
21	0.02	7.4		0.18	7.0		0.20	.009
22	0.12	8.3		0.23	8.4		0.36	.016
23	0.17	7.3		0.24	7.1		0.40	.012
24	0.06	7.2		0.30	7.3		0.36	.013
25	0.06	7.3		0.30	7.6		0.36	.013
26	0.03	6.9		0.26	7.2		0.29	.014
27	0.03	7.0		0.20	7.4		0.23	.018
28	0.04	7.0		0.26	7.6		0.30	.017
29	0.03	7.0		0.32	7.4		0.35	.013
30	0.03	7.0		0.30	7.4		0.33	.014
31	0.01	7.3		0.33	7.2		0.34	.012
AVG	0.10			0.29			0.38	

SANITARY 1/1/89 7125487
12/1/88 7120982
450500

EXPERIMENTER DEC 0010442 DATE

152

DATE

TITLE LOADINGS DATE DEC 88 Page No. 141

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
12/5	1.50	2.34
12/13	1.58	1.83

DATE	002 MG/L	002 #/DAY	003 MG/L	003 #/DAY	TOTAL 002+003 ROUNDED #/DAY
TSS					
5	2.5	4	2.5	6	10
13	2.5	4	4	7	10
TDS					
5	960	1441	8800	20550	22000
Cl					
5	14	21	13	30	50
SO4					
5	320	480	6000	14011	14500
NH_3-N					
5	0.10	0.15	0.10	0.23	0
13	0.10	0.16	0.10	0.18	0
BOD					
5	2.0	3.0	2.0	4.7	8
13	2.0	3.2	2.0	3.7	7
COD					
5	5.6	8.4	4.7	11.0	19
13	2.8	4.4	8.3	15.2	20

EXPERIMENTER DATE

WITNESSED BY DATE

142 Page No. TITLE FLOW, pH, TEMP DATE JAN 89

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 002 + 003 MGD	SANITARY MGD	
1	0.01	7.2		0.23	7.5		0.24	.012	
2	0.01	7.3	14	0.22	7.7	21	0.23	.012	
3	0.03	7.2		0.20	7.2		0.24	.011	
4	0.05	7.2		0.23	7.2		0.27	.012	
5	0.14	7.0		0.20	8.0		0.34	.017	TOT 002+003
6	0.14	7.1		0.20	7.5		0.26	.017	0.34
7	0.00	6.9		0.26	8.1		0.27	.014	0.26
8	0.00	7.0		0.27	7.2		0.41	.013	0.27
9	0.00	6.3		0.41	7.3		0.09	.017	0.41
10	0.02	6.3		0.09	8.0		0.25	.014	0.09
11	0.02	7.4	14	0.25	7.8	18	0.26	.013	0.25
12	0.00	7.0		0.26	7.7		0.12	.015	0.26
13	0.00	7.0		0.12	7.9		0.14	.012	0.12
14	0.00	7.0		0.14	7.7		0.20	.017	0.14
15	0.00	7.0		0.20	7.8		0.30	.012	0.20
16	0.00	7.0		0.30	7.8		0.32	.014	0.30
17	0.00	6.8		0.32	7.8		0.28	.011	0.32
18	0.00	7.0		0.28	7.8		0.30	.012	0.28
19	0.00	7.0		0.30	7.8		0.28	.014	0.30
20	0.00	6.9		0.28	7.9		0.24	.013	0.28
21	0.00	7.3		0.24	7.8		0.46	.010	0.24
22	0.00	7.8		0.46	7.4		0.46	.012	
23	0.00	7.2		0.24	7.1		0.24	.013	
24	0.00	8.2		0.28	7.2		0.28	.012	
25	0.00	7.3		0.27	7.2		0.27	.013	
26	0.02	6.8		0.27	6.7		0.29	.013	
27	0.04	7.2		0.25	7.2		0.28	.013	
28	0.02	7.2		0.28	7.0		0.29	.011	
29	0.03	6.9		0.30	7.2		0.33	.012	
30	0.02	7.4		0.27	7.6		0.29	.012	
31	0.02	7.4		0.25	7.2		0.27	.012	

2/1/89 7129488
1/1/89 7125487
400100

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

TITLE LOADINGS DATE JAN 89 Page No. 143

PURPOSE Book No. E 21770

FLOW FACTORS MGD*6.33

	002	003
1/3	0.25	1.67
1/11	0.17	2.09

DATE	002 mg/LIT	002 #/DAY	003 mg/LIT	003 #/DAY	002+003 ROUNDED #/DAY
TSS					
3	3	1	14	23	20
11	6.5	1	5.5	11	10
TDS					
3	1570	393	6670	11126	11500
Cl					
3	12	3	43	72	80
SO4					
3	1310	328	6100	10175	10500
NH3-N					
3	0.10	0.03	0.10	0.17	0
11	0.10	0.02	0.10	0.21	0
BOD					
3	2.0	0.5	2.0	3.3	4
11	2.0	0.3	2.0	4.2	5
COD					
3	6.6	1.7	11	18.3	20
11	1.1	0.2	2.1	4.4	5

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

144 Page No. TITLE FLOW, pH, TEMP DATE FEB

E 21770 Book No. PURPOSE

DATE	002 MGD	002 pH	002 °C TEMP	003 MGD	003 pH	003 °C TEMP	TOT 002 & 003 MGD	SANITARY MGD
1	0.02	7.3	10	0.21	7.6	16	0.24	0.012
2	0.02	7.0		0.25	7.6		0.27	0.012
3	0.02	7.1		0.29	7.8		0.30	0.011
4	0.00	7.4		0.27	7.3		0.28	0.010
5	0.13	7.9		0.31	7.2		0.45	0.009
6	0.25	7.0		0.33	7.3		0.58	0.011
7	0.04	7.6		0.22	7.3		0.26	0.011
8	0.05	7.4	12	0.32	7.4	19	0.37	0.011
9	0.13	7.5		0.31	7.7		0.45	0.012
10	0.03	7.7		0.22	7.6		0.25	0.011
11	0.01	8.2		0.26	7.7		0.27	0.011
12	0.01	7.2		0.21	7.4		0.22	0.010
13	0.01	7.0		0.27	7.6		0.27	0.011
14	0.01	7.3		0.24	7.3		0.24	0.010
15	0.01	7.1		0.19	7.2		0.19	0.010
16	0.01	7.0		0.22	7.6		0.23	0.010
17	0.03	7.3		0.24	7.5		0.27	0.010
18	0.01	7.5		0.26	7.7		0.27	0.008
19	0.00	7.9		0.24	8.0		0.24	0.008
20	0.02	7.9		0.51	7.0		0.54	0.010
21	0.02	7.7		0.50	6.8		0.52	0.009
22	0.02	7.6		0.30	6.9		0.32	0.009
23	0.02	7.4		0.45	6.9		0.47	0.010
24	0.03	7.3		0.25	6.8		0.28	0.010
25	0.02	7.2		0.24	7.0		0.27	0.009
26	0.02	6.9		0.30	7.6		0.33	0.008
27	0.02	7.3		0.23	7.4		0.25	0.008
28	0.03	7.4		0.34	7.4		0.36	0.011

3/1/89 7132300
2/1/89 7129488
281,200 281,200

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE FEB Page No. 145

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
2/1	0.17	1.75
2/8	0.42	2.67

DATE	002 MG/L	002 #/DAY	003 MG/L	003 #/DAY	TOTAL ROUNDED #/DAY
TSS					
1	8.5	1	26	46	50
8	68	28	98	262	290
TDS					
1	1820	304	8130	14239	14500
Cl					
1	14	2	16	28	30
SO4					
1	1490	249	6380	11174	11400
NH3-N					
1	0.10	0.02	0.10	0.18	0
8	0.10	0.04	0.17	0.45	0
BOD					
1	2.0	0.3	2.0	3.5	4
8	2.0	0.8	2.0	5.3	6
COD					
1	3.2	0.5	3.2	5.6	6
8	3.3	1.4	7.6	20.3	22

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

146 Page No. TITLE FLOW, PH, TEMP DATE MARCH 89

E 21770 Book No. PURPOSE

DATE	002 MGD	002 PH	002 °C TEMP	003 MGD	003 PH	003 °C TEMP	TOTAL 002 + 003 MGD	SANITARY MGD
1	0.00	7.3	9	0.25	7.4	17	0.25	0.010
2	0.00	7.2		0.19	6.8		0.19	0.010
3	0.00	7.1		0.24	7.5		0.24	0.012
4	0.00	7.1		0.28	7.0		0.28	0.011
5	0.02	7.4		0.23	6.9		0.24	0.012
6	0.02	8.0		0.23	7.8		0.25	0.012
7	0.02	7.7		0.22	7.5		0.23	0.015
8	0.03	7.8		0.20	7.9		0.23	0.008
9	0.01	7.6		0.28	7.8		0.29	0.012
10	0.00	6.7		0.26	8.5		0.26	0.013
11	0.05	7.9		0.25	7.3		0.30	0.012
12	0.01	6.8		0.33	7.1		0.33	0.013
13	0.02	6.7		0.33	7.2		0.35	0.013
14	0.01	6.7		0.28	7.4		0.29	0.013
15	0.03	6.5	13	0.37	7.4	20	0.40	0.013
16	0.00	7.8		0.24	7.2		0.24	0.014
17	0.10	7.7		0.27	7.1		0.37	0.018
18	0.02	6.5		0.34	7.4		0.36	0.012
19	0.09	7.4		0.31	7.3		0.40	0.014
20	0.09	7.8		0.31	7.3		0.40	0.014
21	0.06	6.6		0.25	7.4		0.31	0.013
22	0.05	6.6		0.23	7.3		0.29	0.012
23	0.07	7.3		0.34	7.5		0.41	0.014
24	0.06	6.9		0.18	7.1		0.23	0.011
25	0.07	7.3		0.24	8.5		0.30	0.013
26	0.07	7.1		0.33	7.5		0.39	0.014
27	0.05	6.8		0.28	7.2		0.32	0.013
28	0.14	6.9		0.28	7.2		0.42	0.017
29	0.01	7.0		0.18	8.2		0.19	0.012
30	0.08	8.8		0.28	8.6		0.37	0.015
31	0.06	7.6		0.30	7.2		0.36	0.012

7136252
7132300
395200

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE LOADINGS DATE MARCH 89 Page No. 147

PURPOSE Book No. E 21770

FLOW FACTORS (MGD X 8.34)

	002	003
3/1/89	0.08	2.09
3/15/89	0.25	3.09

DATE	002 mg/L	002 #/DAY	003 mg/L	003 #/D	TOTAL ROUNDED #/DAY
TSS					
1	2.5	0	17	35	40
15	2.5	1	2.5	8	10
TDS					
1	200	17	11800	24603	24600
Cl					
1	13	1	18	38	40
SO4					
1	68	6	8420	17556	17600
NH3-N					
1	0.10	0.01	0.10	0.21	0
15	0.12	0.03	0.10	0.31	0
BOD					
1	2.0	0.2	2.0	4.2	4
15	2.0	0.5	2.0	6.2	7
COD					
1	3.3	0.3	4.4	9.2	9
15	1.0	0.3	2.1	6.5	7

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

148 Page No. TITLE DATE APRIL 89

E 21770 Book No. PURPOSE

003 OUTFALL

DATE	MGD	pH	°C TEMP	MGD SANITARY
1	0.38	7.2		
2	0.33	6.9		
3	0.26	7.2		
4	0.23	6.8	23	
5	0.22	7.0		
6	0.19	7.3		
7	0.30	7.1		
8	0.31	7.2		
9	0.33	7.3		
10	0.32	8.0		
11	0.30	8.5		
12	0.28	8.0		
13	0.31	7.6		
14	0.26	7.5		
15	0.15	7.6		
16	0.26	7.6		
17	0.33	7.6		
18	0.19	7.4	16	
19	0.19	7.5		
20	0.29	7.4		
21	0.22	7.2		
22	0.37	7.2		
23	0.30	7.4		
24	0.29	7.4		
25	0.30	7.4		
26	0.28	7.4		
27	0.35	7.2		
28	0.36	6.7		
29	0.37	7.1		
30	0.39	8.1		

~~DATE~~ DATE	~~TSS~~	mg/L	LBS	ROUNDED LBS
	TSS			
4/4		10	19	20
4/18		9	14	10
	TDS			
4/4		7320	14041	14000
	Cl			
4/4		27	52	50
	SO_4			
4/4		4900	9399	9400
	NH_3-N			
4/4		0.10	0.19	0
4/18		0.10	0.16	0
	BOD			
4/4		7.4	14	14
4/18		2.0	3	3
	COD			
4/4		~~27~~ 14	27	27
4/18		~~14~~ 9	~~14~~	14

SANITARY 5/1 7140015
4/1 7136252
376300

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE _____ DATE MAY 89 Page No. 149

PURPOSE _____ Book No. E 21770

003 OUTFALL

DATE	MGD	pH	°C TEMP	MGD SANITARY	DATE	mg/L	LBS	ROUNDED LBS
1	0.29	7.7		0.014		TSS		
2	0.39	7.4		0.013	5/3	24	68	70
3	0.34	7.6	25°C	0.013	5/10	30	90	90
4	0.28	7.0		0.011		TDS		
5	0.37	7.2		0.013	5/3	6710	19027	19000
6	0.30	7.4		0.013		Cl		
7	0.27	7.0		0.014	5/3	24	68	70
8	0.35	7.1		0.002		SO_4		
9	0.42	7.2		0.019	5/3	4600	13044	13000
10	0.36	7.2	24°C	0.012		NH_3-N		
11	0.40	6.2		0.012	5/3	0.10	0.28	0
12	0.26	7.3		0.014	5/10	0.10	0.30	0
13	0.36	7.2		0.011		BOD		
14	0.41	6.8		0.011	5/3	2.0	5.7	6
15	0.32	7.3		0.011	5/10	2.0	6.0	6
16	0.39	7.0		0.011		COD		
17	0.39	7.5		0.011	5/3	8.9	25	25
18	0.40	7.4		0.014	5/10	4.8	14	14
19	0.45	7.5		0.015				
20	0.39	7.0		0.015				
21	0.38	7.3		0.015				
22	0.43	7.1		0.015				
23	0.35	7.1		0.015				
24	0.16	7.0		0.015				
25	0.39	7.0		0.015				
26	0.33	7.3		0.015				
27	0.26	7.3		0.016				
28	0.25	8.1		0.026				
29	0.32	7.4		0.023				
30	0.28	7.8		0.022				
31	0.24	7.5		0.055				
	0.34							

SANITARY 6/1 544699
5/1 ~~714 0015~~ 497821
X10 468780

EXPERIMENTER _____ DATE _____

WITNESSED BY _____ DATE _____

DEC 0010442

150 Page No. TITLE 003 OUTFALL DATE JUNE 89

E 21770 Book No. PURPOSE

003 OUTFALL

DATE	MGD	pH	°C	MGD SANITARY
1	0.30	7.7		0.045
2	0.57	7.2		0.029
3	0.17	8.5		0.029
4	0.31	7.6		0.020
5	0.21	7.5	24	0.020
6	0.38	7.3		0.026
7	0.28	7.3		0.033
8	0.27	7.4		0.022
9	0.26	7.5		0.024
10	0.29	7.4		0.018
11	0.24	7.1		0.026
12	0.34	7.2		0.028
13	0.24	6.8	29	0.023
14	0.42	7.1		0.026
15	0.38	8.1		0.022
16	0.42	7.6		0.020
17	0.31	7.4		0.020
18	0.28	7.3		0.020
19	0.28	8.2		0.013
20	0.29	7.8		0.029
21	0.24	7.5		0.024
22	0.43	7.9		0.025
23	0.44	7.7		0.026
24	0.49	7.9		0.020
25	0.35	7.5		0.023
26	0.36	7.5		0.036
27	0.40	7.5		0.030
28	0.47	7.6		0.020
29	0.39	7.5		0.016
30	0.31	7.7		0.016
AVG	0.34			0.024

DATE	MG/L	LBS	ROUNDED LBS.
TSS			
6/5	3	5	10
6/13	9.5	19	20
TDS			
6/5	5870	10281	10300
Cl			
6/5	17	30	30
SO4			
6/5	3580	6270	6300
NH3-N			
6/5	0.10	0.18	0
6/13	0.10	0.20	0
BOD			
6/5	2.1	3.7	4
6/13	2.7	5.4	5
COD			
6/5	6.3	11.0	11
6/13	9	18.0	18

SANITARY 7/1/89 617532
6/1/89 544699
728330

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

E. I. DU PONT DE NEMOURS & CO. (INC.)

TITLE 003 OUTFALL DATE JULY 89 Page No. 151

PURPOSE Book No. E 21770

DATE	MGD	pH	°C	MGD SANITARY
1	0.43	7.8		0.015
2	0.40	7.8		0.020
3	0.37	8.4		0.032
4	0.45	7.5		0.023
5	0.45	6.9		0.024
6	0.31	7.2		0.033
7	0.46	7.4		0.024
8	0.51	7.9		0.026
9	0.44	7.8		0.035
10	0.53	7.9		0.027
11	0.54	7.6		0.021
12	0.31	7.7		0.017
13	0.42	7.6	31	0.025
14	0.47	7.7		0.018
15	0.51	7.7		0.019
16	0.54	7.3	32	0.017
17	0.38	7.6		0.025
18	0.51	7.7		0.052
19	0.61	7.6		0.030
20	0.52	7.7		0.028
21	0.38	7.6		0.024
22	0.42	7.5		0.030
23	0.44	8.0		0.023
24	0.56	7.2		0.034
25	0.36	7.3		0.036
26	0.49	7.3		0.028
27	0.58	8.0		0.030
28	0.44	7.4		0.019
29	0.45	7.8		0.020
30	0.50	7.6		0.013
31	0.46	7.4		0.020
	0.46			.025

MGD x 8.34 x mg/L

DATE	mg/L	LBS	ROUNDED LBS.
TSS			
7/13	13	46	50
7/16	6.5	29	30
TDS			
7/13	11000	38531	38500
Cl			
7/13	51	179	180
SO4			
7/13	8400	29424	29400
NH3N			
7/13	<0.10	0.35	0
7/16	<0.10	0.45	0
BOD			
7/13	<2.0	7.0	7
7/16	5.0	22.5	23
COD			
7/13	9.4	33	33
7/16	9.4	42	42

SANITARY 8/1/89 695816
7/1/89 617532
782840

EXPERIMENTER DATE

DEC 0010442

WITNESSED BY DATE

E 21770 Book No. PURPOSE

003 OUTFALL

MGD x mg/LIT x 8.34 = LBS

DATE	MGD	pH	°C	MGD SANITARY
1	0.43	7.2		0.018
* 2	0.52	7.4	31	0.042
3	0.46	7.6		0.031
4	0.53	7.6		0.042
5	0.50	7.8		0.042
6	0.45	7.1		0.021
7	0.47	7.3		0.010
8	0.46	7.4		0.020
9	0.40	7.4		0.010
10	0.37	7.6		0.021
11	0.49	7.4		0.020
* 12	0.37	7.7	29	0.015
13	0.37	7.6		0.015
14	0.55	7.6		0.020
15	0.49	7.2		0.020
16	0.46	7.4		0.021
17	0.42	7.4		0.010
18	0.43	7.4		0.020
19	0.39	7.8		0.012
20	0.43	7.5		0.021
21	0.39	8.2		0.020
22	0.44	8.2		0.021
23	0.38	7.8		0.021
24	0.29	7.7		0.005
25	0.37	7.5		0.022
26	0.45	7.2		0.010
27	0.42	7.4		0.022
28	0.37	8.0		0.028
29	0.27	8.1		0.013
30	0.18	7.4		0.017
31	0.57	7.8		0.035
AVG	0.42			0.021

DATE	mg/LIT	LBS	ROUNDED LBS
TSS			
8/2	77	333	330
8/12	25	77	80
TDS			
8/2	9100	39418	39400
Cl			
8/2	21	91	90
SO4			
8/2	6000	25990	26000
NH_3-N			
8/2	<0.10	0.4	0
8/12	<0.10	0.3	0
BOD			
8/2	<2.0	8.7	9
8/12	<2.0	6.2	6
COD			
8/2	5.7	25	25
8/12	7.1	22	22

9/1 760351
8/1 695816
645350

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE 003 OUTFALL DATE SEPT 89 Page No. 153

PURPOSE Book No. E 21770

DATE	MGD	pH	°C	MGD SANITARY
1	0.41	7.5		0.026
2	0.29	7.8		.022
3	0.27	7.3	29	.018
4	0.26	7.4		.026
5	0.26	7.1		.023
6	0.30	7.0		.023
7	0.28	7.2		.039
8	0.14	7.0		.020
9	0.36	7.4		.023
10	0.24	7.3		.018
11	0.27	7.4		.021
12	0.20	7.6		.017
13	0.33	7.7		.032
14	0.28	7.7		.018
15	0.31	7.8		.013
16	0.27	7.4	27	.020
17	0.20	7.7		.013
18	0.21	7.5		.020
19	0.18	7.4		.015
20	0.01	7.0		.014
21	0.19	7.0		.014
22	0.28	7.1		.015
23	0.32	7.3		.013
24	0.21	7.8		.014
25	0.26	7.8		.013
26	0.18	7.8		.015
27	0.26	7.7		.013
28	0.35	7.0		.013
29	0.33	7.0		.013
30	0.30	7.3		.013
AVG	0.26			.019
GPM	179			12.9

MGD X MG/LIT X 8.34 = LBS

DATE	MG/LIT	LBS	ROUNDED LBS
SS			
9/3	7.5	17	
9/16	5.0	11	
DS			
9/3	6380	14366	
Cl			
9/3	13	29	
SO4			
9/3	~~6380~~ 4500	10133	
NH_3-N			
9/3	<0.10	<0.2	
9/16	<0.10	<0.2	
BOD			
9/3	<2.0	<5	
9/16	<2.0	<5	
COD			
9/3	1.8	4	
9/16	4.6	10	

10/1/89 816061
9/1/89 760351
SANITARY 557100

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

154 Page No. TITLE DATE OCT 89

E 21770 Book No. PURPOSE

003 OUTFALL MGD X 8.34 X mg/L = LBS

DATE	MGD	pH	°C	MGD SANITARY
1	0.14	7.1		.013
2	0.20	7.4		.014
* 3	0.42	7.8	22	.009
4	0.41	7.4		.013
5	0.32	7.1		0.010
6	0.26	7.4		.013
7	0.27	6.9		.013
8	0.23	7.2		.010
9	0.32	7.3		.010
10	0.26	7.2		.010
11	0.25	7.2		.010
12	0.35	7.2		.013
13	0.44	7.2		.010
14	0.47	7.7		.013
* 15	0.36	7.3	24	.008
16	0.33	7.0		.015
17	0.42	7.5		.008
18	0.45	7.5		.015
19	0.36	7.5		.013
20	0.32	7.0		.018
21	0.32	7.5		.010
22	0.41	7.5		.013
23	0.37	7.5		.013
24	0.21	7.5		.013
25	0.31	7.5		.010
26	0.38	7.4		.010
27	0.41	7.5		.013
28	0.39	7.5		.013
29	0.31	7.5		.010
30	0.28	7.8		.010
31	0.34	7.7		.013
AVG	0.33			.012
				8

DATE	mg/L	LBS
	TSS	
10/3	44	154
10/15	4	12
	TDS	
10/3	8330	29178
	Cl	
10/3	25	88
	SO4	
10/3	6440	22558
	NH3-N	
10/3	<0.1	0
10/15	0.20	0
	BOD	
10/3	<2.0	<7
10/15	<2.0	<6
	COD	
10/3	16	56
10/15	15	45

SANITARY 11/1 852576
816061
365150

EXPERIMENTER DATE

WITNESSED BY DATE

DEC 0010442

TITLE _____ DATE Nov 89 Page No. 155

PURPOSE _____ Book No. E 21770

MGD x 8.34 x mg/L = LBS

	003			SANITARY
DATE	MGD	pH	°C	MGD
1	0.35	7.8		0.010
2	0.35	7.7		0.013
3	0.26	7.2		0.010
* 4	0.38	7.2	25	0.010
5	0.37	7.7		0.010
6	0.27	7.6		0.010
7	0.26	7.5		0.046
8	0.29	7.5		0.010
9	0.26	7.9		0.010
10	0.24	7.4		0.010
11	0.31	7.3		0.010
12	0.47	7.4		0.010
* 13	0.40	7.4	29	0.012
14	0.34	7.9		0.023
15	0.27	7.4		0.015
16	0.36	7.6		0.019
17	0.44	7.4		0.015
18	0.41	7.4		0.012
19	0.28	8.9		0.014
20	0.30	6.2		0.012
21	0.39	7.2		0.015
22	0.39	7.3		0.012
23	0.23	7.6		0.013
24	0.22	8.0		0.010
25	0.09	7.6		0.010
26	0.03	7.6		0.015
27	0.44	7.8		0.013
28	0.32	7.9		0.012
29	0.27	7.4		0.012
30	0.38	7.6		0.017
AVG	0.32			0.014
				9 GPM

DATE	mg/L	LBS
TSS		
11/4	14	44
11/13	17	57
TDS		
11/4	2700	8557
Cl		
11/4	16	51
SO_4		
11/4	2800	8874
NH_3N		
11/4	0.18	0.6<1
11/13	0.16	<1
BOD		
11/4	<2.0	<6
11/13	<2.0	<7
COD		
11/4	6.0	19
11/13	15.0	50

SANITARY 12/1 893 500 ~~891 845~~
11/1 852 566
~~392 190~~
409 340

EXPERIMENTER _____ DATE _____

WITNESSED BY _____ DATE _____

DEC 0010442

156 Page No. TITLE DATE DEC. 89

E 21770 Book No. PURPOSE

MGD X 8.34 X Mg/LIT

	003 OUTFALL			SANITARY
DATE	MGD	PH	°C	MGD
1	0.33	7.2		0.008
2	0.29	7.0		0.010
3	0.22	7.4		0.010
4	0.37	7.2	23	0.013
5	0.34	7.4		0.013
6	0.29	7.9		0.015
7	0.40	7.2		0.016
8	0.26	7.6		0.008
9	0.25	7.5		0.010
10	0.24	8.8		0.011
11	0.23	6.2		0.007
12	0.28	7.7		0.010
13	0.31	7.6		0.010
14	0.36	8.1	20	0.010
15	0.30	7.9		0.010
16	0.35	7.8		0.010
17	0.24	7.4		0.010
18	0.24	7.4		0.013
19	0.32	7.4		0.005
20	0.30	7.4		0.010
21	0.39	7.4		0.010
22	0.37	7.5		0.010
23	0.37	7.6		0.010
24	0.19	7.8		0.010
25	0.16	7.5		0.010
26	0.20	7.7		0.008
27	0.24	7.7		0.010
28	0.32	7.4		0.010
29	0.24	7.7		0.008
30	0.36	6.9		0.010
31	0.32	8.0		0.010
AVG	0.29			0.010
	203 GPM			7

	DATE	Mg/LIT	LBS
TSS	4	5.0	15
	14	32	96
TDS	4	6620	20428
Cl	4	11	34
SO4	4	5500	16972
NH_3-N	4	<0.10	<1
	14	<0.10	<1
BOD	4	<2.0	<6
	14	1.1	3
COD	4	7.4	23
	14	4.9	15

SANITARY 1/1/90 924959
12/1/89 893500
314590

EXPERIMENTER DATE

WITNESSED BY DEC 0010442 DATE

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NORTHERN LABORATORIES
A Division of Coast to Coast Analytical Services
Environmental Consulting and Testing

ENVIRONMENTAL CONSULTING AND TESTING
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Valparaiso, Indiana 46383

LABORATORY REPORT

CLIENT E.I. Dupont DeNemours & Company

DATE December 29, 1989

ATTENTION Mr. John Orban

PHONE 219-391-4628

ADDRESS 5215 Kennedy Ave., East Chicago, IN

DATE OF SAMPLE RECEIPT December 13, 1989 (6853)

SAMPLE COLLECTED BY Northern Laboratories

PARAMETER	OUTFALL 003 12-12-89	DATE OF ANALYSIS	TIME OF ANALYSIS	METHOD	ANALYST
BOD	6.0	12-13-89	16:30	405.1	JZ
COD	9.8	12-20-89	11:45	410.2	RS
Ammonia-Nitrogen	<0.10	12-26-89	15:18	350.2	AFB
Total Suspended Solids	17	12-13-89	11:30	160.2	JZ
Sulfates	1,720	12-14-89	14:40	375.4	SA
Chloride	14	12-14-89	15:41	325.3	AFB
Total Dissolved Solids	2,910	12-14-89	11:15	160.1	JZ
Lead	<0.10	12-19-89	11:55	200.7	CHH

All results reported in mg/L unless otherwise noted

djs/eidd

Approved by Adrienne Byrnes

DEC 0010442

To John Orban
From Maury Govert

12/21/87

cc A Horvat
G Behm
OJ Meyer

Subject: 003 outfall flow

John,

During the month of November and the first two weeks in December we continued to have problems with the 003 outfall flow. The reading has been unstable (noise) and has continually drifted upward. On 11-1-87 from 10 AM thru 11-2-87 at 10 AM the outfall flow went into recycle 16 times. Each time that the flow was in recycle the reading only went down to 10%, = 200 GPM's. This zero error would add 200 GPM's to all readings.

Drexelbrook no longer makes this type capacitance probe. Based on this fact and the problems we have been experiencing we installed a new type transmitter on 12/18/8. It is a Milltronics Multiranger ultrasonic echo type transmitter. Installation was completed on 12/18/87 at 1 PM. The initial readings compare very accurately with the actual measured innage in the flume. Please note that the new transmitter has a new range. The 003 outfall flow range has been changed from 0-2000 GPM's to 0-1000 GPM's. This should double the accuracy of our readings. The integrator factor was changed accordingly from RX 100 to RX 50. For the month of December from 12/18 at 1 PM and thereafter you will need to use this new factor as your multiplier.

M Govert

DEC 0010442

To John Orban
From Manny Govert

10-10-87

cc A Horvat
G Behm
OJ Meyer

Subject: 003 outfall flow

John,

On 10-9-87 a calibration was performed on the 003 flow. All readings between 0 gallons per minute and 340 gallons per minute were found to read 340 gallons per minute. This was due to a build-up on the probe and a slight drift in the transmitter calibration. This was corrected and the probe was re-installed.

On 10-10-87 I cleaned by hand, as well as I could, a build-up from the flume at 003. This lowered the level in the flume approx 1" and resulted in a decrease of about 170 gallons per minute indicated. This reading is still indicating about 100 gallons per minute higher than the actual level in the flume ~~indicate~~ measures. Turbulence in the flume area, probably caused by the remaining build-up, is causing a dampening of the probe 5/8" above the actual level. This accounts for the remaining 100 gallon per minute error. Andy Horvat is going to have General Drainage thoroughly clean the flume and the pipe leading to it.

M Govert

DEC 0010442

10-10-87

To John Orban
From Maury Gavert

cc A Horvat
G Behm
OJ Meyer

Subject: 003 outfall flow

John,

On 9-12-87 I found the 003 outfall flow to be in considerable error. A system check showed the probe to be very non-linear. I was unable to correct this through calibration, and therefore, installed a new probe. A five point calibration was done on this probe and it was re-installed.

I have reviewed the recorder readings for the month of Sept. The attached chart shows the average daily flows in gallons per minute. On 9-1 and 9-2 the flow averaged 287 GPM's. From 9-3 through 9-12 the flow averaged 562 GPM's. From 9-13 through 9-30 the flow averaged 418 GPM's. It appears from the record that the problem with the probe occurred between 9-2 and 9-3 and remained until corrected on 9-12. From 9-13 through 9-30 the flow showed an average decrease of 144 gallons per minute. Your totalizer readings for Sept. should be adjusted accordingly.

M Gavert

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DEC 0010442

Average daily flows in gallons per minute.

9-1	[redacted]
9-2	[redacted]
9-3	[redacted]
9-4	[redacted]
9-5	636
9-6	[redacted]
9-7	604
9-8	612
9-9	556
9-10	452
9-11	491
9-12	514
9-13	[redacted]
9-14	[redacted]
9-15	[redacted]
9-16	[redacted]
9-17	[redacted]
9-18	[redacted]
9-19	[redacted]
9-20	[redacted]
9-21	[redacted]
9-22	[redacted]
9-23	395
9-24	[redacted]
9-25	365
9-26	444
9-27	419
9-28	428
9-29	426
9-30	422

G-40 REV. 5-77

ENGINEERING DUPONT COMPUTATION SHEET

TITLE OF PROJ. OR STUDY

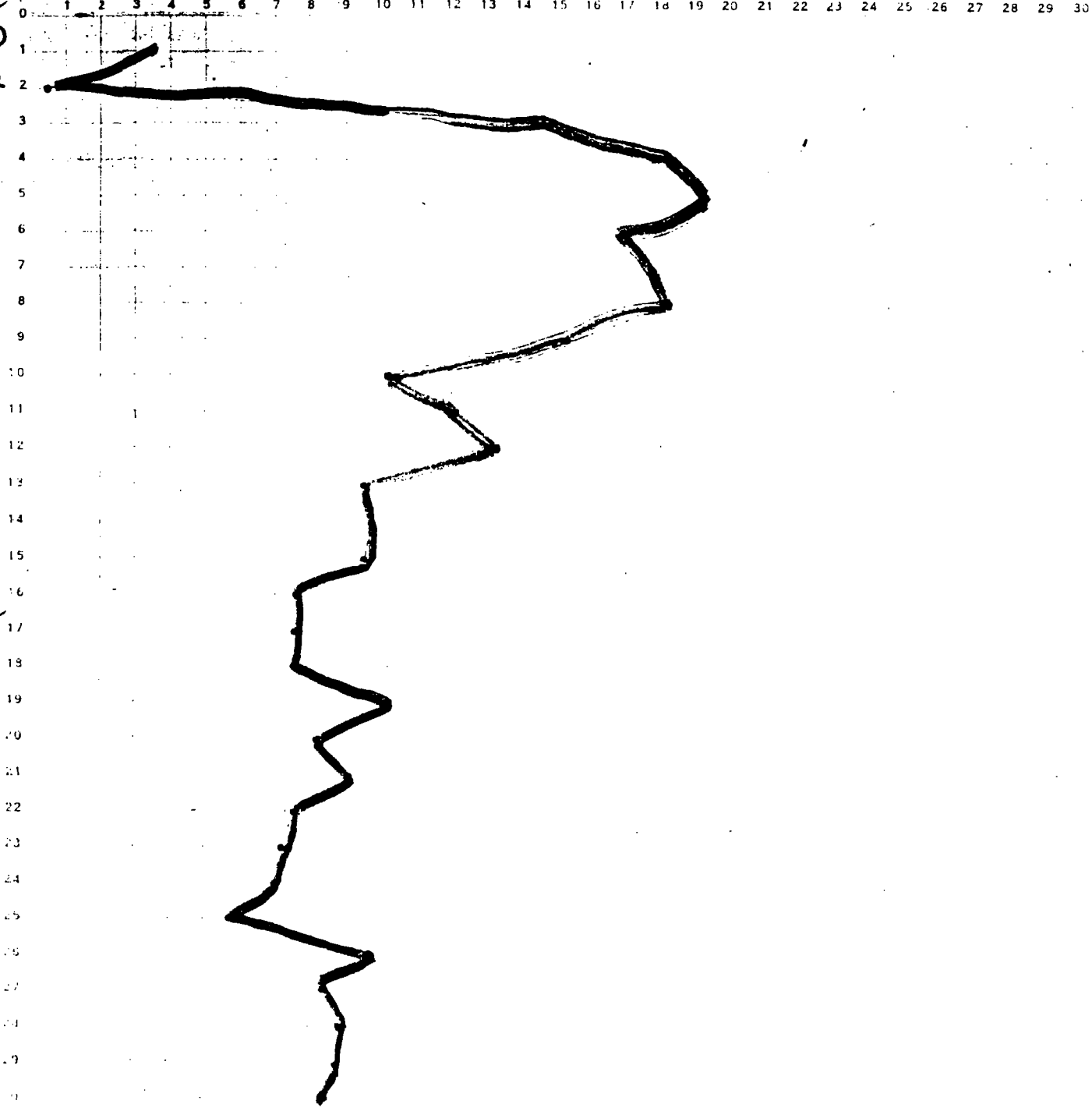
PROJ. OR STUDY NO.

SUBJECT

COMPUTER

DATE

GPM's



DEC 0010442

174

USE STANDARDS FOR MINIMUM ... INSTALLATIONS

4 HR FLOW ROGS

9-1	300	273	
	700	340	
	1100	321	318
	1500	326	
	1900	332	
	2300	319	

9-2	300	321	
	700	200	257
	1100	251	
	1500	—	

OUT OF SERVICE (RECORDER) UNTIL 9/3 @ 1600

9-3	1600	536	
	2000	563	549

9-4	00	538	
	400	547	
	800	614	616
	1200	628	
	1600	624	
	2000	749	

9-5	00	749	
	400	703	636
	800	716	
	1200		
	1600	495	
	2000	521	

9-6	00	582	
	400	586	
	800	589	
	1200	601	589
	1600	565	
	2000	613	

9-7	00	589	
	400	636	604
	800	580	
	1200	169	
	1600	615	
	2000	601	

9-8	00	538	
	400	681	
	800	613	612
	1200	659	
	1600	0	
	2000	571	

9-9	00	581	
	400	567	
	800	590	556
	1200	563	
	1600	570	
	2000	469	

4 hr FLOW RDGS

9-10	00	477		9-14	200	433
	400	462			600	435
	800	482			1000	182
	1200	468 452			1400	435 444
	1600	444			1800	448
	2000	383			2200	469

9-11	00	550		9-15	200	457
	400	404			600	438
	800	511			1000	443
	1200	508 491			1400	425 441
	1600	517			1800	419
	2000	461			2200	473

9-12	00	411		9-16	200	329
	400	546			600	444
	800	654 514			1000	396 403
	1000	596			1400	358
	1400	269			1800	371
	1800	364			2200	522

9-13	200	457		9-17	200	476
	600	436			600	360
	1000	461 440			1000	379 403
	1400	278			1400	232
	1800	421			1800	395
	2200	429			2200	411

4 hr FLOW RDGS

9-18	200	385	9-22	200	326
	600	344		600	421
	1000	465		1000	388
	1400	325 403		1400	406 404
	1800	466		1800	448
	2200	435		2200	426
9-19	200	448	9-23	200	362
	600	473		600	381
	1000	439		1000	406 395
	1400	449 453		1400	404
	1800	451		1800	437
	2200	462		2200	381
9-20	200	468	9-24	200	348
	600	329		600	404
	1000	382 412		1000	472 391
	1400	437		1400	355
	1800	426		1800	371
	2200	432		2200	376
9-21	200	411	9-25	200	306
	600	475		600	407
	1000	435 431		1000	390 365
	1400	419		1400	348
	1800	406		1800	375
	2200	440		2200	603

4hr FLow RDGS

9-26	200	408	
	600	423	
	1000	389	444
	1400	396	
	1800	520	
	2200	529	

9-30	200	405	
	600	414	
	1000	391	
	1400	365	42
	1800	572	
	2200	389	

9-27	200	410	
	600	402	
	1000	393	419
	1400	389	
	1800	475	
	2200	448	

9-28	200	448	
	600	469	
	1000	385	428
	1400	381	
	1800	461	
	2200	217	

9-29	200	490	
	600	418	426
	1000	392	
	1400	408	
	1800	442	
	2200	410	

POUNDS CALCULATION

HP-65 Program Form

Title FLOWS - ENTER LAST DAY GALLONS FIRST Page ____ of ____

USE A FOR LAKE
USE B FOR 002+003 USE C FOR 001 OR SANITAR.

SWITCH TO W/PRGM. PRESS [f] [PRGM] TO CLEAR MEMORY.

LAKE FLOW DATA

KEY ENTRY	CODE SHOWN	COMMENTS
STO 1		ENT LAST N GAL
STO 2		" " C "
STO 3		" " S "
E↑		ENT NEXT N GAL
E↑		" " C "
LBL A		" " S "
STO 6		
9 RV		
STO 5		
10 9 RV		
STO 4		
RCL 1		
RCL 4-		
14.4 ÷		
STO 1		
RCL 2		
RCL 5-		
14.4 ÷		
STO 2		
20 RCL 3		
RCL 6-		
14.4 ÷		
STO 3		
RCL 1		
RCL 2+		
RCL 3+		
STO 7		
RCL 7		
.00144 X		
30 STO 8		
RTN		
RCL 1		= N GPM
RCL 2		= C GPM
RCL 3		= S GPM
RCL 7		= TOT LAKE GPM
RCL 8		= TOT LAKE MGD
X LBL E		RESET - ENTER NEXT DAY
RCL 4		
STO 1		
40 RCL 5		
STO 2		
RCL 6		
STO 3		
RTN		
STO 1		ENTER LAST 002 GAL
STO 2		" " 003 GAL
E↑		" NEXT 002 "
LBL B		" " 003 "
STO 5		
50 9 RV		

KEY ENTRY	CODE SHOWN	COMMENTS
STO 4		
RCL 1		
RCL 4-		
14.4 ÷		
STO 1		
RCL 2		
RCL 5-		
14.4 ÷		
STO 2		
60 RCL 1+		
STO 7		
.00144 X		
STO 8		
RTN		
RCL 1		= 002 GPM
RCL 2		= 003 GPM
RCL 7		= TOT GPM
RCL 8		= MGD
X LBL E		
70 STO 1		~~ENT LAST 001 OR SAN GAL~~
LBL E		
STO 2		OVERFLOW
RCL 1		
RCL 2-		
14.4 ÷		
STO 1		
.00144 X		
STO 2		
RTN		
80 RCL 1		GPM
RCL 2		MGD
X LBL E		
90		
100		

REGISTERS	
R1	
R2	
R3	
R4	
R5	
R6	
R7	
R8	
R9	

LABELS	
A	
B	
C	
D	
E	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

FLAGS	
1	
2	

HEWLETT PACKARD

9320-0616

DEC 0010442

TO RECORD PROGRAM INSERT MAGNETIC CARD WITH SWITCH SET AT W/PRGM.

WORK BACKWARDS FROM LAST DAY ENTERED AS FIRST DAY

		GPM		MGD
1st DAY	TOT GAL STO 1		1st DAY	TOT GAL STO 1
2nd DAY	TOT GAL LBL A		2nd DAY	TOT GAL LBL A
	STO 2			STO 2
	RCL 1			RCL 1
	RCL 2 −			RCL 2 −
	STO 3			STO 3
	RCL 2			RCL 2
	STO 1			STO 1
	RCL 3			RCL 3
	14.4 ÷			.0001 ×
	RTN			RTN

DEC 0010442

HP-65 Program Form

Title ENVIRONMENTAL - FLOW FACTORS - POUND LOADINGS - NET POUNDS Page ____ of ____

SWITCH TO W/PRGM. PRESS [f] [PRGM] TO CLEAR MEMORY. * ENTER VALUES BEFORE KEY ENTRY

KEY ENTRY	CODE SHOWN	COMMENTS
E↑		LAKE ~~GPM~~ * MGD
E↑		002 ~~GPM~~ * MGD
LBL A		003 ~~GPM~~ * MGD
~~.012~~ X	8.34 X	
STO 3		003 FLOW FACTOR
9 RV		
~~.012~~ X	8.34 X	
STO 2		002 FLOW FACTOR
9 RV		
10 ~~.012~~ X	8.34 X	
STO 1		LAKE FLOW FACTOR
RTN		
E↑		LAKE mg/L *
E↑		002 mg/L *
LBL B		003 mg/L *
RCL 3 X		
STO 6		003 LBS/DAY
9 RV		
RCL 2 X		
20 STO 5		002 LBS/DAY
9 RV		
RCL 1 X		
STO 4		LAKE LBS/DAY
RTN		
LBL C		
RCL 5		
RCL 6 +		
STO 7		002 + 003 LBS/DAY
RTN		
30 LBL D		
RCL 4 -		
RTN		NET LOADING
40		
50		

KEY ENTRY	CODE SHOWN	COMMENTS
60		
70		
80		
90		
100		

REGISTERS	
R1	LAKE FLOW FACT
R2	002 FLOW FACTOR
R3	003 FLOW FACTOR
R4	LBS/DAY LAKE
R5	LBS/DAY 002
R6	LBS/DAY 003
R7	LBS/DAY 002+003
R8	
R9	

LABELS	
A	FLOW FACT
B	LBS
C	LBS 002+003
D	NET
E	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

FLAGS	
1	
2	

HEWLETT PACKARD

9320-0616

DEC 0010442

TO RECORD PROGRAM INSERT MAGNETIC CARD WITH SWITCH SET AT W/PRGM.

NPDES MONTHLY REPORT - PROCEDURES

COLLECT ALL DATA AND LOG IN TECH. NOTEBOOK. CURRENT BOOK IS E21770.

REPORT DAY STARTS AT 10:00 AM TO 10:00 AM OF FOLLOWING DAY.

FLOWS: OPERATOR WILL MAKE + SEND COPY OF FLOW LOG BOOK WEEKLY. IF HE DOES NOT, GO TO EVC CONTROL ROOM AND GET MISSING DATA FROM LOG.

- USE RESET METER FOR 002 + 003 FLOWS. CAUTION: OPERATOR MAY FORGET TO RESET AND FLOW CAN BE IN ERROR HIGH. IF THIS IS SUSPECTED, OBTAIN FLOW BY SUBTRACTING VALUES IN TOTAL COLUMN.

- FLOWS ARE RECORDED 10:00 AM ON THE CALENDAR DAY INDICATED. THEY ARE ACTUALLY FOR THE REPORT DAY STARTING AT 10:00 AM THE DAY BEFORE. A READING OF 1821 RECORDED 8/2/86 IS ACTUALLY THE FLOW FOR 8/1/86. RECORD THIS VALUE IN THE DATA LOG AT 8/1/86.

- FLOW METERS READ 100'S OF GALLONS. MULTIPLY ALL READINGS BY 100 TO GET GALLONS. (1821 X 100 = 182100 GALLONS)

ALL VALUES ARE REPORTED AS MGD (MILLION GAL/DAY, RECORD 1821 AS 0.18 MGD (ROUND OFF TO 2nd PLACE).

DEC 0010442

FLOWS (CONT):

- RECORD FLOWS (MGD'S) FOR 002, 003 AND TOTAL OF 002 + 003 FOR EACH DAY OF MONTH.

pH: PERMIT REQUIRES ONLY GRAB SAMPLE DAILY FOR pH. WE MONITOR CONTINUALLY & RECORD HOURLY AVE. ~~SELECT A HOUR AVE TO USE FOR THE MONTH BEFORE GETTING VALUES, IE @ 9:00 PM.~~ GET VALUES FROM EVC pH LOG. REPORT THE 10:00 AM VALUE FOR EACH DAY FOR 002 & 003.

THE 10:00 AM (CURVE) SAMPLE IS THE OFFICIAL GRAB SAMPLE TAKEN AT THE OUTFALLS.

TEMP. °C: VALUES RECORDED DAILY IN pH LOG. RECORD ONLY FOR 2 REPORT DAYS OF MONTH ON 002 & 003.

ANALYTICAL RESULTS: PERMIT REQUIRES 2 SAMPLES EACH MONTH FOR EACH OUTFALL. ONE SAMPLE EACH OUTFALL FOR TSS, TDS, Cl, SO_4, NH_3-N, BOD, & COD. ONE SAMPLE EACH OUTFALL FOR TSS, NH_3-N, BOD, + COD ONLY. RESULTS ARE IN mg/L.

- ANALYTICAL RESULTS ARE SUPPLIED BY NORTHERN LABS USUALLY BEFORE THE 15th OF THE FOLLOWING MONTH. IF THEY ARE LATE, CALL DIANE HARPER (1st CHOICE) OR BILL PRESTON AT NORTHERN (VALPO. 1-464-2389).

- RECORD mg/L VALUES IN DATA LOG

- DO NOT RECORD VALUES AS <. RECORD < 0.2 AS 0.2

CALCULATE LOADINGS (LBS./DAY):

CALCULATION IS : 8.34 X MGD X mg/L = LBS./DAY

TO SHORTEN THE CALCULATIONS A LOADING FACTOR IS CALCULATED FOR EACH REPORT DAY FOR EACH OUTFALL. LOADING FACTOR = 8.34 X MGD. THIS FACTOR IS MULTIPLIED BY THE mg/L VALUES OF THAT OUTFALL FOR THAT DAY.

- CALCULATE THE #/DAY FOR EACH DAY FOR EACH OUTFALL FOR EACH ITEM.

- CALCULATE THE TOTAL #/DAY FOR EACH ITEM (#/DAY 002 #/DAY 003) AND RECORD THE ROUNDED VALUES.

  ROUND TO THE FOLLOWING:

TSS	NEAREST	10	LBS
TDS	"	1000	"
Cl	"	10	"
SO_4	"	1000	"
NH_3-N	"	1	"
BOD	"	1	"
COD	"	1	"

FILL IN REPORT (4 PAGES)

- AT THE TOP OF EACH PAGE FILL IN THE MONTH + YEAR. AUGUST IS 08 86.

- PAGE 1 IS FOR 002 DAILY FLOW (MGD), DAILY pH, AND 002 TEMP (°C) FOR REPORT DAYS ONLY.

REPORT (CONT)

- PAGE 2 IS FOR 003 DAILY FLOW, DAILY pH, AND TEMP. ON REPORT DAYS ONLY.

- PAGE 3 IS FOR 002 + 003 DAILY FLOW AND COMBINED TOTALS OF 002 + 003 POUNDS OF TSS, TDS, + Cl.

- PAGE 4 IS FOR COMBINED TOTALS OF 002 + 003 POUNDS OF SO_4, NH_3-N, BOD, + COD.

- NOTE FREQUENCY OF EACH ITEM ie 7/7, 1/, 2/. THESE MUST BE FILLED IN. 7/7 MEANS 7 OF 7 DAYS. 1/No. OF DAYS IN MONTH MEANS 1 SAMPLE PER MONTH OR 1/31. THE No. OF DAYS IN MONTH MUST BE FILLED IN ON ALL PAGES.

- ONLY THE HIGH + LOW pH VALUES FOR THE MONTH ARE RECORDED AT THE BOTTOM. No AVERAGE.
  THE HIGH, LOW, AND AVERAGES ARE CALCULATED FOR ALL COLUMNS HAVING MORE THAN ONE DATA POINT PER MONTH.
  RECORD ONE DATA POINT AS AVERAGE ONLY
  RECORD No. OF TIMES EXCEEDED LIMITS ON ALL COLUMNS EVEN IF No LIMIT IS LISTED.

- FIRST PAGE OF FORM MUST BE SIGNED BY CERTIFIED OPERATOR, PLANT MANAGER (ANY SENIOR SUP. AS ALTERNATE), AND DATED.

- REPORT MUST HAVE COVER LETTER

- ORIGINAL + 1 DUPLICATE TO INDY. (DO NOT SHOW bcc LIST)

- COPY TO bcc: – SAVE ONE COPY TO ORBAN FILE

SELECTION OF REPORT DAYS

- USE SAMPLE SCHEDULE FURNISHED BY EPA. ORIGINAL PERMIT REQUIRED 10 REPORT DAYS, THE NEW PERMIT REQUIRES TWO. SELECT TWO DAYS FROM THE FIRST HALF OF THE MONTH, AT LEAST A WEEK APART, WHICH DO NOT TERMINATE THE 24 HR SAMPLE COLLECTION ON FRIDAY, SATURDAY, OR SUNDAY. THE FIRST SAMPLE OF THE MONTH SHOULD BE ANALYZED FOR ALL SEVEN REQUIRED ITEMS. THE SECOND SAMPLE FOR THE FOUR ITEMS REQUIRED TWICE A MONTH.

- EXPLINATIONS:

  1. SAMPLES ARE SELECTED FROM FIRST HALF OF MONTH IF POSSIBLE SO THAT NORTHERN LAB HAS TIME TO ANALYZE AND RETURN RESULTS IN TIME TO FILE STATE REPORT THE FOLLOWING MOUTH. (MUST BE AT STATE BY 28TH OF FOLLOWING MONTH)

  2. AVOID WEEKEND SAMPLING. SAMPLES MUST BE TRANSFERED TO NORTHERN LAB SAMPLE CONTAINERS AND REFRIGERATED. ANALYSTS WOULD NEED TO BE CALLED IN TO DO THIS.

DEC 0010412

3. ANNUAL SAMPLE SCHEDULE MUST BE MADE OUT IN APRIL AND SENT TO NOTHERN LAB BY MAY 1 AS PART OF ANNUAL CONTRACT. THEY MUST BE NOTIFIED OF SAMPLE PICK-UP DATES AND ANALYSIS SCHEDULE. (SEE SAMPLE OF 1987 LETTER TO NORTHERN, ATTACHED. LIST OF PICK-UP DATES AND ANALYSIS REQUIRED ARE INCLUDED.)

4. ALTHOUGH ONLY TWO SAMPLE DAYS ARE REQUIRED, WE SAMPLE FIVE DAYS A MONTH. THIS IS SO PLANT PERSONEL ARE NOT FORWARNED OF OFFICIAL REPORT DAYS IN ADVANCE. ALONG WITH THE TWO OFFICIAL SAMPLE DAYS EACH MONTH, SELECT THREE ADDITIONAL SAMPLING DAYS FROM THE ORIGINAL SAMPLE SCHEDULE FROM THE EPA. A MONTHLY SAMPLE SCHEDULE IS SENT TO THE AREA SUPERVISOR AND A COPY IS RETAINED WHICH SHOWS WICH OF THE DAYS ARE OFFICIAL. THE LAB ANALYSTS MUST BE NOTIFIED WHICH SAMPLES MUST BE PREPARED FOR ANALYSIS. (MONTHLY SAMPLE SCHEDULES ATTACHED). SHOULD A PRODUCTION AREA BE DOWN (NO FLOW) OR A 24 HOUR SAMPLER FAIL ON ONE OF THE TWO OFFICIAL SAMPLE DAYS, ONE OF THE OTHER SAMPLE DAYS CAN BE USED. NORTHERN LAB MUST BE NOTIFIED OF ANY CHANGES.

SAMPLING

- THE 24 HOUR REFRIGERATED SAMPLE COLLECTORS MUST BE STARTED AT 10:00 AM OF THE SAMPLE DAYS AND TURNED OFF AT 10:00 AM OF THE FOLLOWING DAY.

- SAMPLES MUST BE TAKEN TO THE LAB IMMEDIATELY

- THE LAB ANALYST WILL SHAKE THE SAMPLES VIGOROUSLY AND TAKE A ONE GALLON RETAIN OF ALL SAMPLES RECEIVED. THE RETAINS MUST BE HELD FOR A MINIMUM OF THREE MONTHS.

- ON THE OFFICIAL SAMPLE DAYS THE ANALYSTS MUST FILL THE TWO SAMPLE BOTTLES FOR EACH
TFALL SUPLIED BY NORTHERN LABS. THESE BOTTLES ARE NOT TO BE RINSED OUT. THE SMALLER OF THE TWO BOTTLES CONTAINS SULFURIC ACID AS A PRESERATIVE

- THE SAMPLES MUST BE REFRIGERATED AT 4°C UNTIL PICKED UP BY NORTHERN. WHEN PICKED UP, THE SAMPLES ARE PLACED IN AN INSULATED OVERPACK WITH A FROZEN BLUE ICE PACK FOR TRANSPORT.

PREPARED BY:
JOHN N. ORBAN
LAB SUPERVISOR
WO NO. 7285
APRIL 1986

DON'T SAY IT—WRITE IT

To John Orban Location MAIN OFFICE

From M Govert Location INST Phone No. 4696

Subject SANITARY Sewer Flow Date 8/10/87

John,

I ran a test on the output lines, the integrator, and the totalizer of the sanitary sewer flow. The test began on 8/8/87 at 1:30PM and ended on 8/10/87 at 5:00 PM. During this period I generated a false signal of 500 gpm's. (VES 484) The beginning integrator reading was 6943392. The ending reading was 6958355. During this period the normal flow rate should be averaged.

M Govert.

G-88 REV. 10-62

QUALITY IS A WAY OF LIFE

E-P-8I

G-11-C-24

ENVIRONMENTAL HISTORY

The East Chicago plant is located in a heavily industrialized area of Northwest Indiana. Our neighbors include Inland Steel and Youngstown Sheet and Tube in East Chicago, U.S. Steel in Gary, an American Oil refinery in Whiting, The Energy Cooperative Refinery (formerly ARCO) in East Chicago, and a Stauffer Sulfuric Acid plant in Hammond. Most of these facilities are major both in size and in discharges to the air and water. Thus the County has had and still does have a reputation as a heavily polluted area. The political situation adds to this problem since there are three sizeable cities, East Chicago, Hammond and Gary all located adjacent to each other. Each of these communities has its own sanitary sewer system (all discharging into the same river) and each has its own air pollution control agency. Lake County, Indiana adjoins Cook County, Illinois and the City of Chicago. In addition to the State of Indiana's Board of Health the plant is regulated by Region V of the U.S. EPA headquartered in Chicago.

The plant is located on the east branch of the Grand Calumet River, an industrial waterway which starts as the discharge of U.S. Steel's mill in Gary and flows westward into the Indiana Harbor ship canal. The flow in the canal goes north into Lake Michigan.

The plant had a close and friendly relationship with the Indiana Stream Pollution Control Board over the years dating back into the 1950's. We were just completing negotiations with the State for a major water pollution abatement program in 1970 when the plant was hit with a Justice Department suit on February 19, 1971. This suit was the result of severe pressure from a group of environmentalists, an organization called "CLUE", which was formed during the plant strike in early 1970. The suit was settled in November of 1972 with the issuance of a Consent Decree. Du Pont agreed to meet pH and other discharge limitations. Facilities costing about 4 million dollars were completed by late 1974 on a specified compliance schedule. The Decree expires December 31, 1978.

The plant received its NPDES permit on October 31, 1974. This permit was adjudicated and finally issued March 24, 1976 by the U.S. EPA, Region V. The State of Indiana was not a party to the permit even though the State has permitting authority since they did not agree with the absence of an ammonia limitation. The NPDES permit also expires December 31, 1978. A request for a new permit was submitted to the State prior to the statuatory deadline of 180 days prior to expiration and we expect to begin negotiations on the new permit shortly. The plant is visited regularly by a State inspector and has had two compliance surveys of its NPDES permit limitations.

The City of East Chicago's Department of Air Quality Control has jurisdiction for most matters involving air pollution. The City enacted a modern air quality control ordinance in 1967 and has added a number of amendments since. In addition the Indiana Air Pollution Control Board has some 18 separate regulations covering air emissions. About 1965 the City started an intensive effort with its two steel mills to reduce particulates from their operations. In 1970 a similar effort was started for significant SO_2 emitters which included the steel mills, oil refineries and Du Pont. This program resulted in the installation of a Tysul® hydrogen peroxide scrubber added on to our sulfuric acid facility to reduce SO_2 emissions. This unit was started up in 1972 and has been meeting the City's regulation of 6.5 pounds per ton of sulfuric acid produced since that time. Recently however we have been under fire for opacity from this operation. We received a notice of violation from the U.S. EPA on June 14, 1977 for exceeding the State's visible emissions limitation of 40% opacity. After a number of conferences and letters with Region V the issue seems to be quiescent while we await the next move by the U.S. EPA.

As to solid wastes, the plant operates its own permitted landfill to dispose of the sludges generated by the water pollution abatement facilities and to date has had no problems with the regulatory agencies in this area.

E-P-21A

G-C-R-837

INDUSTRIAL AND BIOCHEMICALS DEPARTMENT
EAST CHICAGO PLANT

GENERAL

Plant Established	1892
First Barge Brimstone Received	Sept. 1925
Office & Laboratory Bldg. (New Brick Air Conditioned)	Oct. 1937
Power - Entire Plant A.C. Electrical Load	
Made by own Generators	June 1934
High Pressure Boiler & Turbo Generator	Jan. 1941
Purchased Electricity	1944
Parallel Operation with Northern Indiana Public Service Co.	1947
Discontinued Generation of Electricity	Dec. 1964
Steam Generation Facilities Replaced	Dec. 1968

PRODUCTS	BEGAN OPERATION	DISCONTINUED OPERATION
2,4-D Sodium Weed Killer 83%	Feb. 1946	July 1946
4 - All Drain Solvent	Nov. 1924	Oct. 1926
Acetic Acid - From "Gray" Lime Acetate	1902	May 1930
- ~~Purchased and Rehandled~~	May 1930	July 1932
Adhesive #77 (Weather Proof)	May 1944	Oct. 1963
Adhesive #78 (" ")	May 1944	Oct. 1963
Adhesive #73 (" ")	July 1946	Oct. 1952
Adhesive #71 (" ")	Oct. 1949	Feb. 1951
Adhesive #72 (" ")	Oct. 1949	Feb. 1951
Adhesive #60 (" ")	May 1954	Oct. 1963
Adhesive #78x(" ")	June 1958	Oct. 1963
~~Aluminum~~ Chloride Solution	June 1947	April 1975
Aluminum Chloride - HCL	Jan. 1954	April 1975
"Anmate" X	Apr. 1959	Jan 1978
"Anmate" Solution	May 1959	Jan 1978
Ammonium Chloride	July 1909	Feb. 1969
- New leaded crystal	July 1928	Dec. 1963
- New Facilities	Dec. 1963	Feb. 1969
Ammonia Hydroxide Reagent	1899	1906
- Transferred to Cleveland Plant (1906)		
- ~~New Facilities~~	Nov. 1958	
Anisole	Nov. 1948	Nov. 1949
- Transferred to Grass, K.J. Works		
Arsenate Green	May 1926	Aug. 1926
Arsenic Acid	Dec. 1914	Apr. 1949
FSA	OCT 1975	
35% oleum	Nov 1981	
20% oleum	July 1973	
Anhydrous HCl stge	1977	
HF storage	1979	
HCl Transloading	1979	1979

Rev. 3/70

001

DEC 0010450

INDUSTRIAL AND BIOCHEMICALS DEPARTMENT
EAST CHICAGO PLANT

PRODUCTS (Cont'd)	BEGAN OPERATION	DISCONTINUED OPERATION
Barium Fluosilicate (Insecticide)	Feb. 1930	Nov. 1943
Benomyl	Oct. 1968	Dec. 1972
"Benlate"	Nov. 1968	Jan. 1971
Bordeaux Mixture Insecticide	Mar. 1910	Oct. 1940
Calcium Arsenate	Mar. 1919	Aug. 1948
Calcium Arsenite	June 1927	Mar. 1931
C & C Mixture (Zn Cl2 & Muriatic)	Jan. 1944	July 1964
Chlorosulfonic Acid	Jan. 1966	
"Deenate" 25W (Insecticide)	Sept. 1945	Oct. 1946
"Deenate" 50W (Insecticide)	Jan. 1946	Oct. 1947
Detergents	June 1932	Apr. 1951
"Duclean" #1 Inhibited Sulfuric Acid	July 1929	
"Duclean" #2 Inhibited Hydrochloric Acid	Sept. 1931	
EPN Miticide	Feb. 1950	May 1952
EPN 300 Insecticide	Mar. 1950	June 1952
EPN 45% Emulsifiable	July 1952	Apr. 1953
Fenuron	Aug. 1964	Sept. 1964
Ferric Sulfate (Copperas)	Apr. 1909	Feb. 1920
Garden and Potato Dust	Mar. 1944	Dec. 1944
Glattite	Before 1909	Mar. 1910
Glauber's Salt (Sodium Sulfate)	1898	Aug. 1948
Hydrochloric Acid and Salt Cake (10 Hand Units)	1897	
- Systems 5 - 6 Discontinued		1934
- Systems 1 - 2 Discontinued		1934
- Systems 9 -10 Discontinued		Dec. 1935
- System 4 Discontinued		Nov. 1937
- System 3 Discontinued		Jan. 1938
- Systems 7 - 8 Discontinued		Dec. 1944
- Mechanical Furnace	Jan. 1936	Dec. 1959
Hydrochloric Acid Reagent	1899	
- Produced by Steam Distillation (1937)		
- Produced by Elect. Distillation (Jan. 1924)		
- Modernized (Nov. 1958)		
Hydrofluoric Acid (Purchased Aug. 1932)	1921	1963
- Resumed HF Shipments	Nov. 1968	1979

DEC 0010450

1971 → green page

INDUSTRIAL AND BIOCHEMICALS DEPARTMENT
EAST CHICAGO PLANT

	BEGAN OPERATION	DISCONTINUED OPERATION
PRODUCTS (Cont'd).		
Insecticides Department		
- Triangle Packers (Sept. 1936)		
- Ferguson Packers (Jan. 1949)		
Iron Agglomerates (Pyrites Cinder)	Oct. 1910	Oct. 1911
Colloidal Silica 1A	Jan. 1955	1957
Colloidal Silica #17	Feb. 1956	Feb. 1956
Kinetic Operations "Freon"	Apr. 1948	Aug 1977
Lead Acetate	Mar. 1910	July 1914
Lead Arsenate Phenothiazine Mixtures	Mar. 1946	Mar. 1947
Lead Arsenate Insecticide	Mar. 1910	Apr. 1949
- Dust recovery equipment (Sept. 1932)		
Lime Sulfur Solution	Mar. 1910	Dec. 1948
Linuron	Mar. 1964	Sept 1968 1972
Litharge	Nov. 1924	Apr. 1949
"Lorox"	Jan. 1963	11/81
"Ludox" (Purchased Nalcoag G-1295)	Mar. 1947	May 1948
"Ludox: HS (Colloidal Silica)	Apr. 1948	
- New Process	Aug. 1963	
"Ludox" AM	May 1961	
"Ludox" HS-FS	Nov. 1964	
"Ludox" LS	Jan. 1957	
"Ludox" SM	Mar. 1957	
"Ludox" AS	Apr. 1960	
"Ludox" TM	May 1966	
"Ludox" Binder Vehicle	Oct. 1967	
"Ludox" Redip Indicator	Jan. 1968	
Manganar	Jan. 1928	July 1933
Manganese Sulfate	1933	1933
-- (For Parker Rust Proofing Co.)		
SIDURON (Intermediate for "Tupersan")	Nov. 1964	11/81
Methoxychlor	Jan. 1947	Nov. 1949
- Transferred to Grasselli, N.J. Works		
"Marlate" 50	Aug. 1947	Sept. 1949
- Transferred to Grasselli, N.J. Works		
Methoxychlor Concentrate 80%	Mar. 1949	Mar. 1949
Mixed Acid	1897	July 1930

INDUSTRIAL AND BIOCHEMICALS DEPARTMENT
EAST CHICAGO PLANT

	BEGAN OPERATION	DISCONTINUED OPERATION
PRODUCTS (Cont'd).		
Nitric Acid - ($NaNO_3$ Process)	1896	Sept. 1929
- Purchased in bulk and packaged	Sept. 1929	July 1964
Nitric Acid Reagent	1899	
- Produced by elect. distillation (July 1924)		
- Produced by steam distillation (1937)		
- Modernized (Nov. 1958)		
Phosphoric Acid	Nov. 1925	Aug. 1951
Di Sodium Phosphate Crystal	Jan. 1926	1937
Tri Sodium Phosphate Crystal	Jan. 1926	Aug. 1951
- High Grade Neutral Phosphate (1926)		
- Sodium Siloco Fluoride (1927)		
- "P" Grade (Granular) (Jan. 1930)		
- Flake (Mar. 1933)		
- Monohydrate (May 1934)		Dec. 1948
- Flake #10 (June 1939)		July 1939
- "P" Grade #10 (Aug. 1939)		Sept. 1939
- Lurgi Filter (Aug. 1943)		Aug. 1951
- Mono Sodium Phosphate (Aug. 1932)		July 1948
Plant Food	Jan. 1928	Oct. 1930
Sodium Bisulfite Solution (For Sale)	1941	June 1955
Sodium Metasilicate	June 1931	May 1973
- Produced by Continuous Cooler (Feb. 1958)		
Sodium Silicate	Sept. 1902	
- Fuel Oil No. 1 Furnace (Dec. 1930)	Batch	Dec. 1957
- Fuel Oil Continuous (Dec. 1940)		Dec. 1957
- Gas Fired Continuous (Dec. 1957)		
Sodium Sulfate S. R. Ground	Feb. 1925	Nov. 1949
Sodium Sulfide	Nov. 1915	Feb. 1929
- Depilatory Grade (1930)		1932
- Dismantled (Feb. 1934)		
Sodium Thiosulfate	Oct. 1916	June 1955
Stabilized SO_3	Jan. 1966	
Sulfamic Acid	Apr. 1959	
Sulfuric Acid Chambers System No. 1	1893	Oct. 1947
Sulfuric Acid Chambers System No. 2	1893	Oct. 1947
Sulfuric Acid Chambers System No. 3	1905	Oct. 1947
- Hegeler Zinc Ore Kiln (1905)		Oct. 1929
- Systems 2 & 3 Combined & started burning sulfur (Nov. 1930)		

DEC 0010450

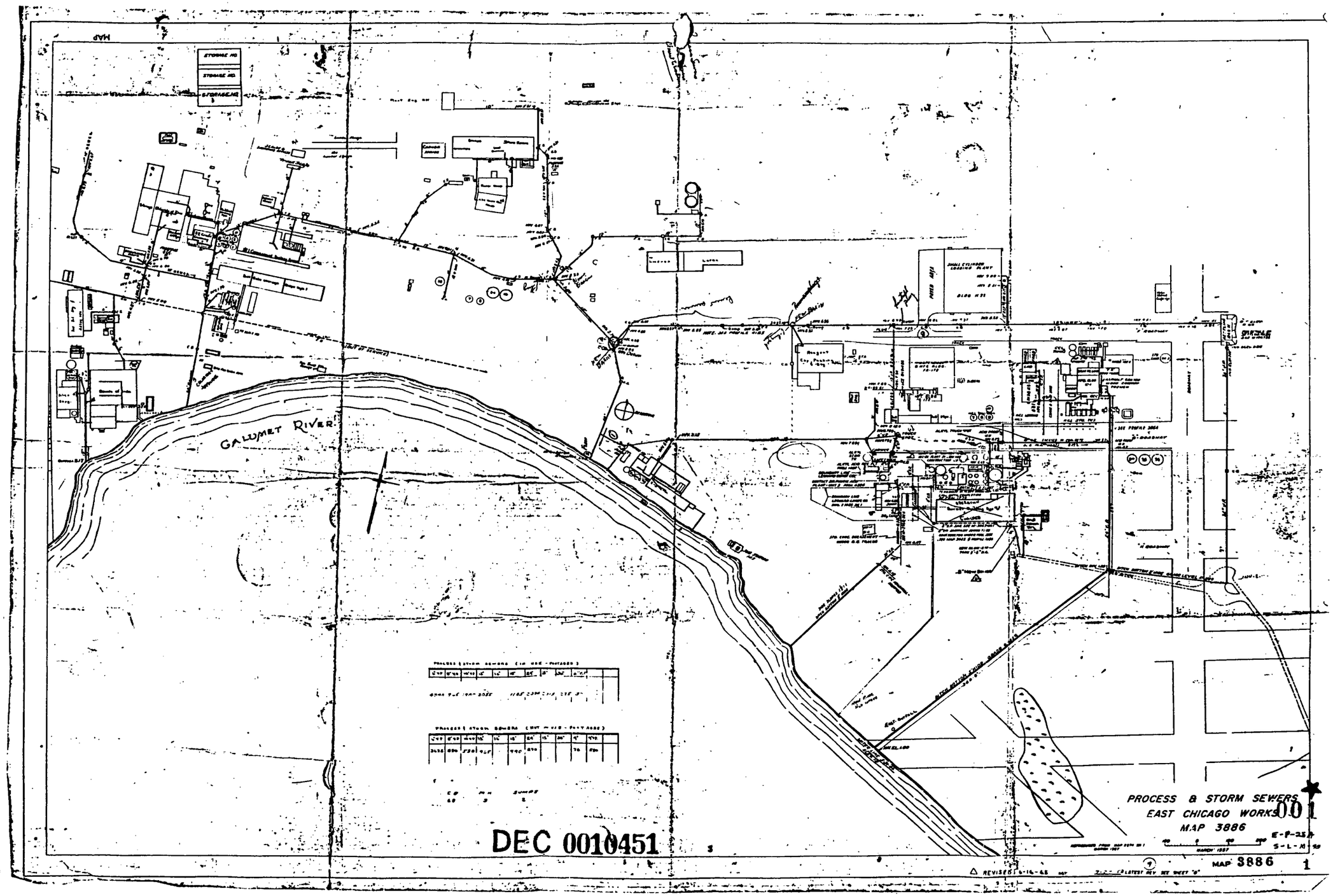
INDUSTRIAL AND BIOCHEMICALS DEPARTMENT
EAST CHICAGO PLANT

	BEGAN OPERATION	DISCONTINUED OPERATION
PRODUCTS (Cont'd).		
- Additional sulfur burner installed (Apr. 1937)		
- Ammonia Oxidation Apparatus (Systems 1-2-3)	Feb. 1926	Oct. 1947
Sulfuric Acid Chamber System No. 4 (Zinc Kiln Unit)	July 1913	Apr. 1955
- Kiln dismantled (Dec. 1936)		
- Burning Brimstone (Jan. 1937)		
Sulfuric Acid Chamber System No. 5 (De Spirlet Pyrites Burners)	Nov. 1916	Apr. 1955
- De Spirlet Burners discontinued (Aug. 1926)		
- Burning Brimstone (Sept. 1926)		
Sulfuric Acid Chambers Systems No. 4 & 5		Apr. 1955
- Chambers destroyed by fire (Sept. 1919)		
- Resumed operation (Apr. 1920)		
- Trail Ore Burners (Apr. 1942)		Feb. 1947
- Burning Brimstone (Feb. 1947)		
- Ammonia Oxidation App. (Sys. 4 & 5)	July 1929	Apr. 1955
Sulfuric Acid Contact "Verein"	Mar. 1910	July 1925
Sulfuric Acid Contact #1	Nov. 1923	Apr. 1955
- Lurgi Kiln installed (Oct. 1934)		May 1946
- Burning Brimstrone (May 1946)		
40% Oleum (SO_3 Stills)	Oct. 1941	June 1945
Sulfuric Acid Contact #2	Feb. 1947	Sept. 1967
- Trail Ore Roaster		
- Burning Facilities	1942	Sept. 1967
- Spent Acid	1955	June 1964
Sulfuric Acid Contact #3 (Leonard Monsanto)	Mar. 1955	
~~Spent Acid (Dec. 1959)~~		1972
- From Molten Sulfur (Aug. 1961)		
Sulfuric Acid 65% Oleum	Oct. 1958	Feb. 1959
30% Oleum		
Sulfuric Acid Reagent	1899	
- Produced from oleum (June 1922)		
- New Vertical Absorber (Nov. 1943)		
- Produced from SO_3 and Modernized (Nov. 1958)		
"Tupersan"	Nov. 1964	Nov 1981

DEC 0010450

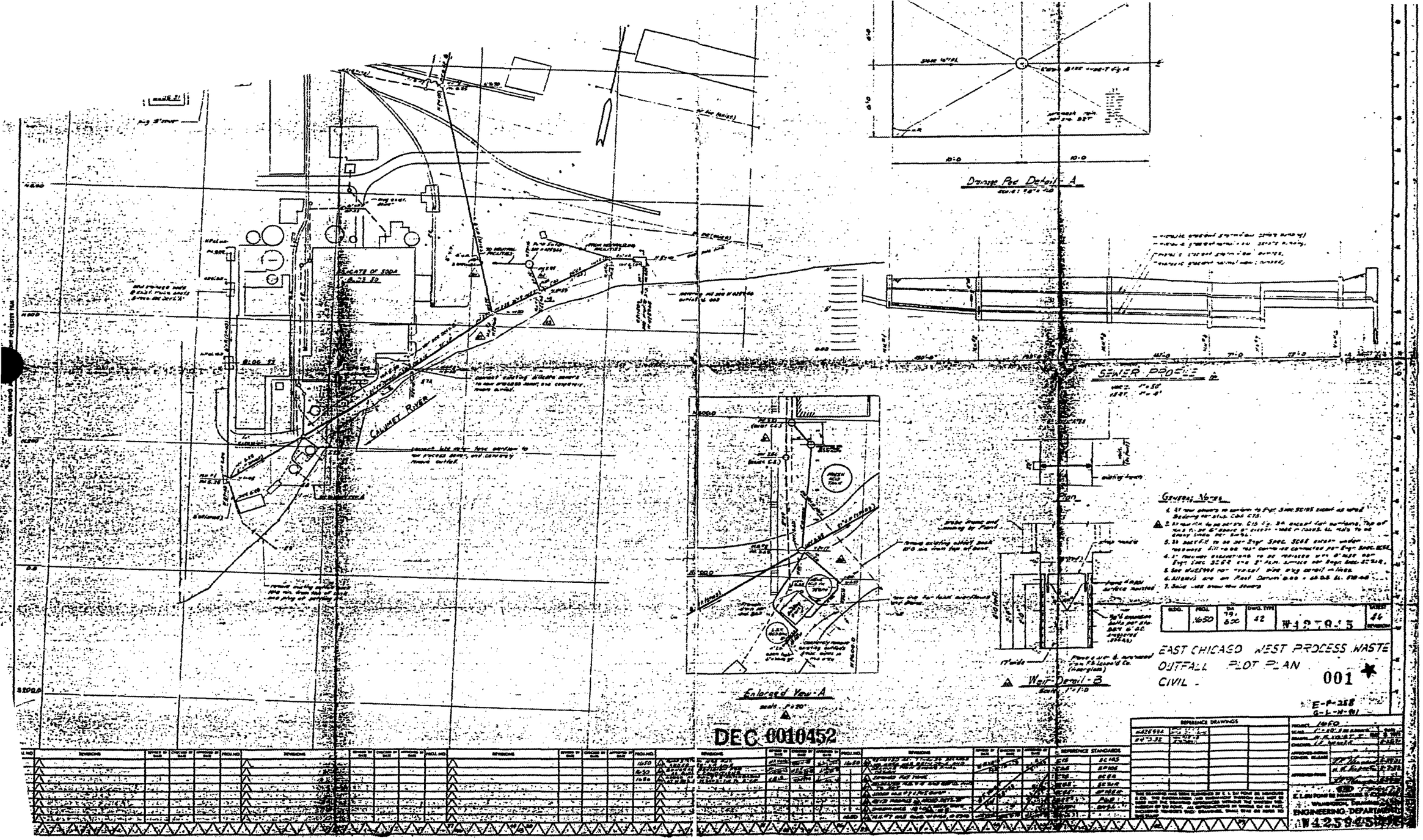
PRODUCTS (Cont'd)	BEGAN OPERATION	DISCONTINUED OPERATION
"Valron" Estersil & Estersil GT	May 1954	Nov. 1957
Zinc (Battery Anodes)	Jan. 1909	July 1931
Zinc Ammonium Chloride	Jan. 1940	Feb. 1969
- New Facilities - "Zaclon"	Dec. 1963	Feb. 1969
Zinc Chloride Solution	1902	Feb. 1969
Zinc Chloride Granular	1902	Feb. 1969
Zinc Chloride Fused	1902	Feb. 1969
Zinc Chloride Fluid Flux	Apr. 1960	Feb. 1963
Chromated Zinc Chloride Dry	Oct. 1940	Feb. 1969
Chromated Zinc Chloride Solution	July 1947	Feb. 1969
Copperized Chromated Zinc Chloride Dry	July 1950	1964
Copperized Chromated Zinc Chloride Solution	Aug. 1951	1951
Zinc Oxide	1916	Mar. 1937
- Unit #1 Rebuilt (Jan. 1922)		
- Unit #2 (Mar. 1926)		
- Lead Free Manufacture (Aug. 1930)		
Velpar Intermediate	Dec 1974	

DEC 0010450 006



DEC 0010451

001



Drainage Pad Detail - A
SEWER PROFILE
CALUMET RIVER
Enlarged View - A
Weir Detail - B
General Notes
EAST CHICAGO WEST PROCESS WASTE
OUTFALL PLOT PLAN
CIVIL
001
E-P-258
G-L-H-901
DEC 0010452
REFERENCE DRAWINGS
REFERENCE STANDARDS
ENGINEERING DEPARTMENT
W425945

8 J

E-P-501C

G-N-L-313

3/31/80

TO
J. SIXSMITH

FROM
W. VANES

INVENTORY OF WASTE - ELECTRICAL

36 - 55 GAL. DRUMS OF TRANSFORMER OIL. NOT ALL DRUMS ARE FULL DRUMS BUT ALL HAVE BEEN TESTED BY TRANSFORMER SERVICE INC. FOR PCB CONTENT. THEY ARE LISTED AS FOLLOWS:

DRUM #		PCB CONTENT (PPM)	LOCATION
#1		170	ELEC. SHOP YARD
2		36	
3		40	
4		70	
5		49	
6		30	
7	LESS THAN	5	
8	" "	5	
9	" "	5	
10		12	
11		49	
12		180	
13		24	
14		110	
15		27	
16	LESS THAN	5	

DEC 0010454

001

Drum #	PCB Content (PPM)	Location
17	49	Elec. Shop yard
18	Less than 5	
19	" " 5	
20	" " 5	
21	49	
22	Less than 5	
23	46	
24	17	
25	16	
26	Less than 5	
27	13	
28	7	
29	17	
30	21	
31	21	
32	11	
33	8	
34	33	
35	660	
36	260	

I also have 3 large transformers (drained) and 3 small transformers (tested but not drained) to dispose of. I also have also have some small capacitors + ballasts.

DEC 0010454

002 *

E-P-SOIL
G-W-L-313

3/31/80

TO
J. SIXSMITH

FROM
W. VANES

INVENTORY OF WASTE - ELECTRICAL

36 - 55 GAL. DRUMS OF TRANSFORMER OIL, NOT ALL DRUMS ARE FULL DRUMS BUT ALL HAVE BEEN TESTED BY TRANSFORMER SERVICE INC. FOR PCB CONTENT. THEY ARE LISTED AS FOLLOWS:

DRUM #		PCB CONTENT (PPM)	LOCATION
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5		49	
6		30	
7	LESS THAN	5	
8	" "	5	
9	" "	5	
10		12	
11		49	
12		180	
13		24	
14		110	
15		27	
16	LESS THAN	5	

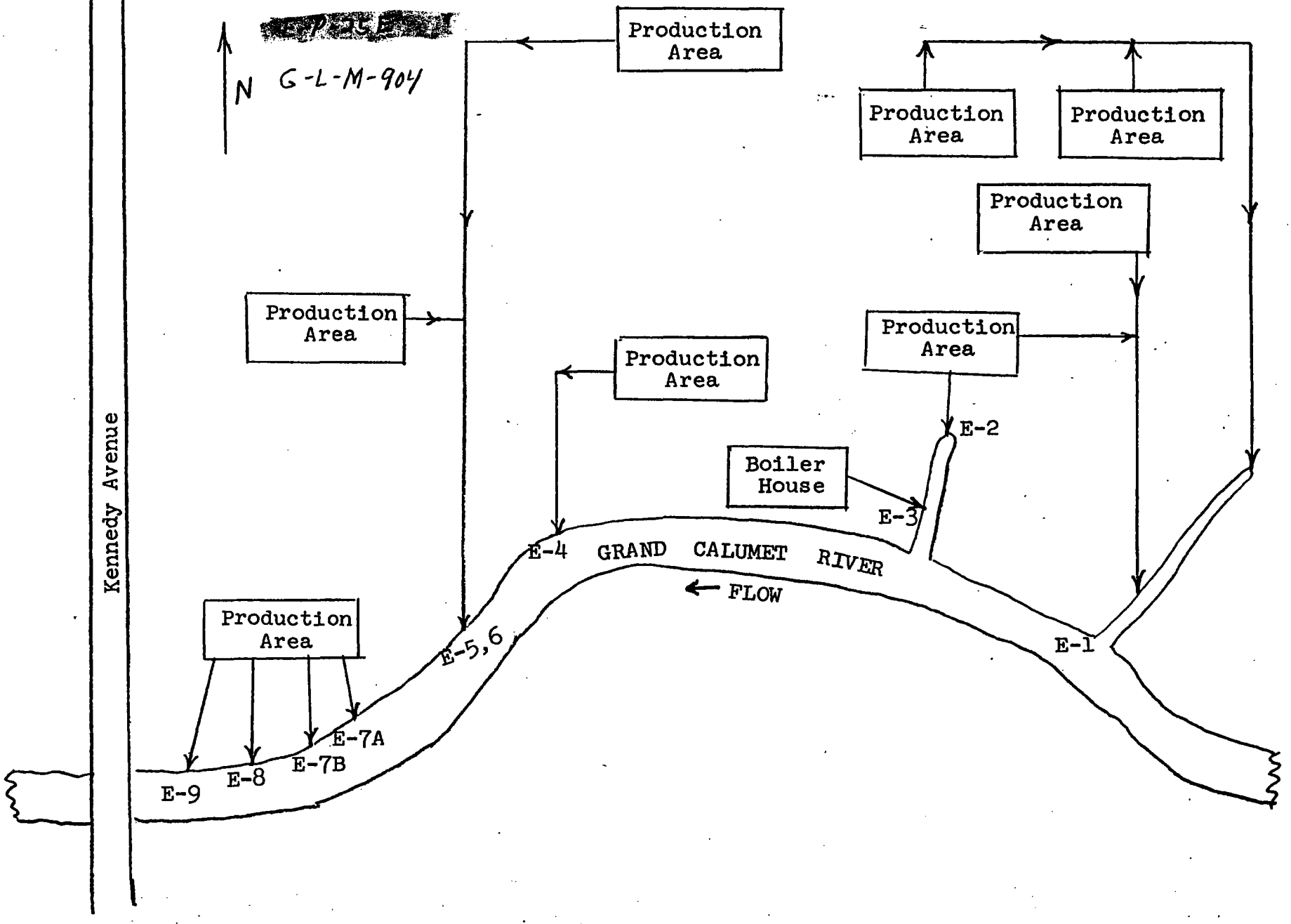
001

DEC 0010457

Drum #	PCB Content (PPM)	Location
17	49	Elec. Ship yard
18	Less than 5	
19	" " 5	
20	" " 5	
21	49	
22	Less than 5	
23	46	
24	17	
25	16	
26	Less than 5	
27	13	
28	7	
29	17	
30	21	
31	21	
32	11	
33	8	
34	33	
35	660	
36	260	

I also have 3 large transformers (drained) and 3 small transformers (tested) but not drained) to dispose of. I also have also have some small capacitors + ballasts.

DU PONT'S EAST CHICAGO PLANT OUTFALLS INTO GRAND CALUMET RIVER - 1/71



DEC 0010453

cc: D. V. Luebke
R. J. Libutti
C. A. Cremeans
P. R. Johnston
J. T. Sixsmith

East Chicago, Indiana
September 28, 1981

TO: M. C. Springman

FROM: W. W. Kasper

GROUND WATER INFILTRATION - SANITARY SYSTEM
STATUS REPORT

Program outlined in previous report (9/17) was completed and the following summarizes the results:

- Zn reduction in MHC-11 from prior $\bar{X}$ 4.5 to current 2.7 ppm. This MH still poses a problem since it is directly connected to MHC-10 (new-Agchem) which is low in Zn (see attached data). As mentioned in previous report MHC-11 was checked and is structurally sound.

- Zn continues to be low in pumphouse "A". One week average 3.0 ppm (limit 5 ppm).

- Sewer lines C-7 to C-9 and C-16 to C-18 were assessed by overground pump system. No significant increase in Zn was evident. However the C-18 manhole itself showed ∿ same level Zn before/after bypass. (See attached data.)

The following is recommended:

Program	Scheduled Completion
• Video tape of line C-10 to C-11 to determine structural integrity.	10/2
• Clean sewers C-16 and C-18 by General Drainage. (Vacuum clean - no pressure).	9/30
• Repeat Zn analysis after cleaning.	10/2

WWK/ay
Attachment

DEC 0010455

SANITARY SEWER - ZN
LIMIT 5 PPM

Date	C-9	C-10 (New-Agchem)	C-11
8/19	3.7	0.68	1.3
8/20	2.8	1.1	1.2
9/4	3.1	0.7 ($\bar{X}$)	5.2
9/8	5.1	0.48	4.1
9/14	1.6	0.6	2.7

ASSESSMENT OF C-7 TO C-9 AND C-16 TO C-18
OVERGROUND PUMP SYSTEM

	Before Bypass	After Bypass
C-7	2.3	3.1
C-8	2.1	1.7
C-9	1.6	1.9
C-16	2.8	2.5
C-18	4.6	5.0

cc: R. S. Wangelin, ICD, Wilm.
C. C. Quarles, " "
~~S. T. Allen,~~ " E.Chg.
D. J. Willette, " "
File: TAA-11

[redacted]

G-W-L-560

GC-11015

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

INDUSTRIAL AND BIOCHEMICALS DEPARTMENT

East Chicago, Indiana
April 25, 1972

R. C. Ott
Industrial Chemicals Dept.
Wilmington

WASTE DISPOSAL ON LAND
RCO to AWB, et.al., 4/17/72

You requested a summary of current waste disposal procedures. The attached table lists the information. We have inspected the disposal site of the contractor and are familiar with his methods.

Recently enacted legislation (Indiana Senate Bill #100), a copy of which I sent to you on 3/17, makes any open dumping practices questionable [Chapter 1, Sec. 2 (8) and Chapter 4, Sec. 1 (d)] so that we are probably going to have to get agreement from the State to continue our present practices for filter aid and aluminum chloride mud disposal on the plant site.

J T Sixsmith

J. T. Sixsmith
Environmental Control
Coordinator

JTS:lcs
Attach.

Manual of Technology

DEC 0010456

001

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

East Chicago, Indiana
April 25, 1972

002

EAST CHICAGO PLANT - WASTE DISPOSAL

MATERIAL	AMOUNT	DISPOSAL HOW	DISPOSAL WHERE	ALTERNATE DISPOSAL
Trash	18,000 yd.^{3}/year(1)	Waste Management of Indiana, Inc. (Formerly Atlas Disposal, Inc.)	Contractor's Landfill	Store on plant site until other arrangements could be made.
Solka Floc (Wood Cellulose)	115 lbs./day, dry, at capacity	Plant	Plant Dump(2)	Hire contractor to landfill.
"Hyflo-Supercel" (Diatomaceous earth, mostly SiO_2)	1100 lbs./day, dry, at capacity	Plant	Plant Dump(2)	Hire contractor to landfill.
Aluminum Chloride Mud (Insolubles)	100 lbs./day, dry, at capacity	Plant	Plant Dump(3)	Hire contractor to landfill.

(1) We are billed by the contractor on a volume basis so that the actual amount of trash is probably significantly less where containers are not completely full when emptied.

(2) Materials are insoluble in water and present no problems in odor, dusting, or toxicity.

(3) Material is insoluble in water and HCl. Analytical information as to composition will be available shortly. Presents no problems in odor or dusting.

JTS:lcs

DEC 0010456

Waste Disposal - to Dump

Per W Van Hoy

at Capacity -

	Silica Floc	Hydro
Upflow	49	350
Clar Sol	66	750
	115 #/Day	1100 #/Day

al Cl_3 mud

~~40 gal @ 12#/gal = 480 #/day wet~~

Van Hoy says use WDH's estimate.

Per W. Havens - 1 cuft/batch × 2 batches/day

= 2 ft^3 × 7½ gal/ft^3 = 15 gal/Day

15 × 12#/gal = 180 #/day wet

or Estimate - 100 #/Day, Dry

DEC 0010456

From Cost Summary at Storeroom

In 1971 we spent about $16000 for trash removal @ 90¢/yd³ = 18,000 yards/yr (+ $1000 more in large trays) @ $1/yard = 500

$$\frac{18{,}000 \text{ yards/year}}{52} = 350 \text{ yds}^3/\text{week}$$

Looks about right - 6 yard trays = 60/week = 10/day

IC 6614

DU PONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

INDUSTRIAL CHEMICALS DEPARTMENT

- [ ] S. T. ALLEN
- [ ] V. G. KOPPIN
- [ ] G. H. BALL
- [x] D. J. WILLETTE
- [ ] W. F. STAFFORD
- [ ] D. F. LOWE
- [ ] R. D. JENSEN
- [ ] E. J. FITZGERALD
- [ ] R. O. BROCK
- [ ] I. L. KLACIK
- [ ] .....

CC: J. C. Muller
W. H. Kelso
R. S. Wangelin
L. D. Greenberg
T. T. Chase
C. C. Quarles

April 17, 1972

INDUSTRIAL CHEMICALS DEPARTMENT - PLANTS

TO:	AUGUSTA	- A. W. BEASLEY	HOUSTON	- D. I. GARNETT
	BEAUMONT	- C. E. WATKINS	HURON	- L. A. BIDEZ
	BURNSIDE	- R. J. McAULIFFE	JAMES RIVER	- A. SINNICKSON
	CLEVELAND	- R. W. BAYRER	MEMPHIS	- M. B. BURTON
	~~DEL.~~ RIVER	- H. S. BOYLE	NIAGARA	- H. E. HIESTAND
	~~EAST CHICAGO~~	~~S. T. ALLEN~~	PHILADELPHIA	- M. D. MASON
	~~FORT~~ HILL	- W. F. BRINT	PINEVILLE	- S. HYDE
	FORTVILLE	- E. C. BELL	REPAUNO	- J. M. LOETHER
	GRASSELLI	- R. D. TURNER	TOLEDO	- R. J. ROUSH
	HEALING SPRINGS	- H. A. ROSCOE	WURTLAND	- H. J. PECHEUX

FROM: R. C. OTT RCO

WASTE DISPOSAL ON LAND
Ref: EAG to Plt. Mgrs. 4/5/72
EAG to " " 8/12/71

On August 12, 1971, in a letter to all plants (attached) Dr. Gee suggested that we take a closer look at our contract waste disposal practices. In the reference letter of 4/5/72, attached, we are asked to review our own waste disposal practices, particularly where toxic or leachable materials are involved.

Will you please forward to me by April 28 a summary of your current waste disposal procedures. This can be in tabular form and should list material, approximate quantity, where and how disposed, appropriate comments regarding possibility of surface or ground water contamination, odor, or dust, and alternate disposal if present practice is found to be undesirable.

Where material is disposed of by a contractor, please indicate the material, the contractor and whether the plant has inspected the disposal site and is knowledgeable of the method used. A copy of our survey from last fall is attached for guidance.

Dave - pls have JTS handle

RCO:W

Attachments

DEC 0010456

005

R. C. OTT

CC: Heads Of Staff Departments

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

VICE-PRESIDENT

IND. CHEM. DEPT.
RECEIVED
APR 7 1972
Plants Tech. Section

April 5, 1972

VICE PRESIDENTS AND GENERAL MANAGERS
PLANT MANAGERS
ENVIRONMENTAL LIAISON COMMITTEE

WASTE DISPOSAL ON LAND

Laws and regulations controlling the disposal of industrial wastes by landfill or retaining basins are becoming widespread, though not yet universal. It, therefore, appears prudent for each location to review its current methods of disposal to insure that methods in use are acceptable under existing controls and will continue to be. Disposal on bare ground of toxic materials, or those leachable materials which could adversely affect surface or ground water quality, should be discontinued or modified to preclude environmental damage.

When this type of disposal is being handled for us by a contractor, the points covered in our Committee's letter of August 12, 1971 should also be reviewed, since a serious incident involving our waste will undoubtedly be viewed by the public as our problem.

Edwin A. Gee

EDWIN A. GEE
CHAIRMAN
ENVIRONMENTAL QUALITY COMMITTEE

EAG:mmc

VP-1C231

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

VICE-PRESIDENT

August 12, 1971

DEPARTMENT HEADS
PLANT MANAGERS

In previous letters I have reported to you on various aspects of Du Pont's effort in the area of environmental control. It now appears that greater use is being made of the disposal of Du Pont wastes by contract with outside firms. This subject was covered preliminarily in the environmental quality questionnaires prepared by each plant, and in a letter by J. M. Brentlinger, Jr., Director of Purchasing Department, dated March 19, 1970. Because of the increasing use of this technique for disposing of our waste, I would like to offer additional suggestions.

Plants engaged in or contemplating contractual arrangements with industrial waste removal and disposal contractors should be aware of increased government and public concern with respect to the adequacy of control of such operations. Particular care should be taken to insure that such disposal or treatment alternatives as will be used by a contractor will be conducted in a lawful and responsible manner. A full examination in each instance must be given to the technical and legal aspects of such arrangements. It is mandatory from a liability and public responsibility point of view that the contractor selected have the qualifications and capability of adequately handling and treating our wastes.

Situations where waste is to be treated after removal should be covered by contracts that include provisions for treatment as well as removal, and the subcontracting of such responsibilities must be proscribed. On the other hand, we should not attempt to control the independent contractor in carrying out his duties under the contract once he has been selected. If it appears at any time that the contractor is not meeting the provisions of the contract, immediate action should be taken.

I urge you to have your present contracts reviewed by the Legal Department through Purchasing Department and submit any future ones for advice prior to signing them.

Edwin A. Gee

EDWIN A. GEE
CHAIRMAN
ENVIRONMENTAL QUALITY COMMITTEE

007

DEC 0010456

PLANT WASTE REMOVAL SURVEY

PLANT	WASTE REMOVED	CONTRACTOR
Augusta	None	-
Burnside	None	-
Delaware River	None	-
Fort Hill	None	-
James River	None	-
Fortville	None	-
Pineville	Trash and Sodium Silicate Glass	Ben Harris Sanitation
Wurtland	Trash	HAB Waste Control
Beaumont	Aqueous Methanol	Port Arthur Towing
Beaumont	Compressor Oil	Silsbee Vacuum
Belle	Off Spec "Vazo"	Rollins Purle
Belle	Fly Ash	Amherst Industries
Belle	Plant Aqueous Wastes	Port Arthur Towing
Cleveland	Filter Press Muds	Metro Container
Cleveland	precoat Filter Muds	Independence Excavati
Cleveland	Scrap Metals & Containers	DuPont Surplus Materi
Cleveland	Trash	Metro Container
East Chicago	Trash	Atlas Refuse
Grasselli	Formaldehyde Solution	Rollins-Purle
Grasselli	DMHA Brine	Spenton Bush Transpo
Grasselli	Raw Organic Solution	Rollins-purle
Healing Springs	None	-
Houston	Neutralized Tar	Rollins-purle
Houston	Neutralized Tar	Malone Service
Houston	Drummed Chemicals	Deep Sea Disposal
Houston	Trash	Houston Disposal
Huron	Trash	Erie County
Toledo	Trash	Oregon Sanitation

DEC 0010456

008

DON'T SAY IT—*WRITE IT*

RCOTT Location IND. CHEMICALS, Wilm

SIXSMITH Location EAST CHICAGO Phone No.

Subject SOLID WASTES- CORRECTION Date 6/12/72

Reuben

Per our phone conversation, pls correct my letter to you of April 25 concerning WASTE DISPOSAL ON LAND. IN THE TABLE, OPPOSITE TRASH IN THE COLUMN UNDER AMOUNT IT SHOULD READ 18,000 YD^3/YEAR RATHER THAN ft^3/YR. WE ARE BILLED BY THE CUBIC YARD AND NOT CUBIC FOOT, AS INDICATED.

JACK

REV. 10-62

SECURITY IS EVERYONE'S RESPONSIBILITY

DEC 0010456

E-P-530D

DON'T SAY IT—*WRITE IT*

To Nancy Engle Location

From Six Smith Location Phone No.

Subject WASTE CHLOROTHENE NU Date 12/17/80

Attached are labels for the spent + virgin 1,1,1 trichloroethane. The waste should be put into good 55 gallon steel drums and one of these labels attached to each drum. The drums should be stored either at Ag Chem or reagents since these are the approved waste storage areas. Call me when you're ready + I'll show you —

Thanks

JB

G-88 REV. 10-62 SAFETY IS A LIFETIME CONTRACT—DON'T CANCEL IT

DEC 0010456

010 *

HRE-8J

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

C.T. Corporation System
Registered Agent for
E.I. DuPont-East Chicago Plant
1 North Capital Avenue
Indianapolis, Indiana 46204

Re: RCRA §3007 Information Request
E.I. Dupont-East Chicago Plant

Dear Sir or Madam:

The United States Environmental Protection Agency (U.S. EPA) has completed a review of your January 28, 1993, response to U.S. EPA's October 1, 1992, "Request for Supplemental Information" pursuant to Section 104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Section 3007 of the Resource Conservation and Recovery Act (RCRA) concerning the E.I. Dupont-East Chicago Plant facility located in East Chicago, Indiana. Your response requires further supplemental information. Therefore, pursuant to the authority of Section 3007 of the RCRA, 42 U.S.C. §6927, as amended, you are requested to provide additional information concerning the following numbered documents provided in the January 28, 1993, response as follows. Terms defined in the previous "Request for Supplemental Information" shall have the same meaning herein.

A. In reference to documents DEC0010005, page 011, DEC0010010, page 110, and DEC 0010926, please provide:

(i) copies of the Toxicity Characteristic Leaching Procedure test results, Extraction Procedure test results, analyses, analytical results, manifests, or any other document containing chemical or physical data about the flue dust from the "Ludox" process, since 1980;

(ii) a detailed description of any and all of the locations the flue dust was stored, treated, or disposed;

(iii) date(s) of shipment and the name and address of any person or place to whom any of the waste or treated waste was shipped;

(iv) a detailed explanation of the sampling strategy used in collecting samples for any chemical or physical analyses for the waste stream;

(v) all quality assurance/quality control validation data packages for the analytical information to support the analytical data provided in response to this question; and

(vi) dates and amounts of flue dust generated at the facility.

Provide copies of all documents relating to your response to this question.

B. How did the facility manage spent solvents after 1980? The facility indicated that before August 1980, it disposed of the spent solvents by placing the waste on the ground, including 1,1,1-trichloroethane (see documents DEC 0010035, DEC 0010926, and DEC 00110046). Provide copies of all documents relating to your response to this question.

C. Information on document DEC 0010927, page 004, indicates that the chrome pit is an extension of the HCL neutralizing pit. Describe what is meant by "extension". Provide copies of all documents relating to your response to this question.

D. Information on document DEC 0010927, page 004, indicates that the HCL neutralizing pit was filled with "rubble". Provide information on referenced material that describes the source, chemical and physical nature of the waste, and amount of the material disposed in the pit. Provide copies of all documents relating to your response to this question.

E. Information on document DEC 0010927, page 014, describes operations relating to waste produced in the sulfamic process. In relation to this document, please provide a description of the waste sludges and tank material that includes:

(i) the source of waste;

(ii) the chemical and physical nature of waste;

(iii) amount of the material treated or disposed of in the pit;

(iv) the time these activities occurred at the facility; and

(v) the area the treated sludges from the pit were landfilled at the facility.

Provide copies of all documents relating to your response to this question. In addition, why did DuPont determine that the practice of landfilling the sludges from the pit was "not really permitted"?

F. Information on document DEC 0010927, page 001, describes operations relating to the burning of Ag waste at the site. In relation to this document, please provide the following:

(i) the chemical and physical nature of waste;

(ii) the time these activities occurred at the facility; and

(iii) the area where the burning occurred.

Provide copies of all documents relating to your response to this question.

G. Information on document DEC 0010927, page 008, indicates that there is a reference to Ag chemical liquid waste which is evidently being incinerated off-site. In relation to this document, please provide the following:

(i) the chemical and physical nature of waste;

(ii) the storage place, method, and time material waste was stored at the facility; and

(iii) copies of the Toxicity Characteristic Leaching Procedure test results, Extraction Procedure test results, analyses, analytical results, manifests, or any other document containing chemical or physical data about the waste.

Provide copies of all documents relating to your response to this question.

H. Information on document DEC 0010927, page 008, indicates that there is a reference to wash water stored in rail cars near the toluene-containing rail cars. In relation to this document, please provide the following:

(i) the chemical and physical nature of waste;

(ii) the storage place, method, and time material waste was stored at the facility; and

(iii) copies of the Toxicity Characteristic Leaching Procedure test results, Extraction Procedure test results, analyses, analytical results, manifests, or any other document containing chemical or physical data about the waste.

Provide copies of all documents relating to your response to this question.

I. Information on documents DEC 0010323, pages 001-003, DEC 0010158, page 001, and DEC 0010331, page 001, pertains to the generation of "chequer flue dust" wastes. If the waste is identical to the waste identified in question A, please acknowledge this fact, and disregard the following questions. If not, provide the following information:

(i) dates of generation and amounts of the waste generated;

(ii) copies of the Toxicity Characteristic Leaching Procedure test results, Extraction Procedure test results, chemical analyses, analytical results, manifests, or any other document containing chemical or physical data about the "chequer flue dust" referenced in document DEC 0010323 page 1, since 1980;

(iii) a detailed description of any and all of the locations the flue dust was stored, treated, or disposed;

(iv) date(s) of shipment and the name and address of any person or place to whom any of the waste or treated waste was shipped;

(v) a detailed explanation of the sampling strategy used in collecting samples for any chemical or physical analyses for the waste stream; and

(vi) <u>all</u> quality assurance/quality control validation data packages for the analytical information to support the analytical data provided in response to this question.

Provide copies of all documents relating to your response to this question.

J. Document DEC 0010323, page 001, indicates that chromium containing bricks will be replaced. With respect to chromium-containing bricks, please provide:

(i) any documents related to the activities associated with the generation, storage, treatment, and disposal of the hazardous and/or nonhazardous chromium-containing bricks at and from the facility; and

(ii) a copy of all documents which relate to the subsequent disposition of all residues, contaminated water, or other debris resulting from the generation, storage, treatment, and disposal of hazardous and/or nonhazardous chromium containing bricks at and from the Facility.

Provide copies of all documents relating to your response to this question.

K. Information in document DEC 0010010 pertains to the shipment of a waste to the CID landfill. Provide any documents related to the

activities associated with the generation, storage, treatment, and disposal of the waste referenced in document DEC 0010010. Provide a copy of all documents which relate to the subsequent disposition of all residues, contaminated water, or other debris resulting from the generation, storage, treatment, and disposal of nonhazardous waste referenced in document DEC 0010010.

L. Provide the following certification: I certify under the penalty of the law that I have personally examined and am familiar with the Information Request and request for documents. Based on my review of all relevant documents and inquiry of those individuals immediately responsible for providing all relevant information and documents, I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Such information must be furnished to this office within twenty (20) days of receipt of this letter, notwithstanding its possible characterization as confidential. In that regard you may, under 40 CFR §2.203(a), assert a business confidentiality claim covering all or part of the information provided in the manner described in 40 CFR §2.203(b). Information covered by such a claim will be disclosed by U.S. EPA only to the extent and by means of the procedures set forth in 40 CFR Part 2, Dotes B. Any request for confidentiality must be made when the information is submitted to U.S. EPA, since any information not so identified may be made available to the public without further notice to you.

The written statements provided pursuant to this Information Request must be notarized and submitted under an authorized signature certifying that all matters contained therein are true and accurate to the best of the signatory's knowledge and belief. Any documents submitted to U.S. EPA pursuant to this information request should be certified as true and authentic to the best of the signatory's knowledge or belief.

Compliance with this Information Request set forth herein is mandatory. Failure to respond fully and truthfully to the Information Request within twenty (20) days of the receipt of this letter or adequately justify such failure to respond can result in enforcement action by U.S. EPA pursuant to Section 3008 of RCRA.

Should the signatory find, at any time after the submittal of requested information, that any portion of the submitted information is false, the signatory should so notify U.S. EPA. If any answer certified as true should be found to be untrue or misleading, such is subject to prosecution pursuant to 18 U.S.C. §1001 or §3008(d) of RCRA. U.S. EPA has the authority to use the information requested herein in an administrative, civil, or criminal action.

This Information Request is not subject to the approval requirements of the Paperwork Act of 1980, 44 U.S.C. Section 3501, et seq. If you have any questions regarding this matter, please contact Thad Slaughter, of my staff, at (312) 886-4460. Your response should be sent to the United States Environmental Protection Agency, Region V, Attention: Thad Slaughter, RCRA Enforcement Branch (HRE-8J), 77 West Jackson Boulevard, Chicago, Illinois 60604.

Sincerely yours,

Joseph M. Boyle, Chief
RCRA Enforcement Branch

cc: Thomas Linson, IDEM
Steven A. Coppula, E.I. DuPont

bcc: Roger Field, CS-3T

HRE-8J:TSLAUGHTER:be:04/30/93:Filename:2INFINEI

OFFICIAL FILE COPY

CONCURRENCE REQUESTED FROM REB			
OTHER STAFF	REB STAFF	REB SECTION CHIEF	REB BRANCH CHIEF

CH2M HILL MEETING NOTES

PROJECT NUMBER L 21838.00 SHEET 1 OF 16
NOTES ISSUED BY Carl Shank GLO REGION
DATE

SUBJECT: DuPont Groundwater Assessment - East Chicago Facility

MEETING DATE: 12/3-12/5/96 LOCATION East Chicago, Indiana

ATTENDEES:
Carl Shank / GLO Archie Murrish 12/4-5
Jerry Meyer 12/3-12/5
Brad Kulesza 12/3
Greg Behm 12/4

NOTES BY: Carl Shank GLO REGION

TOPICS DISCUSSED	ACTION/NOTES

Most lab wastes from process samples were disposed by putting the samples back into the process. Solid wastes were put into drums and shipped offsite. For the last 13 years, the lab sink drains have been tied into the Environmental Control (EVC) system.

The Reagent drum storage contents were put back into the process. Ag Chem wastes in drums were burned in the field (new landfill area with dike) and later, the wastes were shipped to an incinerator for disposal.

Trash trays are dumpster boxes - hauled now by Calumet Wastes. Before offsite disposal, metal trays went to metal area of landfill, and trash trays went to trash area of the landfill. Around 1972, the area was covered by ~ 4' of dirt. The landfill area is the same area as the Rubble Landfill or WMU B. Scrap disposed contained paper, cardboard, old clothing, small cut-up pieces of equipment and fervous metals.

Oils were collected plant-wide, and stored in barrels just south of WMU A.

TOPICS DISCUSSED | ACTION/NOTES

None of the site landfills have formal permits with "pieces" of paper to back up the site. The state has told DuPont to continue what they are doing for the $CaSO_4$ area.

The acid pipeline operated from ~1955 → 1968 at a continuous flow of ~3 gpm of H_2SO_4. Most of the pipeline was above ground, and ~~flow~~ followed the road NE of the plant. Only @ fence and RR crossings did the line go below ground. Most leaks were near the roadway and the fence. There were two pipelines – supply and return – for the acid. Supply was 99% H_2SO_4 and return was 95% acid and 5% gas and oils from Cities Service. The spent acid was collected in the Alkyl Acid Tank 5, and burned in the spent acid furnace near contact #3. The tank was 10,000 - 15,000 gallons, and was used from 1955 - 1972.

The Krystal unit in the Sulfamic area was natural circulation, vacuum crystalization evaporator

The "mud buggy" transferred $ZnCl_2$ mud from the system. The mud was rich in Zn and Fe, and dumped onsite with the CaF and $CaSO_4$. The buggies were used during the same period as the $ZnCl_2$ operation.

The "poo-poo" wagon transferred CaF_2 slurry from the Freon unit, and then dumped in the Bentonite lined landfill on the site. The wagon was an old converted milk truck.

There are two lagoons near the north fence line. The northwest and Northeast (by the EPA well @ NE area of plant) did not have anything dumped into them, but may be contaminated by acid leaks or RR the plant.

DEC 0010927

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE
REGION

SUBJECT: DuPont Groundwater Assessment

MEETING DATE: 12/3 - 12/5 LOCATION

ATTENDEES:

NOTES BY: REGION

TOPICS DISCUSSED	ACTION/NOTES

Propane, Butane, and Isopentane were used for proprietary formulations of Freon. Storage tanks were ~ 20,000 gallons in a diked area, with only small quantities of the products being made.

The Sulfur pit was used for storing sulfur. Until 1962 or 63, sulfur came to the site in box cars, and then shoveled into one section of the pit for melting, then filtered and stored in the other section. For some time, 250 tons/day of sulfur were burned. The pit had heating coils in the bottom to keep the S molten. After some time, the S arrived in tank cars. Then in ~1962 to late 60's or the early 70's, the S arrived in tank trucks. The S tank near Contact #3 was used starting in 1955 and decommissioned in 1984. The capacity was 3500 tons or 100 tank cars with a tank car holding 12,000 gallons of S. The sulfur pit was used from 1955 → 1984 along with the large S tank. The S pit was ~ 12' W x 40' L x 12' deep.

Contact #2 used $SO_{2(g)}$ from the Zinc Smelter or Trail Ore Roasters.

In the Freon process, the Freon went thru a scrubber where CaF_2 was formed

TOPICS DISCUSSED | ACTION/NOTES

$SbCl_5$ could have been disposed in both the HCl neutralizing pit and the $SbCl_5$ settling basin.

The Chrome pit is an extension of the outfall of the HCl neutralizing pit. At one time, the Cr pit outfall went directly to the river but now the level is low, and the area is stagnant.

MgO was used to scavenge excess SO_3 in the granular sulfamic

$$MgO + SO_3 \rightarrow MgSO_4$$

The Brunts systems are scrubbers to collect Process mists. There were 2 @ sulfamic, 1 @ FSA, 1 @ CSA and 1 @ sulfuric.

A PCB storage area exists near the Freon Bldg Warehouse. This area was specifically located and built for PCB's. Barrels and transformers were stored here, but no quantities are known. The size of the pit is ~ 6' W * 12' L * 1' D. The structure is made of concrete, and was built in 1981

Two pits are located near the south west side of Ludox. The pits contain filter aid from the Ludox process, with water overflow to the EUC system. The filter aid is taken to the landfill.

The Barrel house dates back as far as the Silicate business. The bldg is still in use today. Misc. chemicals - formaldehyde, hexachlorophene, sugar - are stored for Ludox additives. If spills of Ludox product occured, not very toxic since Ludox is 99% H_2O & 1% sand.

The HCl neutralizing basin is being filled with rubble at this time. Jerry is considering filling the $SbCl_5$ settling basin

A 20,000 FSA/SO_3 tank car was dumped onto the ground to the south of the HCl ~~basin~~ pit around 1979. A large depression in the ground exists today.

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE

SHEET 5 OF 16
REGION

SUBJECT: DuPont Groundwater Assessment

MEETING DATE: 12/3 - 12/5/86 LOCATION

ATTENDEES:

NOTES BY: REGION

TOPICS DISCUSSED	ACTION/NOTES

The area near contact #1 and tanks 43 and 44 has no vegetation after many years.

The electrical storage yard (where PCBs were reportedly stored) still exists w/ equipment inside the fence. Oil spills are evident from the dark spill areas.

The Illiana warehouse was used at one time by DuPont, but is now used by Conoco. Bulk materials were stored inside the bldg.

Two above ground fuel tanks are on site. The first is a ~10,000 diesel tank near the old $ZnCl_2$ area. A fuel oil tank ~10,000 gal. is also located near the new Powerhouse. Jerry doesn't know if it has ever been used.

The Rubble Area - WMU B is about 40-50 acres & 5 feet deep. Glass carboys were burned on the site in the past, and glass remains are spread over the site.

$BaCl_2$ was used for precipitating the last $ZnSO_4$ in the $ZnCl_2$ process

005

DEC 0010927

TOPICS DISCUSSED	ACTION/NOTES

Jerry feels that the PCB's originate from the RR tie processing facility to the north of the site.

CN^- may have come from the isocyanates used in Ag Chem.

Zirconium oxychloride was an additive to HCl to make it reagent grade HCl. An HCl sludge tank car still is located on the site, and has zirconium oxychloride sludge.

The Trail Ore Roasters burned ZnS w/ varying amounts of metals. Many types of ores from many countries were burned. Ore was shipped to the site by box cars – then dumped onto the ground. Storage for the ore was both inside & outside. After the ore was burned, the SO_2 (g) went to Contact #2, while the ZnO was transferred to a storage bin. No large quantity was supposed to be on the ground since no storage existed.

Ammate X was a blend of Ammate (Ammonium Sulfamate) and Sodium Dichromate. The sodium dichromate came to the site in bags, and was stored in the sulfamic dept.

Anything spilled in Sulfamic from 1954 – 1970 went to the process sewer and then the river. After 1970, went thru 002 outfall, which only had pH adjust before discharge.

Rodine was stored in the Rodine Storage Bldg near Contact #3. Stored in drums and is a suspect carcinogen. Rodine 92A went into Duclean #1. Surfactant BCO also used in Duclean #1. Very small quantities (~ 4 drums) were stored due to low selling volume.

Asbestos generated from bldg. dismantlements & pipe insulation.

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE
SHEET 7 OF 16
REGION

SUBJECT: DuPont Groundwater Assessment

MEETING DATE: 12/3 - 12/5/86 LOCATION

ATTENDEES:

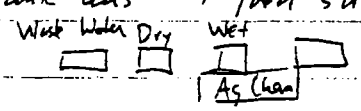
NOTES BY: REGION

TOPICS DISCUSSED	ACTION NOTES

Information that follows from Brad Kulesza, DuPont

Velpar® contains hexazinone. The system is presently being dismantled & then moved to Texas. Toluene was shipped with the hexazinone dissolved in it, and stored in jacketed rail car. T/H unloaded from 5,000 gal trucks into 23,000 gal rail car.

In the process, the T/H mixture was separated. Toluene subsequently separated into "Wet" Toluene (95%+) and "Dry" Toluene (>99%). Those were stored in 10,000 gal tank cars & then shipped back to original location in trucks.



Brad remembers a 50 gal spill of toluene @ the RR tracks, but is sure of others happening.

Waste Storage Tank - 8'Ø x 12'H ; Tank 30 ; 4,000 gal
glass lined carbon steel
contained toluene waste from distillation ; w/ hexazinone.

Hexane Storage Tanks - filled by trucks. Large tank received shipments, while small tank used for transfers

Large - Tank 32 12'Ø x 13'H ~ 9500 gal
Small - Tank 31 6'Ø x 8.5' Horizontal 31 x 55 2,000 gal

DEC 0010927

007

TOPICS DISCUSSED	ACTION/NOTES

No liquid wastes from Ag Chem have been stored in drums for the last 4-5 years.

Wash water wastes stored in railcars near the Toluene Cars

In the past, spills from the cleaning of the process went onto the ground near the RR cars. Mostly H_2O, some hexazinone, a little toluene, but no hexane.

For last 2-2½ years, wash water collected in rail car & shipped to Chambers Work. 1 car every 1-1½ years @ 20,000 gal/car

Dry hexazinone floor sweeping wastes stored in drums @ Ag Chem Warehouse since at least 1970. Hexazinone - non regulated waste, and sent to CID in Chicago

Hexazinone stored onsite in warehouse in 200 lb/35 gal Fiberdrums. ~ 100,000 - 200,000 lb stored annually near Ag Chem

Other tanks outside Ag Chem

T-21	Dist Feed Tank	Hexane / Toluene	75/25 mix	304 SST 3600 gal	9'ϕ x 8'H
T-6	Vent Condenser	Dried Hexane Tank		carbon steel	42"ϕ x 40"L
T-17	Glycol	for heat transfer		carbon steel	5'ϕ x 5'H
	Dist. Column				
	Reboiler				
	Condenser				

Waste Storage tank contents incinerated @ Belle Plant. ~ 4,000 gal / month during operation. Considered a Haz. Waste. From Nov 84 to present operated continuously. From 1974-1984 - operated 6 months / year. Since 1983 - wastes incinerated. Prior to ~~83~~ that, from 1978-1983 went to LA Plant.

CH2M HILL MEETING NOTES

PROJECT NUMBER _____ SHEET 9 OF 16
NOTES ISSUED BY _____ REGION
DATE _____

SUBJECT: DuPont Groundwater Assessment

MEETING DATE: _____ LOCATION _____

ATTENDEES:

NOTES BY: _____ REGION

TOPICS DISCUSSED	ACTION/NOTES

Brad does not remember any spills from the Waste Storage Tank (#30)
At one time, there was not a spill collection system for the RR cars. Now a storage car is used for collection. Some liquid has probably escaped during loading/unloading of the pipes.

Existing FSA storage tanks

FSA Storage	20,400 gal	58'L × 8'Ø (horizontal)
AHF Day Storage	8775 gal	7'Ø × 30'L C.Steel
Small Sulfuric	75 gal	27"Ø × 30"H
SO_3 Storage	10,000 gal	9'Ø × 18.5'L

SO_3 - tank truck supply, 3 trucks/week @ 3,000 gal ea.
AHF - rail car supply 1 car/6-7 weeks 20,000 gal

No wastes generated in FSA process. No intermediate tanks

The tanks in the Silicate area contain mostly various grades of sodium silicate solution that vary by specific gravity or viscosity.

The Barrel House is used for loading of Ludox & Silicate
Tank Cars & Trucks for Silicate
Drums, Trucks & Cars for Ludox

TOPICS DISCUSSED	ACTION/NOTES

3-4 rail cars/week for silicate & greater than 10 ~~ton~~ trucks/week for silicate loading.

Soda Ash stored in tank cars on the RR spur - ~ 2/week

Soda Ash Hopper ~ 10,000 lb

11-5	20' ϕ * 204" H	195 gal/in
Caustic	16' ϕ * 264" H	110 gal/in
5-12	82" ϕ * 25' L	941 ft3 of 67% sucrose
Sand	25' ϕ * 409" H	50 ft³/inch

Sand is trucked into the site.

The area around the outside ~~some~~ tanks goes to the sewers, and then to EVC

Bactericides and glycol still stored in the Barrel House

CH2M HILL MEETING NOTES

PROJECT NUMBER _____ SHEET 11 OF 16
NOTES ISSUED BY _____ REGION
DATE _____

SUBJECT: DuPont Groundwater Assessment

MEETING DATE: 12/3 - 12/5/86 LOCATION _____

ATTENDEES:

NOTES BY: _____ REGION

TOPICS DISCUSSED | ACTION/NOTES

Following information received from Greg Behm, DuPont

Ludox filter press pits (SW corner of site) overflow into waste storage tanks, then to EVC & 003 outfall. Solids from filter press taken to $CaSO_4$ landfill. Contain gelled Ludox - polymerized silicic acid, Solka Floc, Celite Filter Aid, Resin Fines, Hiflow Supercell, and Silica Scale. The Consol process is used continuously, while the upflow fixed bed process only run ~ 4 weeks/year.

Solids produced - 8 filter batches/day @ 85% utility
100 lb pre-coat & 11 lb filter aid / batch
1000 lb * 0.85 * 365 ~ 155 tons/year

Both H_2SO_4 & NaOH stored onsite near Ludox Bldg. NaOH used for pH adjust & equipment cleaning.

Stored in Adhesives Warehouse - Lithium Hydroxide, Flake Caustic, Ammonium Bicarbonate, Sodium Aluminate - Nalco 46%, Resin, Ethylene Glycol

The Hard Tack Crystalizer was used for a short time

Two buried lake water tanks near Ludox. North & South each 8,000 gallons

011

DEC 0010927

TOPICS DISCUSSED				ACTION/NOTES
Horizontal Hot Water	8'Ø * 20'L	Steel		
Vertical Hot Water	7'Ø * 10'H	Steel	2900 gal	
Strong Acid 66°Be	10' Ø * 8.5'H	Steel		
Strong Waste Acid (3)	1-2% H_2SO_4			
Weak Waste Acid	0.1% H_2SO_4			
West & East Surge Tanks	340,000 gal	50'Ø * 20'H	C.S	
Clarifier	45,000 gal	30'Ø * 10'H		
Flocculator	7800 gal	42'L * 6'W * 5'H	CS	
Strong Waste Acid	33,000 gal	12'Ø * 40'	Altec 352	
Weak Waste Acid	19,500 gal	14.5'Ø * 16'	Bonite Polyester Fiberglass	
Lime Storage	4000 cf	12'Ø * 50'H	steel	
Slurry Tank	700 gal		steel	

002 outfall area

Primary	2800 gal	8'Ø * 13'7"H	Fiber Reinforced
Secondary	4450 gal	10'Ø * 13'7"H	Fiber Reinforced
Caustic 50%	24,400 gal	10'Ø * 40'L	C.S.
Acid 66°Be	3230 gal	7'Ø * 10'L	Steel

Blowcases are used to store various chemicals thru-out the site. Specifically Ammonium hydroxide for Ludlow

A new Power House went on-line in 1986. 3 boilers on nat gas

66° H_2SO_4	7'6" Ø * 13'L	4300 gal	
Lake Water	12' Ø * 15'H	12,550 gal	steel
Regenerate Waste Tank	12' Ø * 10.5'	H_2O softening regener. system	FRP
Soft Water @pH 10.5	22' Ø * 20'H		Coal Tar Epoxy Lined

Boiler Blowdown @ 2-3 gpm – conductivity 2000-2500 micro mhos
scale control 15 ppm EDTA
solids 40 ppm
p alkalinity 400 ppm $CaCO_3$

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE
SHEET 13 OF 16
REGION

SUBJECT: DuPont Groundwater Assessment

MEETING DATE: 12/3 - 12/5/86 LOCATION

ATTENDEES:

NOTES BY: REGION

TOPICS DISCUSSED	ACTION/NOTES

The Following information supplied by Archie Murrish, DuPont

A Sulfur pile was located in the Lurgi kiln area, but after the kiln was removed. Sulfur disposed in the NE section of the plant in the Rubble Area and near the old burner bldg.

Tanks 34, 35 & 36 used for H_2SO_4 storage

Cooler basins in the Contact and Chamber processes had H_2O falling over the contact coolers. Leaks occured that contaminated the basin & eventually the river.

Contact #2 had a Cottrell Wet Precipitator to remove dust particles before entering Contact #2 from the Trail One Roasters. The slurry was precipitated, and then went somewhere. There was also a slurry tank for the precipitator, with the slurry discharged somewhere east of the plant.

There are various buried pipelines shown on DuPont drawings on the eastern and northern portion of the site. Contain N_2, oil, and gas.

DEC 0010927

013

TOPICS DISCUSSED | ACTION/NOTES

The railroads were rebuilt often, with the dirt sent to the landfill. Don't know what ~~happend~~ happened to the ties.

Returning to info by Jerry Meyer, DuPont.

The $ZnCl_2$ bench was a crude evaporator for $ZnCl_2$ concentration

The sulfamic process has 2 pits located near the sulfamic process. Each 10,000 gal. Overflow from the pits went to OOZ. The pits were used originally for dumping of crude premix. Now they are used for neutralization of waste acids from FSA. Also have been used for acid neutralization during tank cleanings. The iron sludge from the tank cleanings went into the pit, with sludge then to landfill (which is not really permitted) or to OOZ.

Dimethyl Phthalate was used for stabilization of SO_3. It was put directly into the storage tank.

Ethylene glycol was used for heat transfer, and stored near contact #3 on the river side.

Sulfur waste had been put into a hole just south of contact 3 along the river when a landfill became full.

CCl_4 was stored in 2 tanks - supplied by tank car. Volume ~100,000 gal One tank was cleaned in 1973 or 1974, with a red sludge being removed. The sludge might have gone to the landfill.

A large old pit was found near the new powerhouse during fdn. ~~exact~~ excavation. Pit built with RR ties, but no one knows the use

Sulfamic Dept. had a large anhydrous NH_3 tank for the NH_4OH process

DEC 0010927

CH2M HILL MEETING NOTES

PROJECT NUMBER _____ SHEET 15 OF 16
NOTES ISSUED BY _____ REGION
DATE _____

SUBJECT: DuPont Groundwater Assessment

MEETING DATE: 12/3 - 12/5/86 LOCATION _____

ATTENDEES:

NOTES BY: _____ REGION

TOPICS DISCUSSED	ACTION/NOTES

Another pit existed for neutralization of HCl & HF. The pit contained limestone.

Sulfamic pits could also have been located near the Freon truck garage. Pits made of concrete and had ammate liquor. Used around 1960.

A pesticide storehouse was located near Roads "S" & between "E" & "F" just north of Storage Tank K4-5.

Paint Storage was located to the NW of the Insecticide Bldg.

Salt Cake Storage was used for product from the NaCl + H_2SO_4 reaction. Bldg had roof & 4 walls.

A small NaCl pile was located outside the Manheim Furnace Bldg.

Outside Bulk Storage
- Sulfur Piles - 1 pile near each Chambers Process, Contact #1 Contact #3
- Zinc Crude - 3 areas near $ZnCl_2$ process
- Salt
- Coal
- Fly Ash

DEC 0010927

015

TOPICS DISCUSSED	ACTION/NOTES
During the 3 days, reviewed additional files for info. This was then tagged and copied.	
Reviewed & added additional underground storage tank locations.	
Received listing of existing (date unknown) storage tanks.	

DEC 0010927

CH2M HILL MEETING NOTES

PROJECT NUMBER L 21838
NOTES ISSUED BY Carl Shank
DATE 11/10/86

SHEET 1 OF 12
GLO REGION

SUBJECT: DuPont Ground Water Assessment (DGA)

MEETING DATE: 11/5 → 11/7/86 LOCATION East Chicago, Indiana

ATTENDEES:

Carl Shank		O.J. Meyer (DuPont)	
Pixie Newman	Wed & Thurs	Art Sraders	Fri
Sadia Kissoun	Wed	Andy Horvat	Fri
		John Orban	Fri

NOTES BY: Carl Shank GLO REGION

TOPICS DISCUSSED	ACTION/NOTES

Plant History provided by O.J.

(1892 by J T Sixsmith)

Plant started in 1886 by Grasselli. Originally a sodium silicate facility. H_2SO_4 production by the chambers process. Sulfur burned in a lead lined bldg, w/ $SO_2(g)$ formed by combustion. The reaction then stopped due to lack of air. Process formed only low strength acid.

Plant then began to use the German H_2SO_4 process - Contact Process, which involved a catalyst. The plant used Vanadium Pentoxide as the catalyst prior to the plant shutdown.

Throughout the plant operation, there were 5 chamber processes, and 3 contact processes. Start up of contact processes as follows:
Contact 1 - mid 30's ; Contact 2 - 1940 ; Contact 3 - 1955.
Contact 3 was then shut down in 1984, and the bldg. is presently being torn down.

Other commercial products were made from the byproducts of the other processes. For example, salt cake (Na_2SO_4) was made by the reaction

$$2NaCl + H_2SO_4 \rightarrow 2HCl + Na_2SO_4$$

[illegible] was then used for another by product

DEC 0010926

001

TOPICS DISCUSSED | ACTION/NOTES

$$2HCl + Zn \rightarrow ZnCl_2 + H_2$$

In 1933, DuPont purchased the plant from Grasselli, and it prospered until the post-war slump of 1945.

In the early 40's, kinetic chemicals were introduced by the U.S. Gov't to produce Freon. Freon required HF & CCl_4 for reactants, and excess and cheap HCl was produced as a byproduct. With the cheap HCl, the salt cake business fell.

The East Chicago plant is the safest acid plant in the world, with the last lost day accident on May 13, 1961.

Peak employment at the facility was 550 → 600 people. Present employment is ~ 80, with an expected employment of 60 in February

Many Bldgs. existed onsite thru-out the plant's history. Bldg. demolition is indicated in the parentheses.

Glauber Salt (1940's)
Zn Roasting (Trail Ore)
Sulfide of Soda
TSP (1950's)
Nitrate of Soda
Hydrofluoric Acid (1950's)
Zn Chloride (1955, 1956)
Insecticides (early 1950's)
Ammonium Chloride (1966)
Zn Oxide (1940's)
Sodium Silicate
H_2SO_4

DEC 0010926

CH2M HILL MEETING NOTES

PROJECT NUMBER 421838
NOTES ISSUED BY CJ Shank
DATE
REGION
SHEET 3 OF 12

SUBJECT: DGA

MEETING DATE: LOCATION

ATTENDEES:

NOTES BY: REGION

TOPICS DISCUSSED	ACTION/NOTES

A USS Lead plant is located accross the street from the DuPont plant. Lead wastes were dumped in a 4' deep x 100 yd long x 25 yd (estimated) area near the Grand Calumet River. Lead contamination is now on DuPont property in the front yard of the main office bldg.

The USS lead plant started operation in 1927 (or earlier) and went out of business in 1985.

High Pb concentrations were found in the soil, air and groundwater in the vicinity of the DuPont plant. Samples were taken in 1985.

A landfill for dumping $CuSO_4$ is located onsite, but is not licensed by Indiana. The Indiana Dept. of Environmental Management knows that the dump is being operated, but is doing nothing about it.

Total site area is 440 acres, with a portion containing one of the last privately held dunes area.

TOPICS DISCUSSED | ACTION/NOTES

One process still remaining onsite is the Ludox process. Sodium silicate is reacted to form a colloidal silica containing 99% H_2O and 1% sand

In the process, an ion exchange column is used, with acids used for regeneration. Regeneration wastes were put into the river (Grand Calumet) in the past.

In 1970, the plant had 13 outfalls into the river. Today, only 002 and 003 are used. Prior to discharge, all outfalls go into 2- 300,000 gallon holding tanks. Lime is added for precipitation, polymer added for flocculation, sent to clarifier, where sludge is filtered and cake is then backfilled.

Three water systems are installed at the plant.

1. Lake
2. River
3. Fire (lake supply)

Lake Michigan water is used for city water.

A deep well (~ 90') existed at one time, but was abandoned in place. Time of abandonment is unknown.

The discharge from the plant has exceeded Zn & Fe limits.

At one time, approximately 2,000 drums of hazardous wastes were onsite. These were burned w/ county permission.

Second hand information also indicated PCB's disposed onsite from storage drums. Dump site (?) may be near Roadways 5 & D. Date of dumping not known.

DEC 0010926

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE

SHEET 5 OF 12
REGION

SUBJECT: DGA

MEETING DATE: LOCATION

ATTENDEES:

NOTES BY: REGION

TOPICS DISCUSSED	ACTION/NOTES

The existing landfill is built over earlier wastes, junk, drums, pipe, $CaSO_4$, paper and anything else the put onsite.

Foundations from old demolished buildings exist all over the site.

Around 1975, the plant stopped dumping paper and burning paper onsite.

An EPA well on the north east end of the site detected phenols in the groundwater. These were evidently dumped by a railroad creosote company.

Boiler slag, bottom ash, fly ash, bricks, junk and who knows what else are dumped on the north area. Coal was burned at the site for 40-50 years, and stopped in 1968.

An HCl dump pit, boiler blow down pond, and an Antimony trichloride settling basin are also onsite.

Wastes water produced in the Ag. Chem process were shipped to Bell, WV for incineration.
Wastes (solid) were shipped to CID in Chicago

DEC 0010326

005

TOPICS DISCUSSED | ACTION/NOTES

The sanitary inflow to the POTW is ~ 50 gpm

Various herbicides were produced onsite:

- Velpar
- Hexazinone
- Lorox
- Linuron
- Siduron
- Tysol
- Tupersan

Other products were:

- CSA (Chloro Sulfonic Acid)
- HCl
- H_2SO_4
- HF
- $ZnCl_2$
- $ZnNH_3Cl$
- Al_2Cl_3
- Sulfamic Acid
- Zn cinder
- Freon 11
- Freon 12
- TSP
- Estersil (esterified silica)
- Ludox

For estersil – 3% [illegible] butanol → estersil

DEC 0010926

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE
REGION
SHEET 7 OF 12

SUBJECT: DGA

MEETING DATE:
LOCATION

ATTENDEES:

NOTES BY:
REGION

TOPICS DISCUSSED	ACTION/NOTES

Underground storage tanks were onsite, but removed now.

Freon area - gas 1500 → 3000 gal
Store room area - gas ~ 3,000 gal
Contract 2 Fuel Oil ~ 3,000 gal
Contract 3 Fuel Oil ~ 9,000 gal
Roaster Fuel Oil

Tanks were used once per year, with measurements taken every hour. Also beginning and ending measurements taken. Records were destroyed, so leakage background data not available.

A 3,000 gal underground gas tank is located at the gate house.

The settling basin at Roadways S&F was used to treat $SbCl_3$, which was a byproduct of the Freon system. The waste was treated with NaOH to precipitate the Antimony oxy chloride.

The cooling tower blowdown lagoon had ~ 5 lb/day of Chrome tossed into it to control the water every day when the system was operating.

TOPICS DISCUSSED | ACTION/NOTES

The following, is information regarding the herbicides produced at the plant

Siduron, Linuron and Benamy were the active ingredients in the formulations. For the three compounds, isocyanates and amines were reacted to form the products.

Linuron - dichlorophenylisocyanate. Chemical arrived @ site as a solid in drums. Stored in heated tunnel to liquify. Pumped the DCPI to a weigh tank, then to reactor. The weigh tanks and reactors still exist.

Siduron Phenyl isocyanate. Reacted in hexane medium

Formulation	Active Ingredient
Tupersan	Siduron
Lorox	Linuron
Benlate	Benamyl

The formulations also used sugars, clays, dispersing agents, wetting agents as additives to get the formulations.

The isocyanates were used with caution to keep the reagents in their containers. Arm does not recall any spills of the chemicals.

For Benamyl, Methyl Ethyl Ketone was used. It arrived @ the site in a tank car (which was used for storage) near the Ag Chem Bldg.

Butyl Isocyanate came in tank trucks and was unloaded into a tank car to be used for storage.

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE

SHEET 9 OF 12
REGION

SUBJECT: DGA

MEETING DATE: LOCATION

ATTENDEES:

NOTES BY: REGION

TOPICS DISCUSSED	ACTION/NOTES

MEK was recovered by refrigerated condensers before steam ejectors.
From operating manual:

BI	2400 lb/day	
MBC	4600 lb/day	
MEK	700 lb/day	recharge
	~ 95 lb/day of 700 lb/day lost to atmosphere	

The system was operated for 2-3 years from ~1968 - 1971
Arn does not remember if the system operated continuously.

The following information details history @ the site concerning the maintenance.

When repairs for the $ZnCl_2$ pumps were required, liquid would be dumped to the ground.

An onsite coal pile had no runoff control. Runoff would soak into the ground.

When tank overflows occurred @ Contact 3, the area would be washed down, and limestone spread over the site.

DEC 0010926

TOPICS DISCUSSED | ACTION/NOTES

At the Zn roasters, the Zn cinders were deposited onto the ground and then loaded into hopper cars. If the Zn roaster had operational problems, brown dust would be emitted.

In the sulfamic acid plant, there were not any holding pits prior to the installation of the process sewers. He feels (Andy) that the ~~bldg~~ bldg trenches could have leaked.
After a time, the company installed process sewers, and then the sulfamic plant had its own holding pit. It was used to feed spills to the treatment facility to prevent NH_3 upsets.

Each maintenance shop had its own oil & solvent storage

- Sulfamic
- Contact
- Silica
- Power House
- Freon
- Ag Chem
- $ZnCl_2$
- Central Shops

Also stored paints and thinners in each location.

Andy also recalls a central location for solvent drum storage to the NE of the central shops.

For years, the spent solvents were dumped on the ground. Then in the late 60's or early 70's, the company prohibited this type of dumping. They ~~can~~ have also used "Viking" solvents for cleaning tools.

CH2M HILL MEETING NOTES

PROJECT NUMBER
NOTES ISSUED BY
DATE
REGION
SHEET 11 OF 12

SUBJECT: DGA

MEETING DATE:
LOCATION

ATTENDEES:

NOTES BY:
REGION

TOPICS DISCUSSED	ACTION/NOTES

Formaldehyde has been used onsite, and used in the Ludox process. The formaldehyde was shipped in drums and stored in the Barrel House. Very small quantities were used in the process

Sodium ~~[illegible]~~ Metasilicate was made in the Ludox Bldg. It was made before 1970, but is no longer made.

Hydrogen Peroxide came in tank cars from Memphis, and was used in the SO_2 scrubber.

Dowical was used as a stabilizer in the Ludox process

Hexachlorphene was a biocide in the Ludox process

A large ~~[illegible]~~ anhydrous ammonia storage tank was located at the sulfamic acid plant.

Ammonium hydroxide was made in the Reagents Dept (FSA area)

Sodium Thiosulfate Plant was shut down in 1958. Process operated from 1930 to 1958

REVISED 011

DEC 0010926

TOPICS DISCUSSED | ACTION/NOTES

Lead Arsenate was produced at the plant, but specific details are not available. It was made in the area of the "bag house"

EPN - an insecticide was also made. This is a highly toxic & hazardous chemical. It was Ethyl paranitrophenyl thionobenzene phosphate

Estersil was used for oil to make grease. Also used to make gum rubber stronger.

Adhesives were also made onsite. Personnel think they were No 78 & No 60 (?). Production stopped around 1956.

Process Flow Sheets for the following were provided:

Freons
Al_2Cl_3
Zinc Ammonium Chloride
$ZnCl_2$
Sulfamic Acid
Crystal Sulfamic Acid
SO_3 (l)
Chloro Sulfonic Acid (CSA)
Benomyl
Ludox - Upflow & Consol Processes
Sodium Silicate
Fluoro Sulfonic Acid (FSA)

Flue dust from the Ludox process contains sand, soda ash, and ~1% Cr^{+6}
Dupont ships 10 drums every 2-3 years as a hazardous waste to Deepwater NJ
The Cr^{+6} is from the furnace bricks, which are replaced as needed w/ basic Cr bricks

ATTACHMENT

(D. J. Willette, " "
(File: TAB 12.3

14

Manual of Technology

July 28, 1972

Mr. Dennis T. Karas, Director
Department of Air Quality Control
City Hall
East Chicago, Indiana 46312

Dear Mr. Karas:

We request an open burning permit to dispose of a quantity of liquid organic waste at our East Chicago Plant. This waste is a by-product of an operation that is no longer located in East Chicago. We have stored this waste for about two years while trying to find another suitable method of disposal which would not create a more serious pollution problem. We have been unsuccessful in finding such a method and therefore have concluded that open burning is the only acceptable solution.

About 1000 drums, 55 gallon capacity, containing methyl ethyl ketone and an organic sludge will be disposed of. The burning will take place in small lots at our dump site on the east end of the plant. A hole will be dug and about 10 drums placed into the hole and the contents ignited. After burning, the drums will be inspected for completeness of combustion and the drums removed to scrap. The location of the burning site is such that it is not a hazard to buildings or equipment. The products of combustion are carbon dioxide and water vapor. Burning will be scheduled only when the wind direction is favorable so that no highway or residential area is affected. We have tested this method and have found that the material burns with a clean flame with little or no dark smoke or particulate, and no odor.

We request this permit for a period of one year but hope to complete disposal in two months.

J. T. Simsmith
Environmental Control
Coordinator

E. I. du Pont de Nemours & Co.
5215 Kennedy Avenue
East Chicago, Indiana 46312
398-2040

JTS:crc

001

DEC 0010152

cc: C. C. Quarles

DU PONT
ESTABLISHED 1802
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

INDUSTRIAL CHEMICALS DEPARTMENT

20130

RECEIVED
JUN 14 1976
REAL ESTATE DIVISION

June 7, 1976

TO: C. L. SUPLEE, JR.
REAL ESTATE DIV.
GENERAL SERVICES DEPT.
WILMINGTON

FROM: W. H. MC COY
ICD
WILMINGTON

EAST CHICAGO PLANT PROPERTY

You inquired whether we had any knowledge of the use of the eastern 65 acre section in Real Estate's hands as a dumping site. The attached map defines the general area of known dumping sites. It is based primarily on memory as such areas were seldom well-defined. We can't be sure but it is doubtful that the 65 acres in your hands was ever used as a dumping site for anything other than perhaps some fly ash. That area though does receive some surface run-off from the western section of the plant. For that reason as well as a number of others, the disposition of that land will remain of considerable concern to us. Accordingly, please keep us posted on any and all interests anyone might have in it. We can think of many uses that would be detrimental to us and also a few that wouldn't harm us at all.

WHMc:dhg
Attachment

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

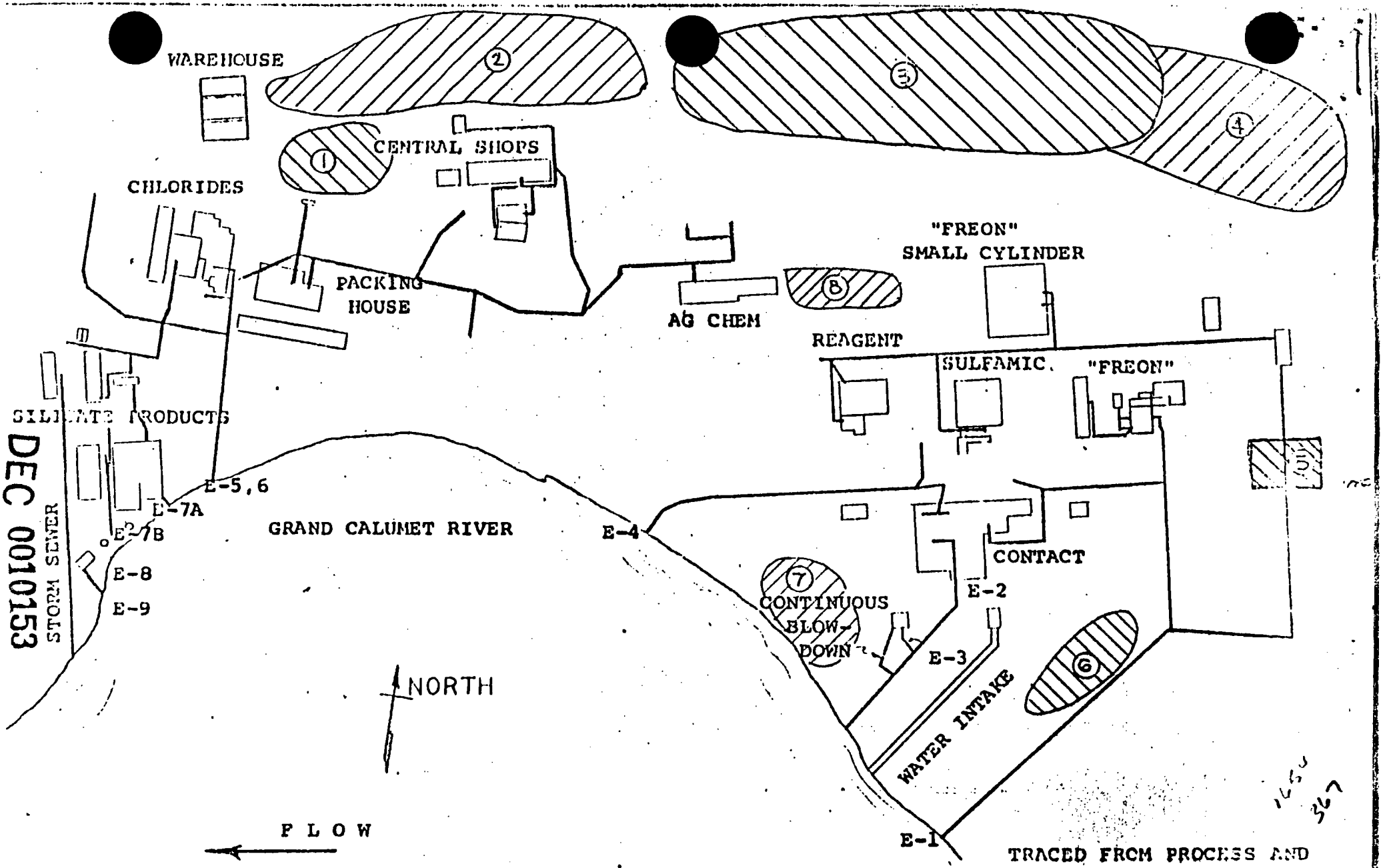
East Chicago, Indiana
June 16, 1971

CHEMICAL DISPOSAL AREAS - EAST CHICAGO

LEGEND

Area 1	Chloride Department wastes including zinc, aluminum and ammonium chlorides
Area 2	Chain grate stoker ash
Area 3	Calcium sulfate
Area 4	General dump area for miscellaneous chemicals, including some sulfur and filter aid
Area 5	Hydrochloric acid neutralizing pit including some fluorides
Area 6	Zinc sinters from roasters, sulfur and sulfur filter aid
Area 7	Fly ash from old powerhouse
Area 8	Insecticide Department by-products including calcium, lead and arsenic

JTS:lcs



DEC 0010153

003

- CHEMICAL DISPOSAL AREAS
(SEE ATTACHED LEGEND)

TRACED FROM PROCESS AND STORM SEWER MAP 3888

E.I.du Pont de Nemours & Co
East Chicago, Indiana

SCALE: 1" = 400'

ATTACHMENT E

E. I. DU PONT DE NEMOURS & COMPAN
INCORPORATED
EAST CHICAGO, INDIANA 46312

INDUSTRIAL CHEMICALS DEPARTMENT

July 20, 1973

Mr. Oral H. Hert, Technical Secretary
Stream Pollution Control Board
1330 W. Michigan Street
Indianapolis, Indiana 46207

Dear Mr. Hert:

As we previously informed you in our letter of February 2, 1973, the Du Pont Company's East Chicago plant is proceeding on a water pollution abatement program in line with a consent decree signed November 14, 1972, resolving a pollution action by the Federal Government. We submitted an application for preliminary approval of these plans to the Stream Pollution Control Board and received Board approval on February 20, 1973. These plans included projects for outfall consolidation with facilities for pH control and limitation of effluent discharges with landfilling of removed solids.

Now we are requesting final approval of this application by the Stream Pollution Control Board as required by the Board so that we can proceed with the completion of the abatement facilities. The planned startup of the various elements is governed by the timing specified in the court decree with overall completion by October 15, 1974.

We have attached a description of the various projects including flowsheets and abatement facilities. Design is now final. We have indicated those facilities which have been changed from the preliminary design by "Rev. 6/73" at the bottom of the sheets. Those which do not have this designation are the same as submitted in February.

Please do not hesitate to contact us if you have any questions or need additional information.

Yours truly,

J. T. Sixsmith
Environmental Control
Coordinator

JTS:lcs
Attachments

Manual of Technology

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Proposed Landfill

E. I. DuPont DeNemours & Company, Inc.

East Chicago Plant

The following outlines our proposal to construct and operate a landfill at the East Chicago, Indiana Plant of E. I. DuPont DeNemours & Company, Inc., located at 5215 Kennedy Avenue.

Characteristics of Proposed Landfill Area

The proposed landfill area, as shown on the attached map and photograph, is on the site formerly used to landfill calcium sulfate residues from a former sodium phosphate operation. The approximate soil profile in this area is (1) calcium sulfate to a depth of 7 ft below grade level (2) fine sand to a depth of 30 ft and (3) a gray clay base to about 150 ft. The water table is about 11 ft below grade level.

Method of Construction and Operation of the Landfill Area

Approximately 7 acres will be required during the first 5 years of operation. The landfill area will be diked as necessary to avoid fill material reaching adjacent areas not now containing calcium sulfate. The waste will be collected in portable containers which will be transported to the landfill area and deposited on the existing calcium sulfate. The area will be filled and allowed to compact to a final height of about 6 ft above present grade level. Approximately one

DEC 0010154

acre will be worked at a time, then allowed to dry and compact while a different area is worked. When the final height of 6 ft is reached, the area will be covered with dirt.

Landfill Materials-Composition (Best Estimates Based on Laboratory Data.)

Total volume of wastes is 360,000 cubic feet or 8 acre-ft per year of following composition:

	%	Quantity lb/day
H_2O	52.2	30,000
$CaSO_4 \cdot 2H_2O$	31.3	18,000
SiO_2	6.3	3,600
$Ca(OH)_2$	2.4	1,400
CaF_2	5.6	3,200
Na_2SO_4	1.0	540
Al_2O_3) Fe_2O_3)	.2	120
Cellulose	.3	160
$NH_4SO_3NH_2$	.2	100
$AlCl_3 \cdot 6H_2O$	< .1	10
NaCl	.1	50
Na, as Na_2O (ex silicate)	.4	220
Misc. acid & water insolubles	< .1	12
Heavy metals	< .02	8
	100	57,420 or Approximatel 57,000

Rev. 6/73

PROPOSED

ENVIRONMENTAL CONTROL PROJECTS

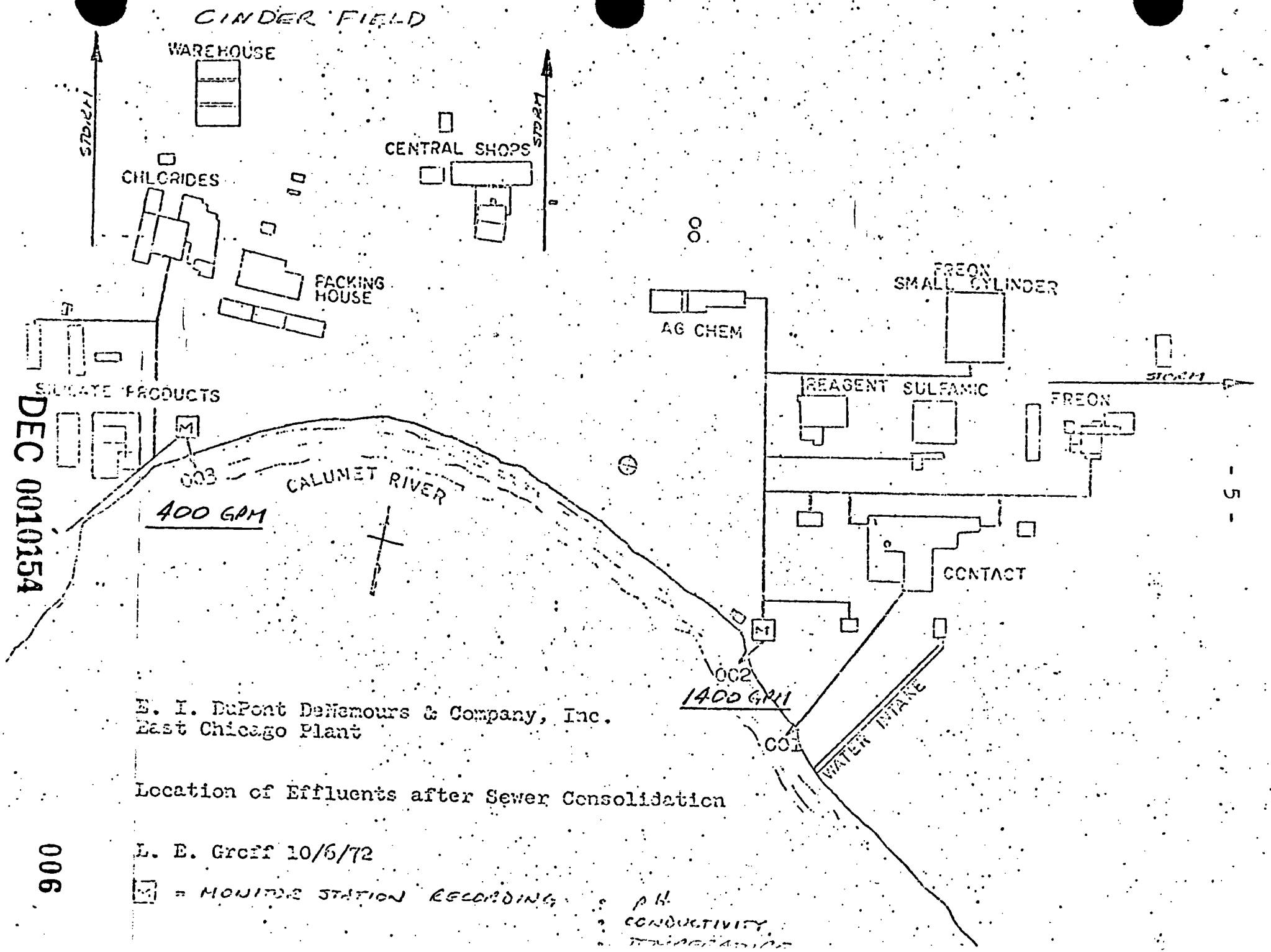
E. I. DU PONT DE NEMOURS & CO., INC.

EAST CHICAGO PLANT

- Sewer consolidation
- Calcium fluoride precipitation
- Effluent pH control - East outfall (002)
- Suspended solids reduction and pH control - West outfall (003)
- Ammate® (ammonium sulfamate) dry cake filter
- Ludox® (colloidal silica) lime precipitation

- Sewer Consolidation

The objective is to reduce the number of process outfalls from the plant. Upon completion, the plant will have one non-contact cooling water discharge (001), and two process outfalls (002 and 003).



E. I. DuPont DeNemours & Company, Inc.
East Chicago Plant

Location of Effluents after Sewer Consolidation

L. E. Greif 10/6/72

DEC 0010154

006

DESCRIPTION OF PROPOSED FACILITIES

The new sewer system will be constructed primarily of vitrified clay pipe. Joints will be sealed with premolded polyurethane gaskets. Some PVC (polyvinyl chloride) pipe will be used in the "Freon" Products area. The outfall pipes will be made of Flextran® glass fiber-polyester materials. Piping specifications state that infiltration or exfiltration must not exceed 50 gallons per inch of pipe diameter per mile of sewer per day.

A 10,000 gallon capacity basin will be provided for the sulfamic acid area for emergency spill containment.

All existing outfalls will be removed a minimum of ten feet from the river and the sewer pipe will be plugged. The existing sewer system which presently carries process and storm water will then be isolated from the new process sewers. The existing sewers will be used to direct most of the storm water run-off to vacant areas on the plant site. The existing sewers will carry storm water from the center and west end of the plant to the cinder field north of the warehouse and central shops (see attached map). At each of these points, water will be discharged to a new 200 ft. trench dug five feet below ground level. Storm water will disperse in the porous cinder field. Storm water from the east end of the plant will flow through the existing sewers to an existing settling pit from which it will overflow into the low sandy area east of "Freon" Products and soak into the sandy soil.

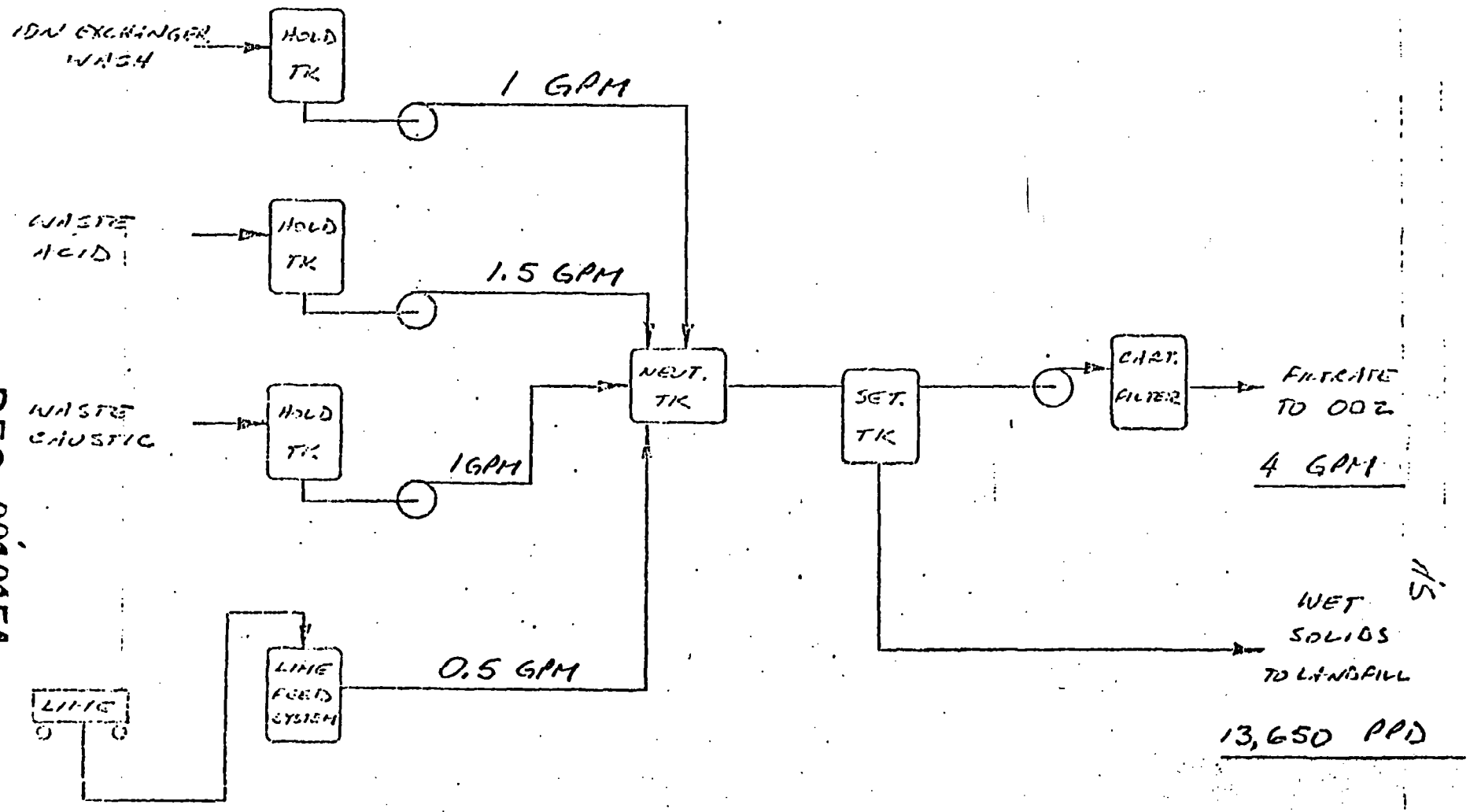
Assuming a heavy storm (5 inches/hour, 10 minutes duration, one occurrence in 10 years), the estimated storm water flows are as follows:

- north of warehouse - 7500 gpm
- north of central shops - 7200 gpm
- east of "Freon" Products - 3300 gpm

These flows will not exceed the reservoir capacity of the receiving areas.

- <u>Calcium Fluoride Precipitation</u>

  Fluoride-bearing liquid wastes will be treated with lime to precipitate CaF_2. Solids will be separated and removed to the landfill. Neutralized liquid will be discharged to consolidated process sewer.



CALCIUM FLUORIDE PRECIPITATION

DEC 0010154

009

DESCRIPTION OF PROPOSED EQUIPMENT

Waste Acid Hold Tank

This will be a new 2200 gallon tank made of materials resistant to 0 - 5% HF solutions.

Waste Caustic Hold Tank

New 3500 gallon carbon steel tank.

Ion Exchanger Wash Tank

New 7200 gallon tank similar in design to the waste acid hold tank.

Lime Feed System

Powdered lime will be slurried in water and added at a controlled rate to the neutralization reactor. New 35,000 gallon agitated carbon steel tank will slurry dry bulk lime upon delivery.

Neutralization Tank

This will be a new 1500 gallon reactor for precipitation of CaF_2.

Settling Tank

New tank, 46,000 gallon carbon steel, with a sloped bottom for ease of removing accumulated solids.

Cartridge Filter

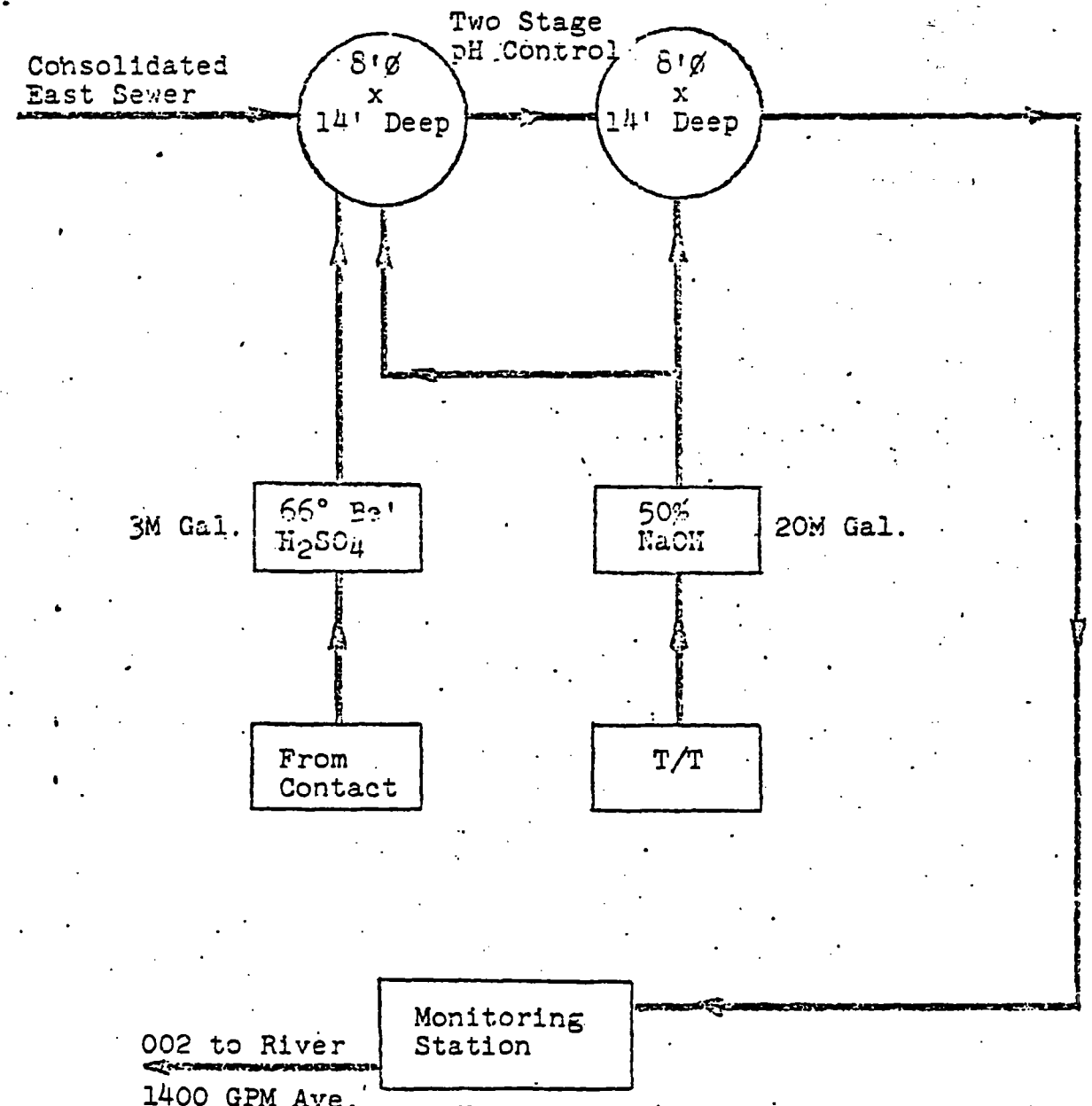
Two cartridge-type filters will be installed in parallel downstream of the settling tank to clarify the supernate before discharging it to the sewer.

- EFFLUENT pH CONTROL - EAST OUTFALL (002)

Sulfuric acid or sodium hydroxide will be added to the consolidated process sewer as necessary to prevent discharges during any one-hour period from having an average pH below 6.5 or above 9.0.

Rev. 6/73

pH CONTROL - 002 OUTFALL



- Flow
- pH
- Conductivity
- Temperature
- Continuous Flow Proportional Sampling

DESCRIPTION OF PROPOSED EQUIPMENT

002 Fresh Sulfuric Acid Storage Tank

A new 3000 gallon tank for storage of 66°Be' (93.19%) sulfuric ac

002 Caustic Storage Tank

A new 20,000 gallon tank for storage of 50% sodium hydroxide.

002 pH Control System

Two new neutralization tanks will be installed for mixing caustic or acid with the effluent. The pH will be adjusted to 4 in the first tank and to 6.5-9 in the second tank.

002 Monitor Station

A concrete pit in the sewer equipped with instrumentation for continuous recording of

- pH
- conductivity
- temperature
- flow rate.

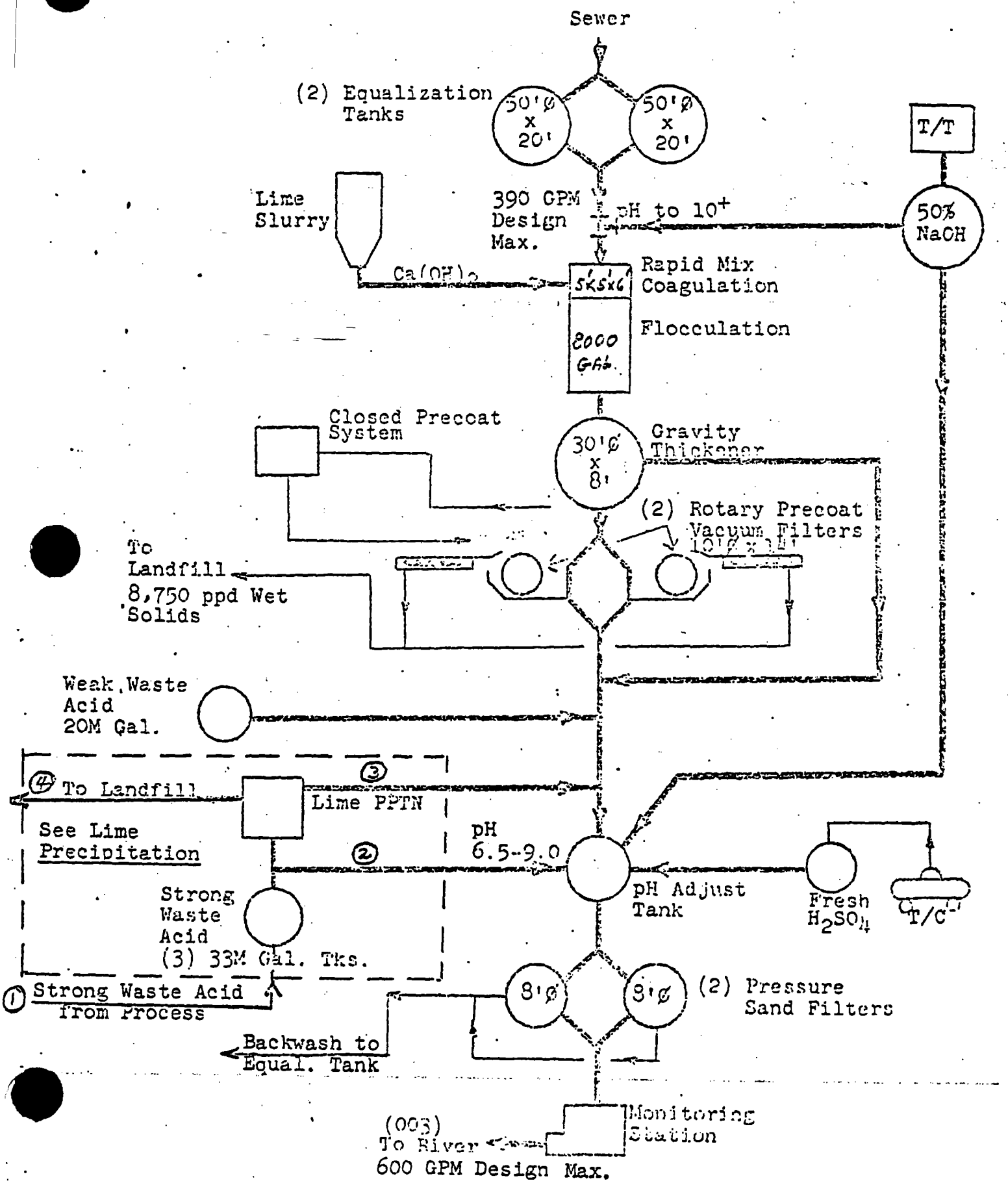
Monitor pit will also contain a device for continuous flow-proportioned sampling of 002 effluent.

- SUSPENDED SOLIDS REDUCTION AND pH CONTROL - WEST OUTFALL (003)

The consolidated 003 sewer stream will be process through pH adjustment, flocculation, thickening and filtration to remove suspended solids from it prior to final pH adjustment and discharge into the river. No discharge during any one-hour period will have an average pH below 6.5 or above 9.0.

Rev. 6/73

Consolidated West Sewer



DESCRIPTION OF PROPOSED EQUIPMENT

EQUALIZATION TANKS

Two new surge tanks, each 50 ft. dia. x 20 ft. high. Total volume 600,000 gallons.

pH ADJUSTMENT

Pipeline mixing to raise pH to above 10.

COAGULATOR

A new rectangular agitated tank, 5 ft. x 5 ft. x 6 ft. Used for mixing sewer flow with lime slurry.

FLOCCULATOR

Slowly agitated rectangular tank with a volume of 8000 gallons. New.

GRAVITY THICKENER

New tank, 30 ft. dia. x 8 ft. high. Equipped with a stirrer and sludge removal facilities.

ROTARY PRECOAT VACUUM FILTERS

Two new filters, each 10 ft. dia. x 14 ft. long. Equipped with a closed precoat system which recycles precoat filtrate. Conveyors will be provided to remove filter cake.

003 pH CONTROL SYSTEM

A new 1,500 gallon tank with agitator and baffles for continuous pH adjustment of the sewer stream.

003 FRESH SULFURIC ACID STORAGE TANK

An existing 4700 gal. tank used for storage of 66°Be' (93.19%) sulfuric acid.

003 SODIUM HYDROXIDE STORAGE TANK

An existing 30,000 gal. tank for storage of 50% sodium hydroxide.

LIME PRECIPITATION

(See separate write-up: "Ludox" Lime Precipitation).

WEAK WASTE ACID SURGE TANK

Existing tank, polyester fiberglass construction, 20,000 gallons.

003 SAND FILTERS

Two new pressure sand filters, each 8 feet in diameter x 16 feet high.

003 MONITOR STATION

A concrete pit in the sewer equipped with instrumentation for continuous recording of:

- pH
- conductivity
- temperature
- flow rate

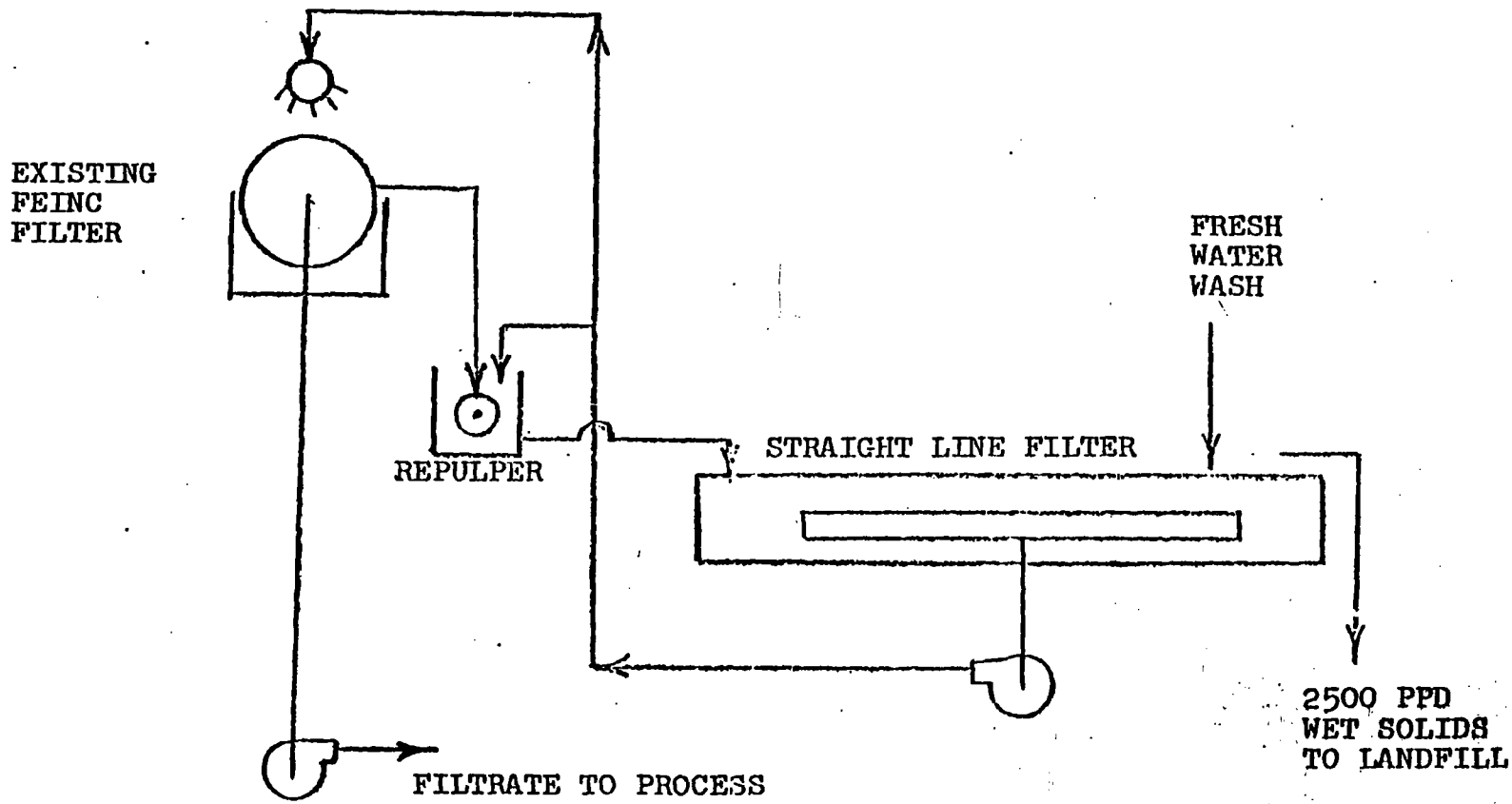
Monitor pit will also contain a device for continuous flow-proportioned sampling of 003 effluent.

Rev. 6/73

- "AMMATE" (AMMONIUM SULFAMATE) DRY CAKE FILTER

Filter cake from the existing filter will be repulped and refiltered to reduce soluble materials. The filtrate will be recycled to the process and solids will be taken to the landfill.

AMMATE® (AMMONIUM SULFAMATE) DRY CAKE FILTER



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REV. 6/73

DESCRIPTION OF PROPOSED EQUIPMENT

FEINC FILTER

Existing rotary vacuum filter, 5 ft. dia. x 5 ft. long. Manufactured by FEINC. Modified by the addition of a 1 ft. x 7 1/2 ft. repulper manufactured by Ametek, Inc.

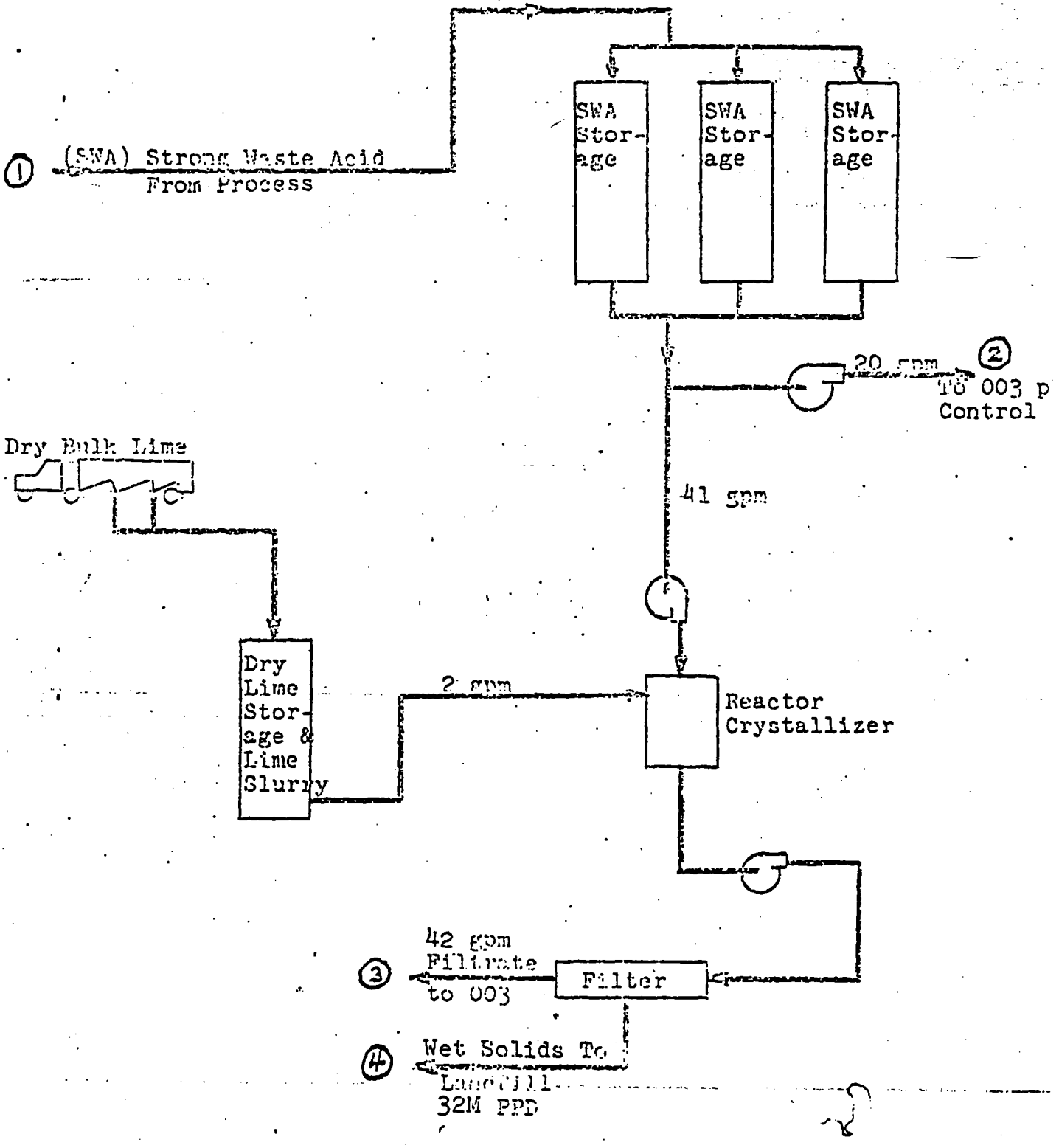
STRAIGHT LINE FILTER

A new 2 ft. wide x 7 ft. long horizontal belt vacuum filter, manufactured by Straight Line Filters, Inc., complete with a Siemens, liquid-ring vacuum pump, three stainless steel receivers and three Durco filtrate pumps.

- <u>Ludox® (Colloidal Silica) Lime Precipitation</u>

  Dilute waste sulfuric acid from Ludox® ion exchangers will be treated with lime to precipitate calcium sulfate. Calcium sulfate slurry will be filtered and solids taken to the landfill, thus reducing sulfate discharges to the river.

LIME PRECIPITATION OF "LUDOX" WASTE ACID



Rev. 6/73

Streams 1 — 4 are shown on West End (003) pH and Suspended Solids Control Flow Diagram.

DEC 0010154

DESCRIPTION OF PROPOSED EQUIPMENT

Strong Waste Acid Storage Tank

Three new 33,000 gallon storage tanks for dilute sulfuric acid service. Tanks to be made of acid resistant glass fiber reinforced polyester.

"Portube" - Package Lime Storage and Slurrying Unit

New 12' dia. 55' high unit for storing 50 tons of lime and producing a 35% milk-of-lime slurry on demand.

Neutralizer - Crystallizer

A new 15,000 gallon agitated vessel with automatic feed controls for continuous neutralization of waste acid.

Calcium Sulfate Filter

A new continuous rotary vacuum filter for dry cake discharge of calcium sulfate.

Rev. 6/73

G-48-A REV. 5-68 E-P-530E Attachment D ENGINEERING DU PONT COMPUTATION SHEET TOC-20 SHEET NO.

TITLE OF PROJ. OR STUDY PROJ. OR STUDY NO.

SUBJECT "Freon" MC, East Chicago WORKS

COMPUTER RFH DATE 5/3/71 19

Hydrochloric Acid Ditchings

1001 30

Year	M lbs HCl 100%	M lbs Cl^-
1965	2500	2430
1966	0	0
1967	4700	4570
1968	660	640
1969	800	780
1970	1650	1610
1971 (to date)	0	0
Total	10,310	10,030

M = 1000 LBS

E-P-530D

DON'T SAY IT—*WRITE IT*

100130

To Nancy Engle Location

From Sixsmith Location Phone No.

Subject Waste Chlorothene NU Date 12/17/80

Attached are labels for the spent + virgin 1,1,1 trichloroethane. The waste should be put into good 55 gallon steel drums and one of these labels attached to each drum. The drums should be stored either at Agchem or reagents since these are the approved waste storage areas. Call me when you're ready + I'll show you —

Thanks

G-88 REV. 10-62 SAFETY IS A LIFETIME CONTRACT—DON'T CANCEL IT

001

DEC 0010156

1989 WASTE DISPOSAL REQUIRING VICE PRESIDENT APPROVAL

INDUSTRIAL CHEMICALS

EAST CHICAGO

Flue Dust and Contaminated Rubble from Furnace (Landfill)	10	Du Pont Approved Facility	No change.
Total	10	(Furnace is rebuilt every 4 years; waste on alternate years - 2 tons.)	

☆

001

DEC 0010157

90220

cc: E. F. Hartstein

October 26, 1990

TO: Norm Bell

FROM: O. J. Meyer OJM 10/26

RCRA
Furnace

LANDFILLING W

East Chicago will continue to land on site as is our current practice. We expect to hav n of furnace flu dust during routine furnace clean o the next furnace rebuild (currently anticipated 3rdQ/1991.

Filter Cake 50,000,000 lb/yr
Approx. 25M cu yds.

Flue Dust 5,000 lbs over next 2 years dropping to 0 after furnace rebuild.

The filter cake is non hazardous and we currently have an application for permit pending with The State of Indiana to continue on site landfilling. Flue dust is a hazardous waste due to presence of $CR^{+}6$. A program is actively underway to eliminate this waste by substitution of non-chrome bricks during furnace rebuilds.

☆

001

DEC 0010158

90280

cc: F. Knowles, Jr., ICD, Wilmington
(V. G. Koppin, " East Chicago
(D. V. Luebke, " " "
W. C. Patterson, " " "
M. Z. Zatorski, " " "
W. S. Randle, " " "
C. A. Cremeans, " " "
M. P. O'Brien, " " "
~~(J. A. Kremer,~~ " " "
(File: TAC-12.7
R. W. Wheatley, " " "
J. T. Sixsmith, " " "

East Chicago, Indiana

June 24, 1976

To: W. Laud

From: T. Valenti

SOLID WASTE DISPOSAL

Attached is an addendum to page 4 of the scope of work issued on June 17, 1976.

This is to cover the possibility that waste solids may become too wet to haul over-the-road and should be hauled to the plant landfill. Separate price schedules will have to be established for this case.

T.J.V.

TJV/sjc

Attachment

DEC 0010161

V. Design Basis

- Conditions to be used in specifying number of containers required:

SOURCE	QUANTITY AVE.	QUANTITY MAX.
1. Environmental Control-Precoat Filters	20 cu.yd/day	40 cu.yd/day
2. Environmental Control-Hardtac	4	8
3. Sulfamic-Straight Line	3 3/4*	7 1/2*
Total	27 3/4 cu.yd/day	55 1/2 cu.yd/day

Based on a volume produced over a weekend,

$$\frac{3(55.5 \text{ cu.yd/day})}{20 \text{ cu.yd/day}} = 8 \frac{\text{Trays}}{\text{Weekend}}$$

four trays will be necessary to keep our labor continuously occupied from start to finish of the job. Per unit price should be included in the contract covering costs for 3, 4, and 5 containers.

- For emergency backup in case of break in service from the hauler or some other occurence beyond our control, a four month emergency backup landfill volume must be available on the plant.

- Material tends to stick in existing plant equipment. Waste hauler must weigh in and out on the plant scale.

- Contractor to haul to on-plant landfill as determined by DuPont in case of materials being too wet to transport over-the-road. Separate price schedule to be charged for this case.

* The Sulfamic gypsum producing operation will shut down between 12/76 and 6/77.

Proposed Landfill

E. I. DuPont DeNemours & Company, Inc.

East Chicago Plant

The following outlines our proposal to construct and operate a landfill at the East Chicago, Indiana Plant of E. I. DuPont DeNemours & Company, Inc., located at 5215 Kennedy Avenue.

Characteristics of Proposed Landfill Area

The proposed landfill area, as shown on the attached map and photograph, is on the site formerly used to landfill calcium sulfate residues from a former sodium phosphate operation. The approximate soil profile in this area is (1) calcium sulfate to a depth of 7 ft below grade level (2) fine sand to a depth of 30 ft and (3) a gray clay base to about 150 ft. The water table is about 11 ft below grade level.

Method of Construction and Operation of the Landfill Area

Approximately 7 acres will be required during the first 5 years of operation. The landfill area will be diked as necessary to avoid fill material reaching adjacent areas not now containing calcium sulfate. The waste will be collected in portable containers which will be transported to the landfill area and deposited on the existing calcium sulfate. The area will be filled and allowed to compact to a final height of about 6 ft above present grade level. Approximately on-

acre will be worked at a time, then allowed to dry and compact while a different area is worked. When the final height of 6 ft is reached, the area will be covered with dirt.

Landfill Materials-Composition (Best Estimates Based on Laboratory Data.)

Total volume of wastes is 360,000 cubic feet or 8 acre-ft per year of following composition:

	%	Quantity lb/day
H_2O	52.2	30,000
$CaSO_4 \cdot 2H_2O$	31.3	18,000
SiO_2	6.3	3,600
$Ca(OH)_2$	2.4	1,400
CaF_2	5.6	3,200
Na_2SO_4	1.0	540
Al_2O_3) Fe_2O_3)	.2	120
Cellulose	.3	160
$NH_4SO_3NH_2$	.2	100
$AlCl_3 \cdot 6H_2O$	< .1	10
NaCl	.1	50
Na, as Na_2O (ex silicate)	.4	220
Misc. acid & water insolubles	< .1	12
Heavy metals	< .02	8
	100	57,420 or Approximately 57,000

Rev. 6/73

DEC 0010161

CH-1046 REV. 11/80

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

90180

cc: R. M. Salemi, C&P, Wilm.
R. W. Porter, " ,E.Chgo
S. M. Birkel, ' ,E.Chgo.
File

October 15, 1985

George E. Oliver
Division of Land Pollution Control
Indiana State Board of Health
5500 West Bradbury Avenue
Indianapolis, Indiana

WASTE CHARACTERIZATION OF NPDES SLUDGE

As the result of a 1972 consent degree and the resultant NPDES Permit, our plant generates a $CaSO_4$ sludge which we landfill. The following information is relative to the constituents of the sludge and the process by which it is created.

PRINCIPLE COMMERCIAL PRODUCTS OF PLANT

We manufacture and sell Sodium Silicate Solutions in several grades, and "Ludox" Collodial Silica also in several grades. Sodium Silicate Solution is also a raw material for the production of "Ludox". The sludge that is generated is a result of the "Ludox" process.

STEPS LEADING TO THE GENERATION OF LANDFILL SLUDGE

One of the steps in the production of "Ludox" involves the use of an ion exchange resin. When the resin is removed from the process stream it is placed into a holding tank. The resin must be regenerated before it can be used again in the "Ludox" process. The resin particles are coated with some "Ludox" solution. This as well as the acid streams used to regenerate the resin ends up in the process sewer which is treated in our Environmental Control Facility (EVC), which is the point of generation of the sludge.

Resin regeneration is a simple process with the usual steps of backwash, acidification in 2 steps and 2 concentrations, followed by a rinse. Sulfuric acid is used as the regenerant. The dilute waste sulfuric acid then which results from the "Ludox" ion exchangers is treated with lime to precipitate calcium sulfate. The calcium sulfate slurry is filtered and is the sludge that is landfilled.

DEC 0010162

Calcium Sulfate is not alwasy easily filtered so several stages are required to allow filtration. A simple flow sheet is shown as Figure 1 (attached). The steps are described on Fig.1.

Another stream that is treated in EVC is created by the process vessel washouts at the end of each batch. The raw "Ludox" product is displaced by water from the process vessel at the end of each batch. When the "Ludox" is out of the tank the water remaining contains some "Ludox". This stream is flushed to the process sewer and is subsequently treated in EVC and the SiO_2 content filtered out as sludge.

BASIC RAW MATERIALS

Sodium Silicate Manufacture
- o Silica Sand (SiO_2)
- o 50% Caustic ($NaOH$)
- o Soda Ash ($NaCO_3$)

"Ludox" Manufacture
- o Sodium Silicate Solution
- o Sulfuric Acid
- o Caustic

FILTRATION STEPS

- o Solka Floc BW 40 (cellulose)
- o Celite 545 Filter aid (SiO_2)
- o Hyflow Super Cel (40% SiO_2, 4% Al_2O_3)
- o Celathon FW 114 Diatomateous Silica
- o Hydrated Lime

SUGGESTED SAMPLING PLAN FOR SLUDGE

The "Ludox" process is continuous 24 hours per day, 7 days per week. Therefore, our EVC operation is also continuous. The sludge accumulates over a 24 hour period in a sludge bunker and is hauled away during daylight hours.

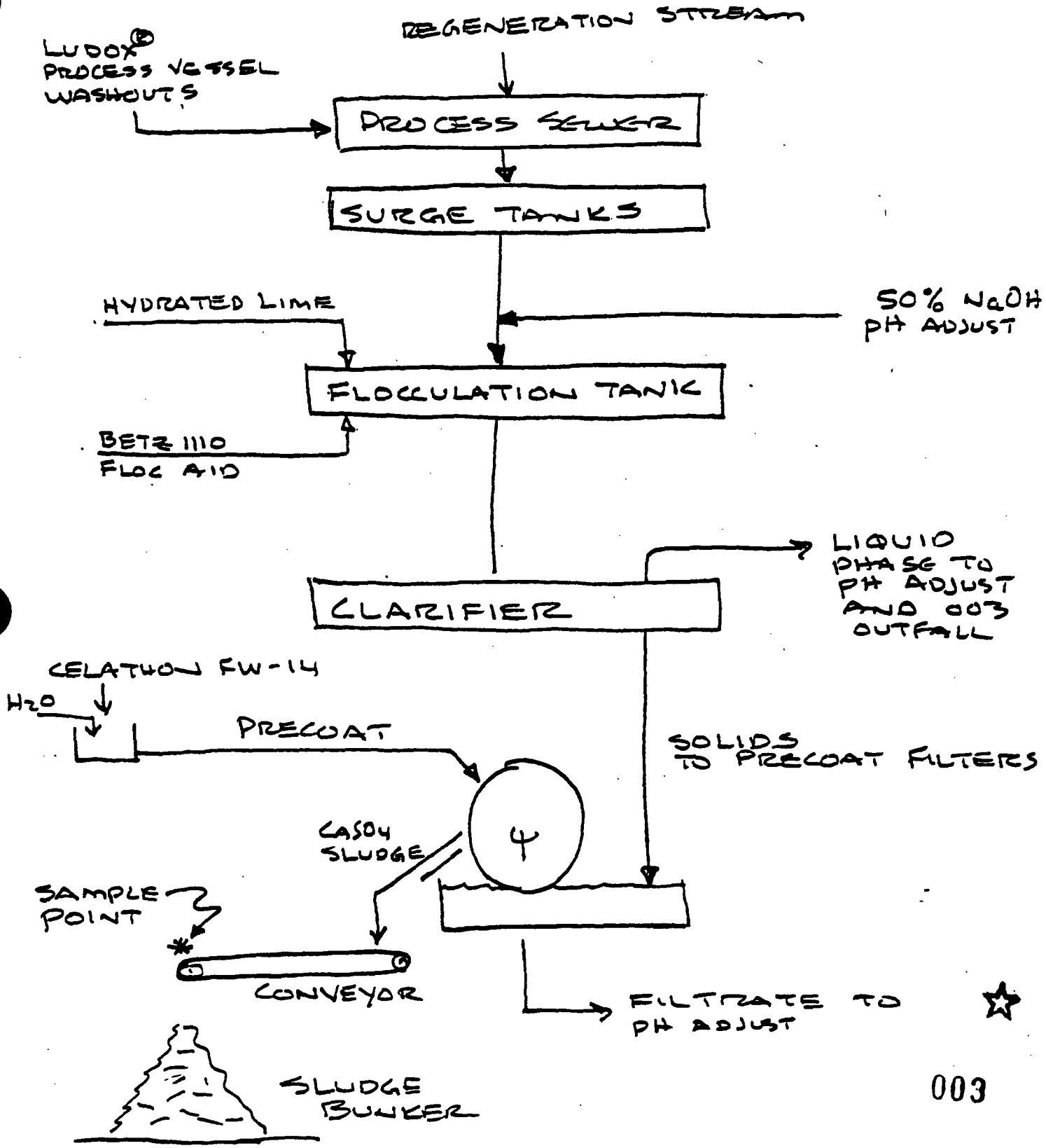
We propose taking samples at 8 hour intervals from the conveyor belt as it drops onto the sludge pile. 3 of the 8 hour samples would be composited to create a single "Day 1" Sample. 3 days later a "Day 4" Sample would be collected in the same manner. The Day 1 and Day 4 samples would be submitted for analysis as typical of what we generate.

If you require any further information regarding generation of our sludge or process information please ask.

O. J. Meyer
Environmental co-ordinator
219- 977 4653

OJM:pjp
attac.

FIG 1



003

DEC 0010162

10/85

E-W-554F
G-W-L-560

cc: R. S. Wa[illegible]lin, [illegible]
C. C. [illegible]es, " "
~~[illegible]~~ " E.[illegible]
D. J. Willette, " "
File: TAA-11

GC-1015

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

INDUSTRIAL AND BIOCHEMICALS DEPARTMENT

East Chicago, Indiana
April 25, 1972

R. C. Ott
Industrial Chemicals Dept.
Wilmington

WASTE DISPOSAL ON LAND
RCO to AWB, et.al., 4/17/72

You requested a summary of current waste disposal procedures. The attached table lists the information. We have inspected the disposal site of the contractor and are familiar with his methods.

Recently enacted legislation (Indiana Senate Bill #100), a copy of which I sent to you on 3/17, makes any open dumping practices questionable [Chapter 1, Sec. 2 (8) and Chapter 4, Sec. 1 (d)] so that we are probably going to have to get agreement from the State to continue our present practices for filter aid and aluminum chloride mud disposal on the plant site.

J T Sixsmith

J. T. Sixsmith
Environmental Control
Coordinator

JTS:lcs
Attach.

Manual of Technology

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

DEC 0010170

001

East Chicago, Indiana
April 25, 1972

002

DEC 0010170

EAST CHICAGO PLANT - WASTE DISPOSAL

MATERIAL	AMOUNT	DISPOSAL HOW	DISPOSAL WHERE	ALTERNATE DISPOSAL
Trash	18,000 yd.^{3}/year(1)	Waste Management of Indiana, Inc. (Formerly Atlas Disposal, Inc.)	Contractor's Landfill	Store on plant site until other arrangements could be made.
Solka Floc (Wood Cellulose)	115 lbs./day, dry, at capacity	Plant	Plant Dump(2)	Hire contractor to landfill.
"Hyflo-Supercel" (Diatomaceous earth, mostly SiO_2)	1100 lbs./day, dry, at capacity	Plant	Plant Dump(2)	Hire contractor to landfill.
Aluminum Chloride Mud (Insolubles)	100 lbs./day, dry, at capacity	Plant	Plant Dump(3)	Hire contractor to landfill.

(1) We are billed by the contractor on a volume basis so that the actual amount of trash is probably significantly less where containers are not completely full when emptied.

(2) Materials are insoluble in water and present no problems in odor, dusting, or toxicity.

(3) Material is insoluble in water and HCl. Analytical information as to composition will be available shortly. Presents no problems in odor or dusting.

JTS:lcs

E-P-530I

East Chicago, Indiana
June 16, 1971

90100

CHEMICAL DISPOSAL AREAS - EAST CHICAGO

LEGEND

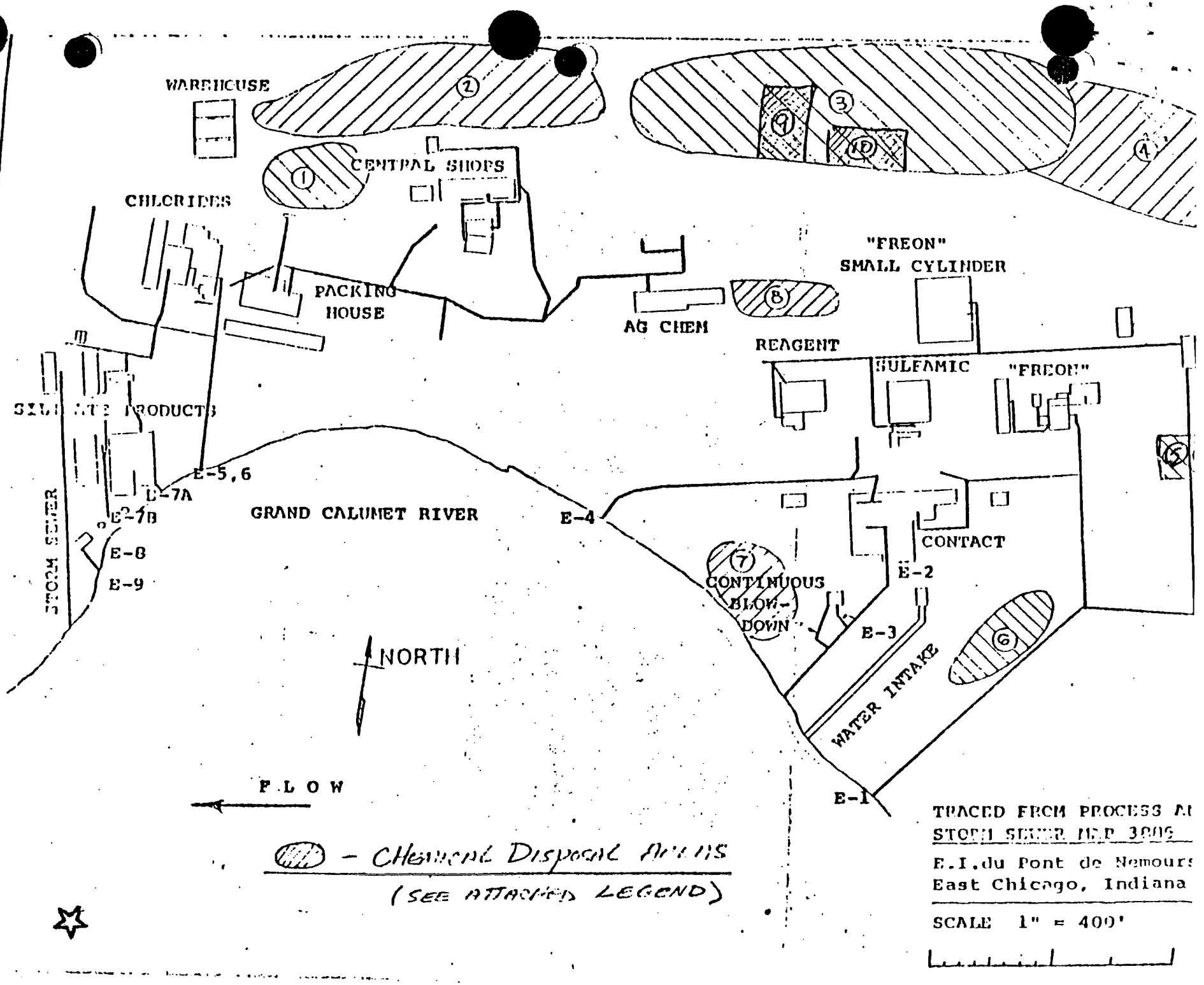
Area 1	Chloride Department wastes including zinc, aluminum and ammonium chlorides
Area 2	Chain grate stoker ash
Area 3	Calcium sulfate
Area 4	General dump area for miscellaneous chemicals, including some sulfur and filter aid
Area 5	Hydrochloric acid neutralizing pit including some fluorides
Area 6	Zinc sinters from roasters, sulfur and sulfur filter aid
Area 7	Fly ash from old powerhouse
Area 8	Insecticide Department by-products including calcium, lead and arsenic
Area 9*	Calcium sulfate, silica solids, filter aid and small amounts of other chemicals from the waste treatment facilites started up in 1974.
Area 10*	A bentonite clay-lined pit for calcium fluoride from the Freon® Area's waste treatment facility started up in 1974. "Freon" operation discontinued in late 1977.

JTS:lcs

* Items added 4/17/75 by J.T.Sixsmith

5/10/78 - Reviewed + updated by JTS.

DEC 0010167



DEC 0010167

002

Waste Compositions and Quantities

- Quantities
  - Environmental Control Precoat and Hardtac — 8035 T/Yr
  - Freon® Sludge — 3539 T/Yr
- Analysis

Compound	Precoat Filter Hardtac Sludge	Freon® Sludge
Free H_2O	56.5%	75.2%
$Ca(OH)_2$	4.1	8.27
CaF_2	0.0	16.5
$CaSO_4 \cdot 2H_2O$	13.3	0.0
$3SiO_2 \cdot H_2O$	26.0	0.0
Na_2O	0.1	0.0
Fe_2O_3	0.02	0.03
(Ba,Cd,Cu,Pb,Ni,Zn)	<13 ppm	<10 ppm
	100	100

FROM LETTER, BILL McGOODWIN TO T J CLINTON, JAN 7, 1977

001

DEC 0010159

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

INDUSTRIAL CHEMICALS DEPARTMENT

90220

December 8, 1976

Mr. J. M. Hunt
Water Pollution Control Division
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 46206

Re: Industrial Waste Disposal

Dear Mr. Hunt:

Attached is the information requested in the letter from O. H. Hert to J. T. Sixsmith dated October 26, 1976. Most of the detailed information is included in the following reference documents which are attached for your convenience.

1. Letter, J. T. Sixsmith to O. H. Hert, 6/20/73 Application for approval for overall environmental control program.

2. Letter, O. H. Hert to J. T. Sixsmith, 9/18/73. Approval of above application.

If you have further questions, please feel free to contact me.

J T Sixsmith

J. T. Sixsmith
Environmental Control
Coordinator

JTS/dn
Attachments

001

DEC 0010160

Description of Waste	Description of	Quantity	Disposal	Comments
• Calcium Fluoride sludge	See Ref. 1 (calcium fluoride precipitation)	See Ref. 1	on site	
• Silica sludge	See Ref. 1	See Ref. 1	on site	Silica content approx. 20% vs. ∿ 10% estimated fo: Ref. 1
• Gypsum sludge	See Ref. 1 (1. Ammate® dry cake filter 2. Ludox® lime precipitation)	See Ref. 1	on site	
• Toluene, Misc. organic waste solution	cyrstallization and purification of Velpar® Tech. herbicide	Seasonal - 515,000 lbs in 1976	off site	incinerated
• Rubbish (paper, wood, glass, etc.)	Misc. plant operations	20,000 cu. year	off site (CIC Landfill, Calumet City, Illinois	

DEC 00101160

E-P-20C

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F IND005174354 10

LABEL ITEMS

I. EPA I.D. NUMBER: IND005174354

III. FACILITY NAME: DU PONT E I NEMOURS & CO*

V. FACILITY MAILING ADDRESS: 5215 KENNEDY AVENUE
EAST CHICAGO, IN 46312

VI. FACILITY LOCATION: 5215 KENNEDY AVENUE
EAST CHICAGO, IN 46312

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP E. I. DU PONT DE NEMOURS & COMPANY

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 SIXSMITH JOHN ENV. CONT. COORD.	219 398 2040

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 5 215 KENNEDY AVENUE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 EAST CHICAGO	IN	46312

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 5215 KENNEDY AVENUE

B. COUNTY NAME: LAKE

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 EAST CHICAGO	IN	46312	001

EPA Form 3510-1 (6-80)

CONTINUE ON REVERSE

DEC 0010147

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
7 2819 (specify) INDUSTRIAL INORGANIC CHEMICALS	7 2879 (specify) AGRICULTURAL CHEMICALS
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: 8 E. I. DU PONT DE NEMOURS & COMPANY

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P (specify)

D. PHONE *(area code & no.)*: A 302 774 1825

E. STREET OR P.O. BOX: 1007 MARKET STREET

F. CITY OR TOWN: B WILMINGTON

G. STATE: DE

H. ZIP CODE: 19898

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*: 9 N IN0000329	D. PSD *(Air Emissions from Proposed Sources)*: 9 P
B. UIC *(Underground Injection of Fluids)*: 9 U	E. OTHER *(specify)*: 9 EAST CHICAGO DEPT. OF (specify) AIR QUALITY (NO NUMBER)
C. RCRA *(Hazardous Wastes)*: 9 R	E. OTHER *(specify)*: 9 IW 880 (specify) WASTEWATER TREATMENT

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

THE EAST CHICAGO PLANT IS A DIVISION OF THE CHEMICALS AND PIGMENTS DEPARTMENT OF E. I. DU PONT DE NEMOURS AND COMPANY. THE PLANT IS ENGAGED IN THE MANUFACTURE OF SULFURIC ACIDS, REAGENT GRADE CHEMICALS, AGRICULTURAL CHEMICALS, SODIUM SILICATE, SILICA PRODUCTS, CHLOROSULFURIC ACID, FLUOROSULFURIC ACID AND SULFAMIC ACID.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the 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.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Robert J. Blair, Vice President-Chemicals and Pigments		

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (6-80) REVERSE

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F I N D 0 0 5 1 7 4 3 5 4

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*: YR. 92 MO. – – DAY – –

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN: YR. MO. DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.
1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C	DUP		I

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	12000	G		7				
2	S02	103000	G		8				
3					9				
4					10				

CONTINUE ON REVERSE

003

DEC 0010147

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking in account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESSES 1. PROCESS CODES *(enter)*	D. PROCESSES 2. PROCESS DESCRIPTION *(If a code is not entered in D(1))*
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				*included with above*

DEC 0010147 030 004

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W I N D 0 0 5 1 7 4 3 5 4 — T/A: — C: 1	W DUP — T/A: — C: 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F001	6	T	S01	
2	F005	370	T	S02	
3	D001				Included with above
4	D001	630	T	S02	
5	D002	33	T	S01	
6	D002	96,500	T	S02	
7					
8					
9					
10					
11					
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26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

F I N D 0 0 5 1 7 4 3 5 4 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
41 37 0	87 27 30

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

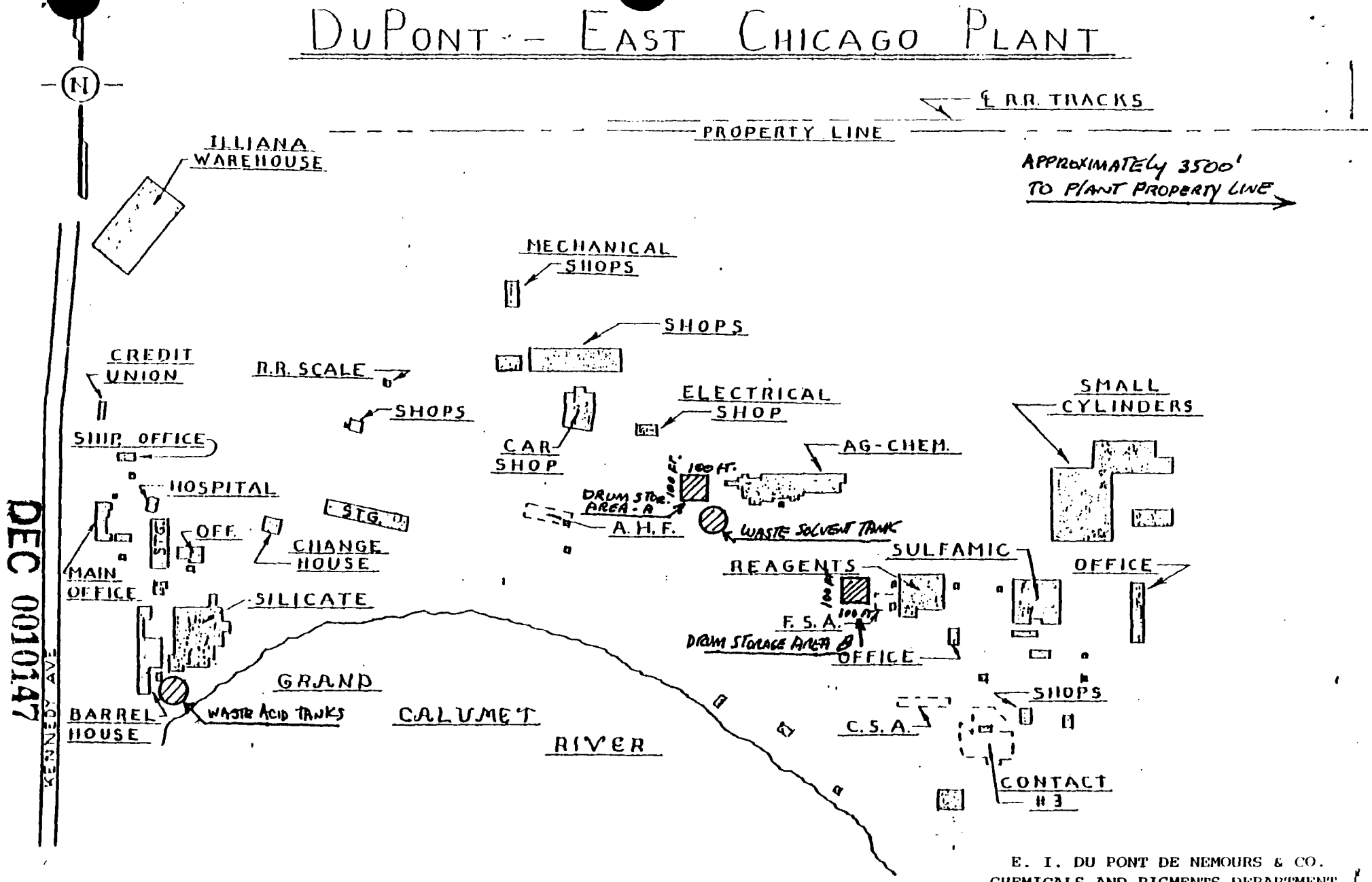
A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Robert J. Blair, Vice President-Chemicals and Pigments	Robert J. Blair	11/3/80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

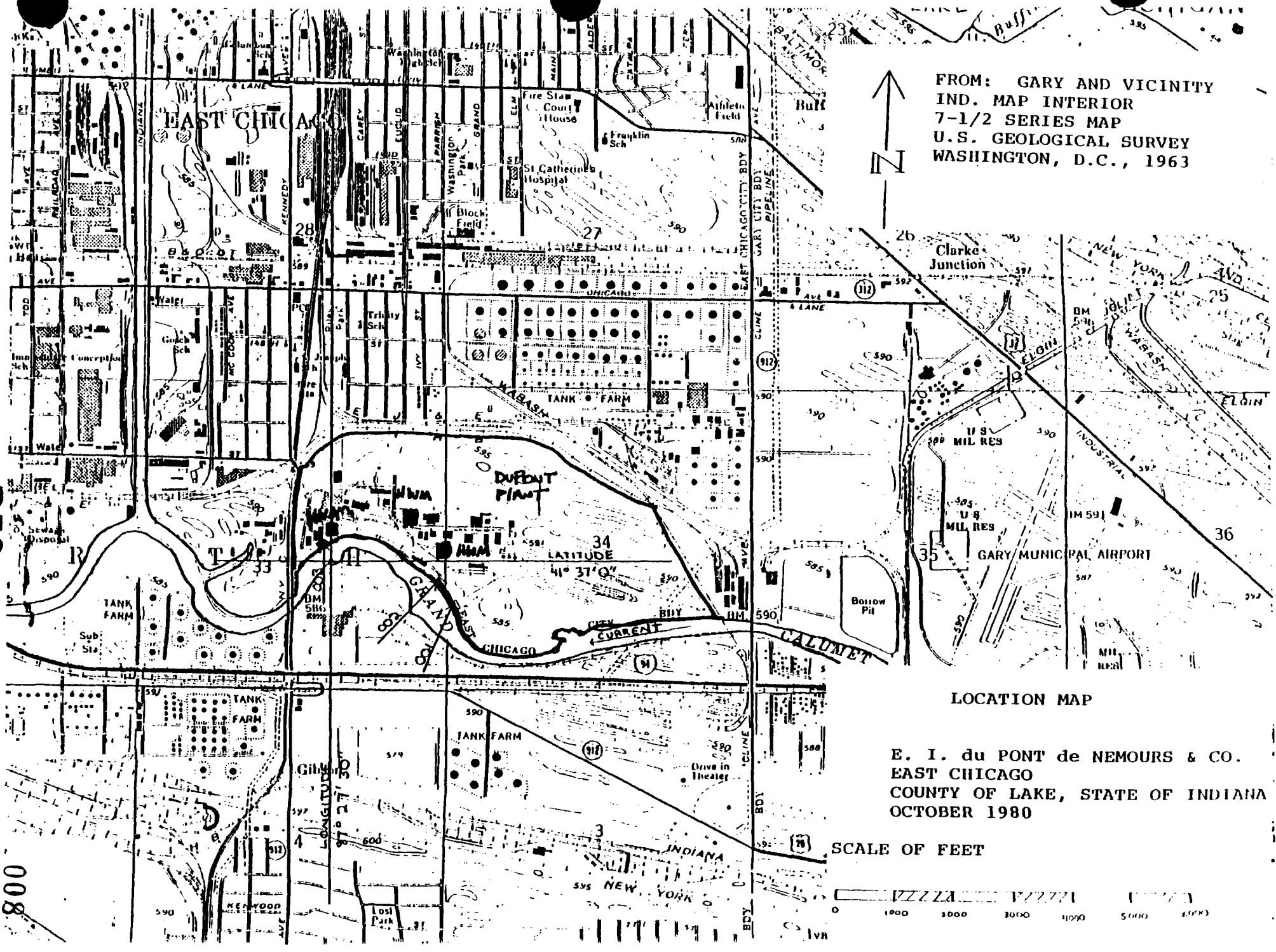
DuPont - East Chicago Plant



E. I. DU PONT DE NEMOURS & CO.
CHEMICALS AND PIGMENTS DEPARTMENT
EAST CHICAGO, INDIANA

SCALE 1" = 400' DATE NOVEMBER 1980

DEC 00010147



FROM: GARY AND VICINITY
IND. MAP INTERIOR
7-1/2 SERIES MAP
U.S. GEOLOGICAL SURVEY
WASHINGTON, D.C., 1963

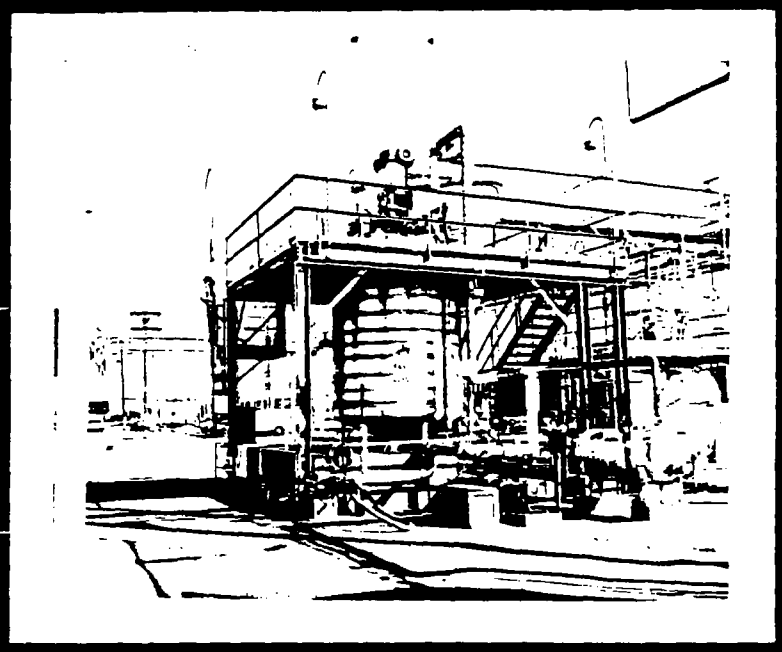
LOCATION MAP

E. I. du PONT de NEMOURS & CO.
EAST CHICAGO
COUNTY OF LAKE, STATE OF INDIANA
OCTOBER 1980

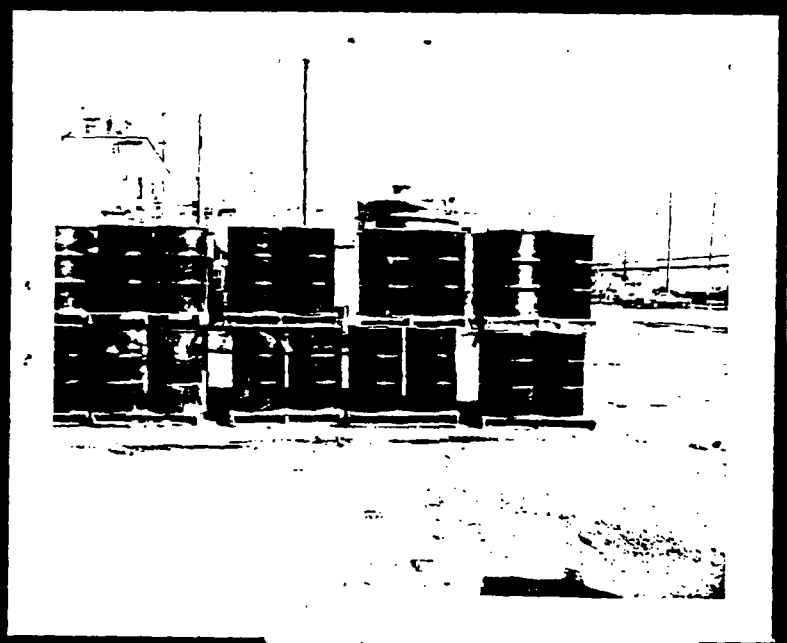
DEC 0010147

008

DRUM STORAGE AREA A



WASTE SOLVENT TANK



DRUM STORAGE AREA B

WASTE ACID TANKS

DEC 0010147

90100

EAST CHICAGO INACTIVE LAND DISPOSAL SITES

E-P-530G

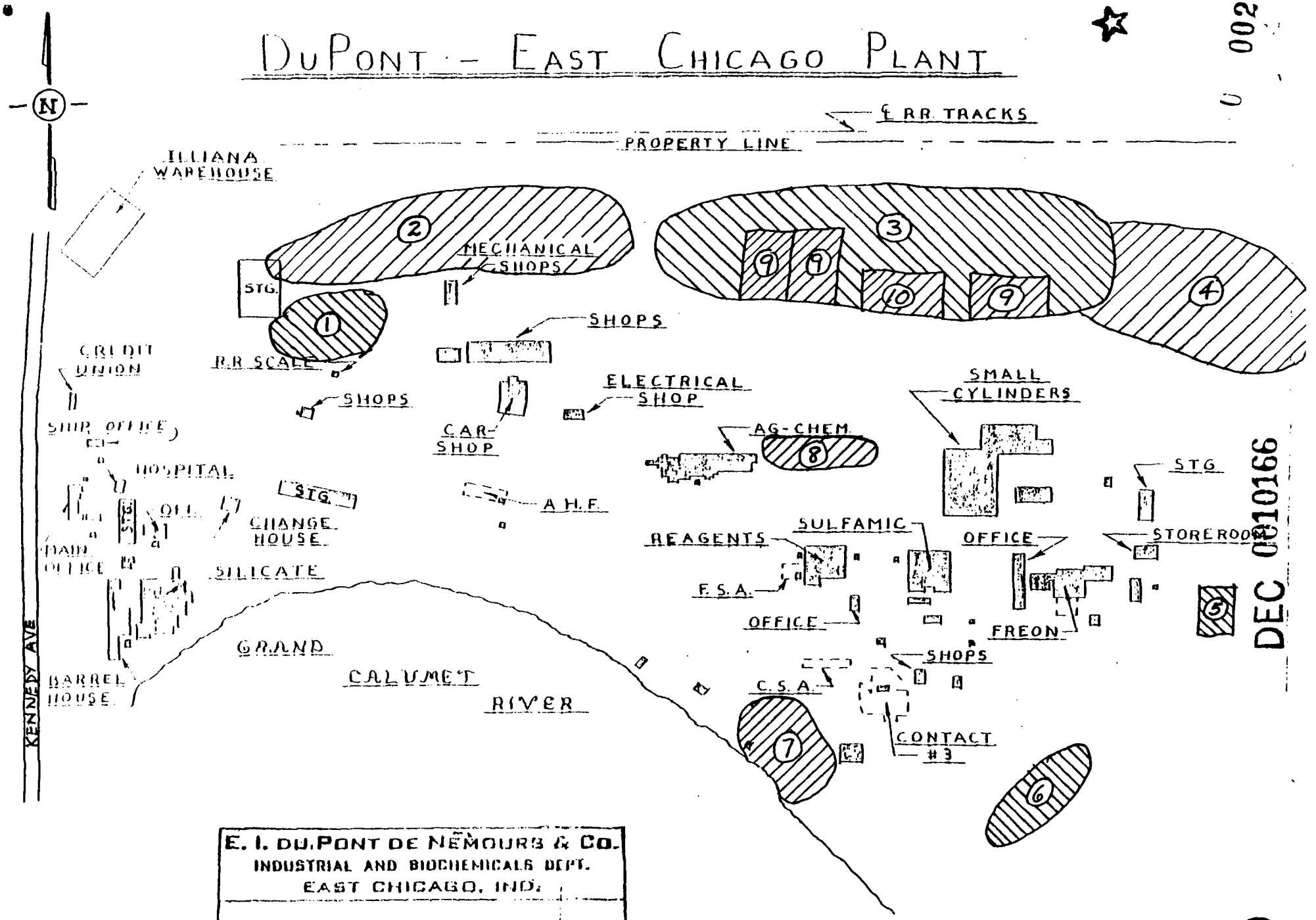
001

Area Number	Location	General Description of Facility	Disposal Dates	General Description of Waste	Facility Construction	Site & Ground Water Conditions
1	See map	Waste pile	1909-1969	Waste from manufacture of zinc, aluminum and ammonium chlorides	Waste pile, ∿300' x 300'	Unknown
2	See map	Waste pile	Thru 1955	Chain grate stoker ash from old powerhouse	Waste pile, ∿1,000' x 400'	Unknown
3	See map	Waste pile	1926-1951	Calcium sulfate from trisodium phosphate operation	Waste pile, ∿1,000' x 400'	Unknown
4	See map	General dump area	1955-1974	Misc. chemicals, including sulfur and filter aid	Waste pile, ∿1,000' x 1,000'	Unknown
5	See map	Neutralizing pit	1941-1974	HCl from Freon® operations	∿200' x 200' unlined pit containing limestone	Unknown
6	See map	Waste pile	1947-1967	Zinc sinters from roasters, sulfur, and sulfur filter aid	Waste pile, ∿400' x 500'	Unknown
7	See map	Waste pile	Thru 1969	Fly ash from old powerhouse	Waste pile ∿400' x 200'	Unknown
8	See map	Waste pile	1910-1949	Lead arsenate and calcium arsenate wastes	Waste pile, ∿400' x 200'	Unknown
10	See map	Waste landfill	1974-1977	Calcium Fluoride	Clay-lined landfill ∿200' x 250'	Unknown

JTS/cky
4/18/80

DEC 0010166

DuPont - East Chicago Plant



E. I. DU PONT DE NEMOURS & CO.
INDUSTRIAL AND BIOCHEMICALS DEPT.
EAST CHICAGO, IND.

SCALE 1" = 400'

DEC 0010166

CH-1046 REV. 11/80

~~E-W-SIUA~~ E-11-[illegible]

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

CHEMICALS AND PIGMENTS DEPARTMENT

bcc: S. S. Ulrey, C&P, Wilm.
(D. V. Luebke
(R. J. Libutti
~~S. H. Bernhardt~~
File-RCRA

G-1-F-[illegible]

March 17, 1982

United States Environmental Protection Agency
Region V
230 South Dearborn
Chicago, Illinois 60604
Attn: William Miner, Chief, Permits Section

Dear Sir:

On November 17, 1980, we mailed to you a Form 1 and Form 3 for the Du Pont East Chicago Indiana plant (EPA IND005174354) RCRA permit application. Copies of these forms are attached. At that time, we listed our plant as both a generator and a storer of hazardous waste because of the possibility that the ninety-day accumulation time limit might be exceeded.

In view of EPA's liberalization of the accumulation time rule and encouragement to withdraw protective filings (47 Fed. Reg. 1250-1251, January 11, 1982), we have reexamined storage requirements and determined that we no longer need to be classified as a storer under RCRA. Thus, the appropriate RCRA classification for our plant now is that of a generator, and we request that you amend your records accordingly withdrawing the application previously submitted since interim status is no longer required.

Please let me know if you have any questions.

Sincerely,

Jack Sixsmith

J. T. Sixsmith
Environmental Control
Coordinator

JTS:grd

DEC 0010168

001

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F IND005174354 C

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

IND005174354

DU PONT E I NEMOURS & CO*
5215 KENNEDY AVENUE
EAST CHICAGO, IN 46312

5215 KENNEDY AVENUE
EAST CHICAGO, IN 46312

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP E. I. DU PONT DE NEMOURS & COMPANY

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*: 2 SIXSMITH JOHN ENV. CONT. COORD.

B. PHONE *(area code & no.)*: 219 398 2040

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 5215 KENNEDY AVENUE

B. CITY OR TOWN: 4 EAST CHICAGO

C. STATE: IN

D. ZIP CODE: 46312

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 5215 KENNEDY AVENUE

B. COUNTY NAME: LAKE

C. CITY OR TOWN: 6 EAST CHICAGO

D. STATE: IN

E. ZIP CODE: 46312

F. COUNTY CODE *(if known)*:

EPA Form 3510-1 (6-80)

CONTINUE ON REVERSE

DEC 0010168

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
7 2 8 1 9 (specify) INDUSTRIAL INORGANIC CHEMICALS	7 2 8 7 9 (specify) AGRICULTURAL CHEMICALS
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: E. I. DU PONT DE NEMOURS & COMPANY

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: If "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (specify)

D. PHONE (area code & no.): A 302 774 1825

E. STREET OR P.O. BOX: 1007 MARKET STREET

F. CITY OR TOWN: WILMINGTON

G. STATE: DE

H. ZIP CODE: 19898

IX. INDIAN LAND
Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N IN0000329	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER** (specify)
9 U	9 EAST CHICAGO DEPT. OF AIR QUALITY (NO NUMBER)
C. RCRA (Hazardous Wastes)	**E. OTHER** (specify)
9 R	9 IW 880 WASTEWATER TREATMENT

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

THE EAST CHICAGO PLANT IS A DIVISION OF THE CHEMICALS AND PIGMENTS DEPARTMENT OF E. I. DU PONT DE NEMOURS AND COMPANY. THE PLANT IS ENGAGED IN THE MANUFACTURE OF SULFURIC ACIDS, REAGENT GRADE CHEMICALS, AGRICULTURAL CHEMICALS, SODIUM SILICATE, SILICA PRODUCTS, CHLOROSULFURIC ACID, FLUOROSULFURIC ACID AND SULFAMIC ACID.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the 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.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Robert J. Blair, Vice President-Chemicals and Pigments	Robert J. Blair	[illegible]

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 3510-1 (6-80) REVERSE

DEC 0010168

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F I N D 0 0 5 1 7 4 3 5 4

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate data)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C 8 — YR. 9 2 — MO. - - — DAY - -

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR. — MO. — DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	E
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	12000	G		7				
2	S 0 2	103000	G		8				
3					9				
4					10				

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Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous wastes: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.
2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3 and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				*included with above*

 CONTINUE ON PAGE 3

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
W I N D 0 0 5 1 7 4 3 5 4	T/A C 1	W DUP	T/A C 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
1	F001	6	T	S01				
2	F005	370	T	S02				
3	D001							Included with above
4	D001	630	T	S02				
5	D002	33	T	S01				
6	D002	96,500	T	S02				
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

F I N D 0 0 5 1 7 4 3 5 4 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
41 37 0	87 27 30

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Robert J. Blair, Vice President-Chemicals and Pigments	Robert J. Blair	11/3/86

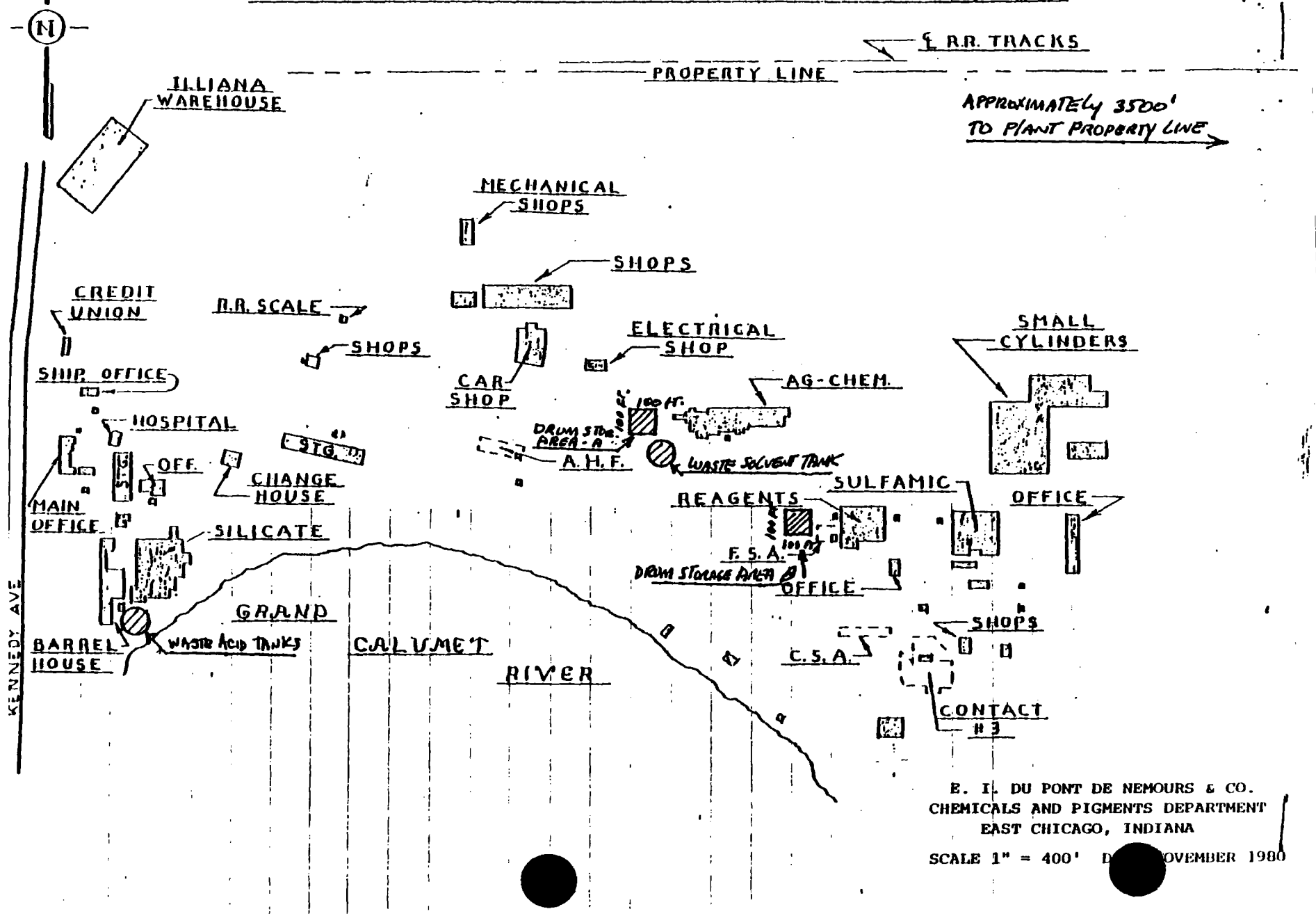
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

 CONTINUE ON PAGE 5

DuPont -- East Chicago Plant

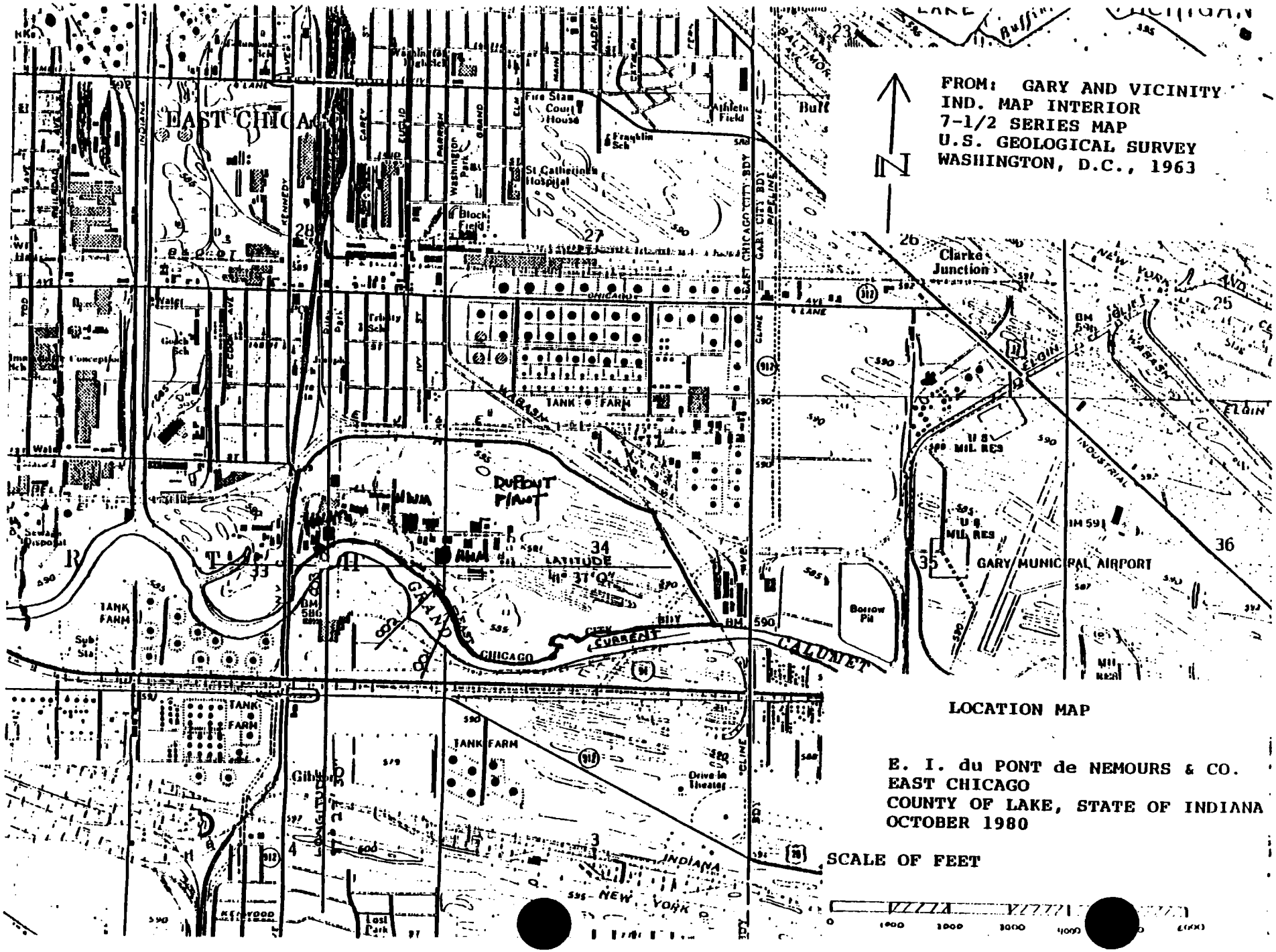


E. I. DU PONT DE NEMOURS & CO.
CHEMICALS AND PIGMENTS DEPARTMENT
EAST CHICAGO, INDIANA

SCALE 1" = 400' D[illegible]OVEMBER 1980

DEC 0010168

008



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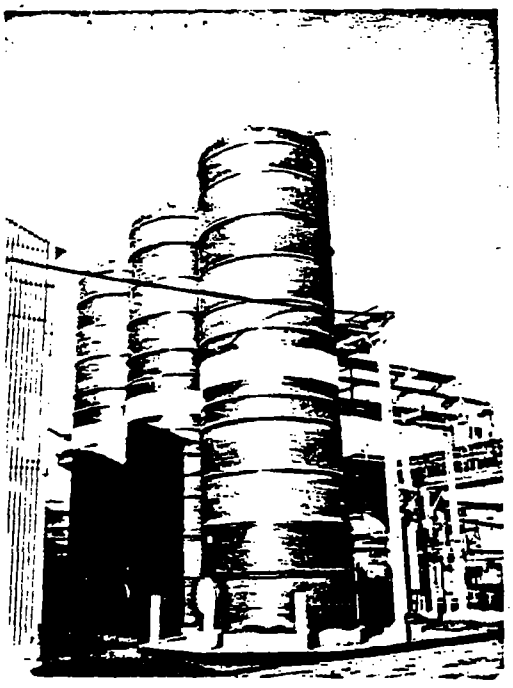
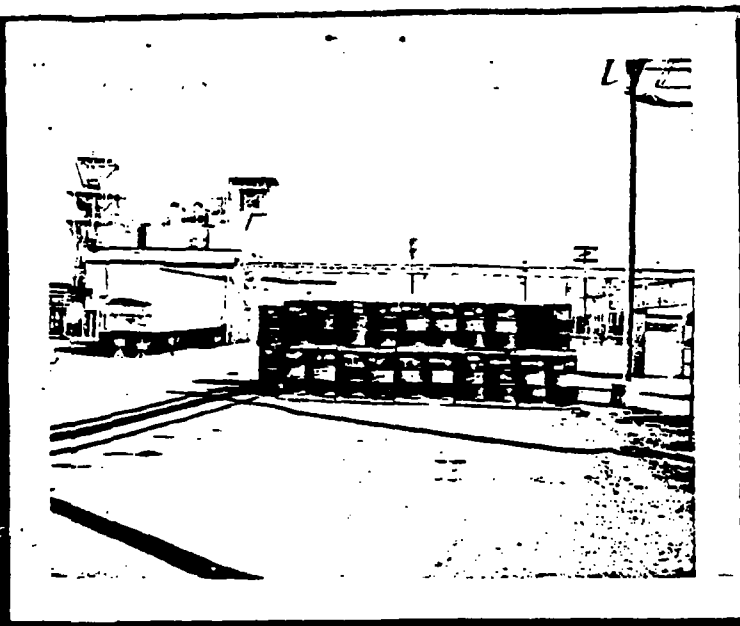
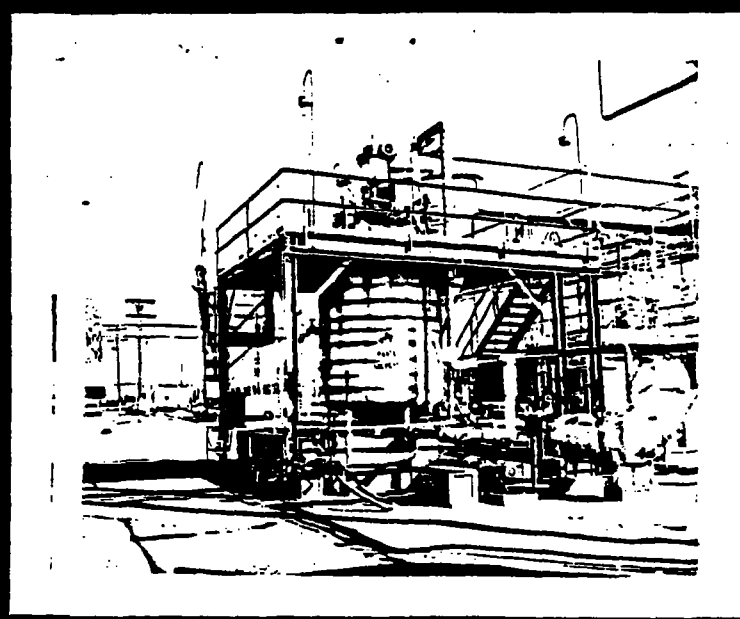


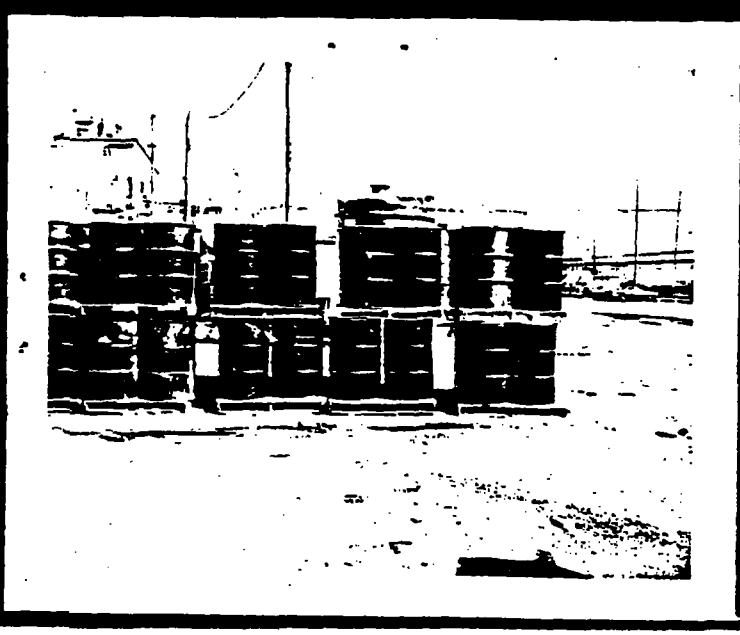
WASTE ACID TANKS



DRUM STORAGE AREA A



WASTE SOLVENT TANK



DRUM STORAGE AREA B

18 East Road, Dune Acres
Chesterton, IN 46304
July 15, 1990

Mr. Doug Stevens
8533 Garfield Avenue
Munster, IN 46321

Dear Doug:

Thank you very much for inviting me to accompany you on last Sunday's expedition to the Dupont property on Kennedy Avenue. I thoroughly enjoyed the hike through the dunes and swales. Dupont certainly deserves applause for its clean-up efforts and for preserving these valuable habitats.

I enclose two lists, one of native plants and the other of exotics (aliens). To get help with controlling the latter, please write or call Mr. Thomas Post/ Jasper-Pulaski Fish and Wildlife Area/ RR1, Box 166/ Medaryville, IN 47957. The telephone number is (219) 843-4841. It is possible that the Indiana Dunes National Lakeshore will provide you with a copy of its in-house publication on exotics: Exotic Plants of Indiana Dunes National Lakeshore: A Management Review of Their Extent and Implications by Kenneth Klick, Sandra O'Brien, and Linda Lobik-Klick (March, 1989). To inquire, write Mr. Noel Pavlovic/ Science Division / INDU/ 1100 North Mineral Springs/ Porter, IN 46304. The telephone number is (219) 926-7561. Tell Noel what you want to do, and offer to pay for copying and postage.

I would very much like to see your article.

Again, thank you for providing a memorable expedition.

Sincerely yours,

Barbara E. Plampin

Barbara E. Plampin
(210) 787-9438

Enclosures

Native Plants Seen at Dupont on July 8, 1990
--List submitted by Barbara E. Plampin/18 East Rd., Dune Acres/
Chesterton IN 46304/ (219) 787-9438

N.B. This list is by no means complete. You may want to check identities by using Swink and Wilhelm, Plants of the Chicago Region, Third Edition, The Morton Arboretum, Lisle, Illinois 60532 (sold at Indiana Dunes National Lakeshore Visitor Center on Kemil Road, locally, at $14.95) or Peterson and McKenny, A Field Guide to Wildflowers of Northeastern and Northcentral North America. A Visual Approach, Houghton Mifflin, Boston, 1968. (Perhaps there is a later edition.) I have used Swink and Wilhelm's common names which sometimes differ from Peterson's. By reading the names in parentheses in S and W, you can decode Peterson's names. The rating system comes from Swink and Wilhelm; roughly, 20 is top (very rare), 15 (rare), 10 (uncommon), and then by single numbers from 9 to minus 3. The minuses are aliens. I do not believe I saw any state-listed plants. You probably do have some state-listed sedges and other plants, so I hope that you will find a good sedge and grass person to go over the property slowly. The reward of clean water ought to be a variety of valuable and interesting plants growing in an unusual habitat. In particular, the wet places need exploring; they are not as dangerous as they look! It is best not to pick any tens, fifteens, or twenties.

Rating	English and Botanical Names
4	Water Plantain (Alisma sp.)
5	Little Bluestem Grass (Andropogon scoparius)
2	Thimbleweed (Anemone qquinquefolia interior)
6	Ground Nut (Apios americana)
5	Beach Wormwood (Artemesia caudata)
4	Swamp Milkweed (Asclepias incarnata) -- Thanks for having me smell this one!
0	Common Milkweed (Asclepias syriaca)
10	Butterfly Weed (Asclepias tuberosa)
8	White Wild Indigo (Baptisia leucantha)
? -	Beggar's Ticks (Bidens sp. or spp.)
7	Marsh Bellflower (Campanula arparinoides)
15	Indian Paint Brush (Castilleja coccinea)
7	Sand (Lance-leaved) Coreopsis (Coreopsis lanceolata). In this location, looking for Coreopsis lanceolata villosa might be worthwhile.)
5	Tall Coreopsis (Coreopsis tripteris)
1	Gray Dogwood (Cornus racemosa)
-	Hawthorn or Hawthorns (Cratagus sp. or spp.)
5	Sand Cyperus (Cyperus filiculmis)
4	Canada Wild Rye Grass (Elymus canadensis)
6	Marsh Shield Fern (Dryopteris thelypteris pubescens)
0	Horsetail (Equisetum arvense)
3	Daisy Fleabane (Erigeron strigosus)
9	Rattlesnake Master (Eryngium yuccifolium)
6	Common Boneset (Eupatorium perfoliatum)
2	Flowering Spurge (Euphorbia collorata)
-	Bedstraws (Galium spp.)
5	Woodland Sunflower (Helianthus divaricatus)
10	Western Sunflower (Helianthus occidentalis)
8	Prairie Alum Root (like garden Coral Bells, only green-yellow) (Heuchera richardsonii)
8	Marsh St. HJohn's Wort (Hypericum virginicum)
-	Rushes (Juncus spp.)
? 8	Marsh Vetchling (Lathyrus palustris)

Rating	English and Botanical Names)
4	Round-headed Bush Clover (Lespedeza capitata)
15	Prairie (Wood) Lily (Lilium phila delphicum andinum)
6	Hoary Puccoon (Lithospermum croceum)
8	Hairy Puccoon (Lithospermum canescens)
8	Swamp Candles (Lysimachia terrestris) These are yellow.
-	Loosestrifes (Lysimachia sp. or spp.)
7	Winged Loosestrife (Lythrum alatum) The good purple one.
-	Waterhorehouhd (Lycopus sp.or spp.)
10	Hairy Canada Mayflower (Maianthemum canadense interius)
5	Horse Mint (Monarda punctata villicaulis)
7	Sand Primrose (Oenothera rhombipetala)
8	Sensitive Fern (Onoclea sensibilis)
5	Prickly Pear Cactus (Opuntia humifusa)
6	Prairie Phlox (Phlox pilosa)
4	Common Reed (Phragmites communis berlandieri --see other sheet!)
8	Ninebark (Physocarpus opulifolius)
-	Solomon's Seal (Polygonatum Sp. or Spp.)
4	Quaking Aspen (Populus tremuloides)
1	Wild Black Cherry (Prunus serotina)
5	Bracken Fern (Pteridium aquilinum latiusculum)
6	Black Oak (Quercus velutina)
1	Poison Ivy (Rhus radicans)
7	Wild Black Currant (Ribes americanum)
5	Pasture Rose (Rosa carolina)
1	Black-eyed Susan (Rudbeckia hirta)
7	Blue-leaved Willow (Salix glaucophylloides glaucophylla)
4	Black Willow (Salix nigra)
1	Elderberry (Sambucus canadensis)
7	Chairmaker's Rush (Scirpus americanus)
5	Great (Soft-stemmed) Bulrush (Scirpus validus creber)
4	Late Figwort (Scrophularia marilandica)
5	Marsh Skullcap (Scutellaria epilobifolia)
5	Rosin Weed (Silphium integrifolium)
5	Starry False Solomon's Seal (Smilacena stellata)
10	Slender-leaved Goldenrod (Solidago tenuifolia)
7	Meadowsweet (Spirea alba)
8	Goat's Rue, Hoary Pea (Tephrosia virginiana)
2	Spiderwort (Tradescantia ohiensis)
1	Cattail (Typha latifolia) See other sheet.
7	Lance-leaved Violet (Viola lanceolata) Look here for other interesting plants such as Meadow Beauty (Rhexia virginiana)and Gentiana Spp.)
4	Riverbank Grape (Vitis riparia)

Exotics (Alien Plants) Seen at Dupont Property on 7/8/90

N.B. This list is probably incomplete. I have starred the worst offenders. Please check list of native plants for explanation of numbers.B.P.

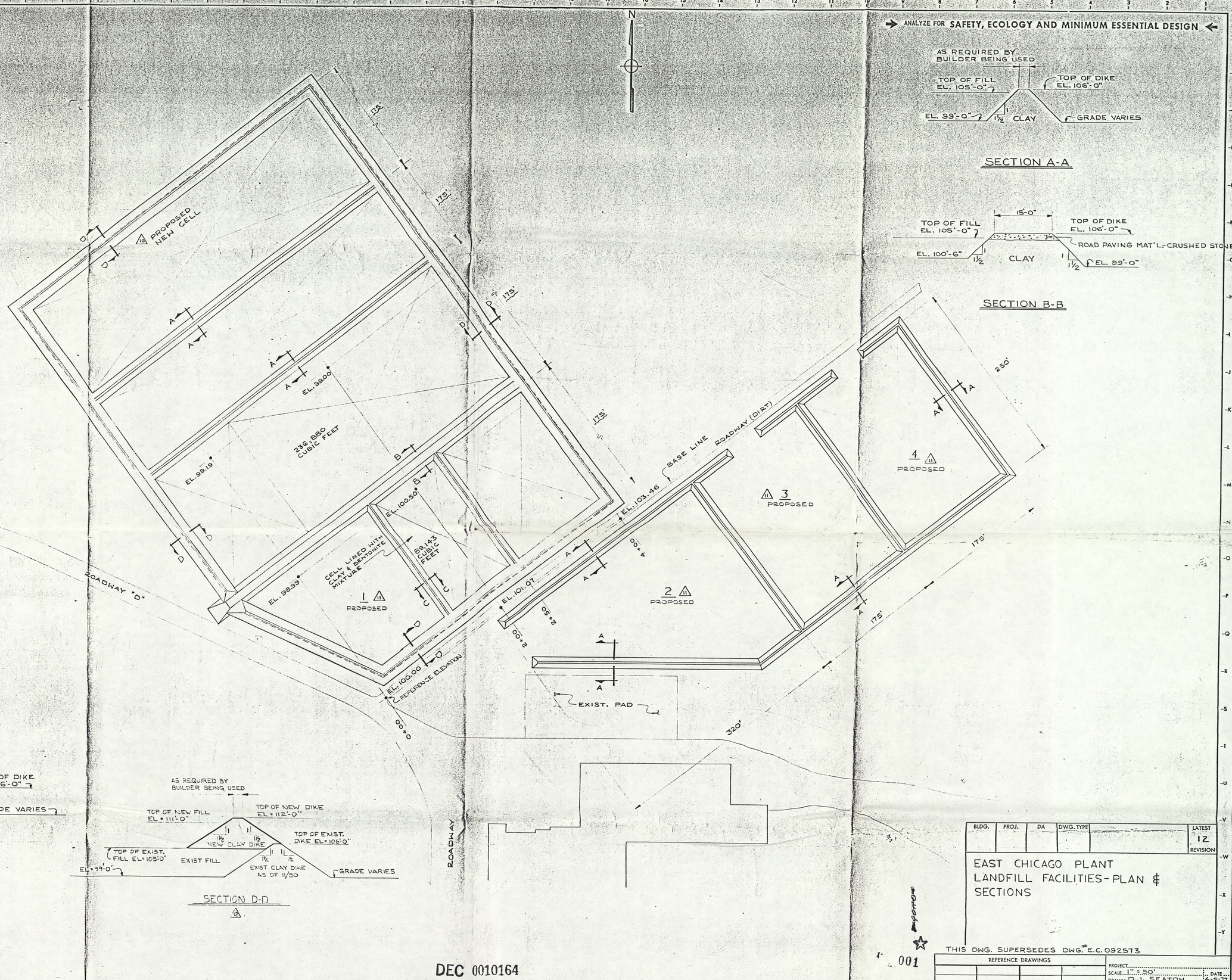
Rating	English and Botanical Names
1	Yarrow, Milfoil (Achillea millefolium)
1	Asparagus (Asparagus officinalis)
* * -2	Nodding, Musk Thistle (Carduus nutans). Swink and Wilhelm of the Morton Arboretum say this one "invades rapidly and is almost impossible to eradicate.// Getting rid of the one or two here now will pay dividends later.
2	Showy Centaury (Centaurium pulchellum)
-3	Poison Hemlock (Conium maculatum)
- 1	Queen Anne's Lace (Daucus carota)
2	Helleborine Orchid (Epipactis helleborine. Our only successful immigrant orchid)
-1	Squirrel-tail Grass (Hordeum jubatum)
** -2 to -3	Honeysuckle Shrubs (Lonicera Sp. or Spp.) There is at least one kind of this invader here. There are native vining honeysuckles to look for here, but the alien shrubs are bad news.
2	Bird's Foot Trefoil (Lotus corniculatus)
-2	White Campion (Lychnis alba)
** 1	Purple Loosestrife (Lythrum salicaria) Some call this "Purple Plague." Its spread can endanger the Black Tern and the Canvasback Duck as well as native plants.
-3	White Sweet Clover (Melilotus alba)
-3	Wild Parsnip (Pastinaca sativa)
1	Timothy (grass) (Phleum pratense)
* -	Blue Grass(es) (Poa Sp or Spp.)
** -3	Glossy Buckthorn (Rhamnus frangula)
0	Bladder Campion (Silene cucubalus)
1	Common Mullein (Verbascum thapsus)

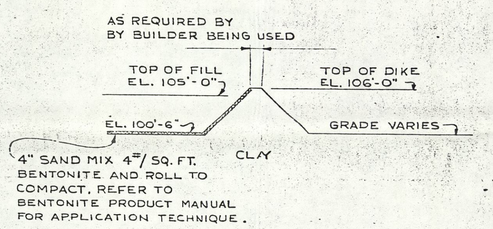
** 4	COMMON REED (PHRAGMITES COMMUNIS BERLANDIERI a.k.a. PHRAGMITES AUSTRALIS) Though some authorities do not consider this twelve-footer and alien, it is a vigorous invader of polluted -- and, perhaps, non-polluted land.
** 1 or 2	Cattail (Typha Spp.). Here's a native gifted at driving out better plants. It needs to learn to do a little more sharing of its turf.

Add:

0	Shepherd's Purse (Capsella bursa-pastoris)
-3	Bittersweet Nightshade (Solanum dulcamara)
-3	Wild Parsnip (Pastinaca sativa)

ORIGINAL DRAWING MADE ON DU PONT POLYESTER FILM





SECTON C-C

SECTION D-D

BLDG.	PROJ.	DA	DWG. TYPE		LATEST REVISION
					12

EAST CHICAGO PLANT
LANDFILL FACILITIES-PLAN & SECTIONS

THIS DWG. SUPERSEDES DWG. # E.C. 092573

DEC 0010164

001

PROJ. NO	REVISIONS	REVISED BY DATE	CHECKED BY DATE	APPROVED BY DATE
10	ADDED PROPOSED CELLS	D.J.S. 9/7/77		
11	ADDED PROPOSED CELLS NOS. 1 THRU 4	D.J.S. 8-30-78		
12	ADDED PROPOSED CLAY DIKE	D.J.S. 12-4-80		

REFERENCE STANDARDS

REFERENCE DRAWINGS

PROJECT	
SCALE 1" = 50'	DATE 4-5-77
DRAWN D.J.S. SEATON	
CHECKED	
APPROVED-INITIAL CONSTR. RELEASE	
APPROVED-FINAL	

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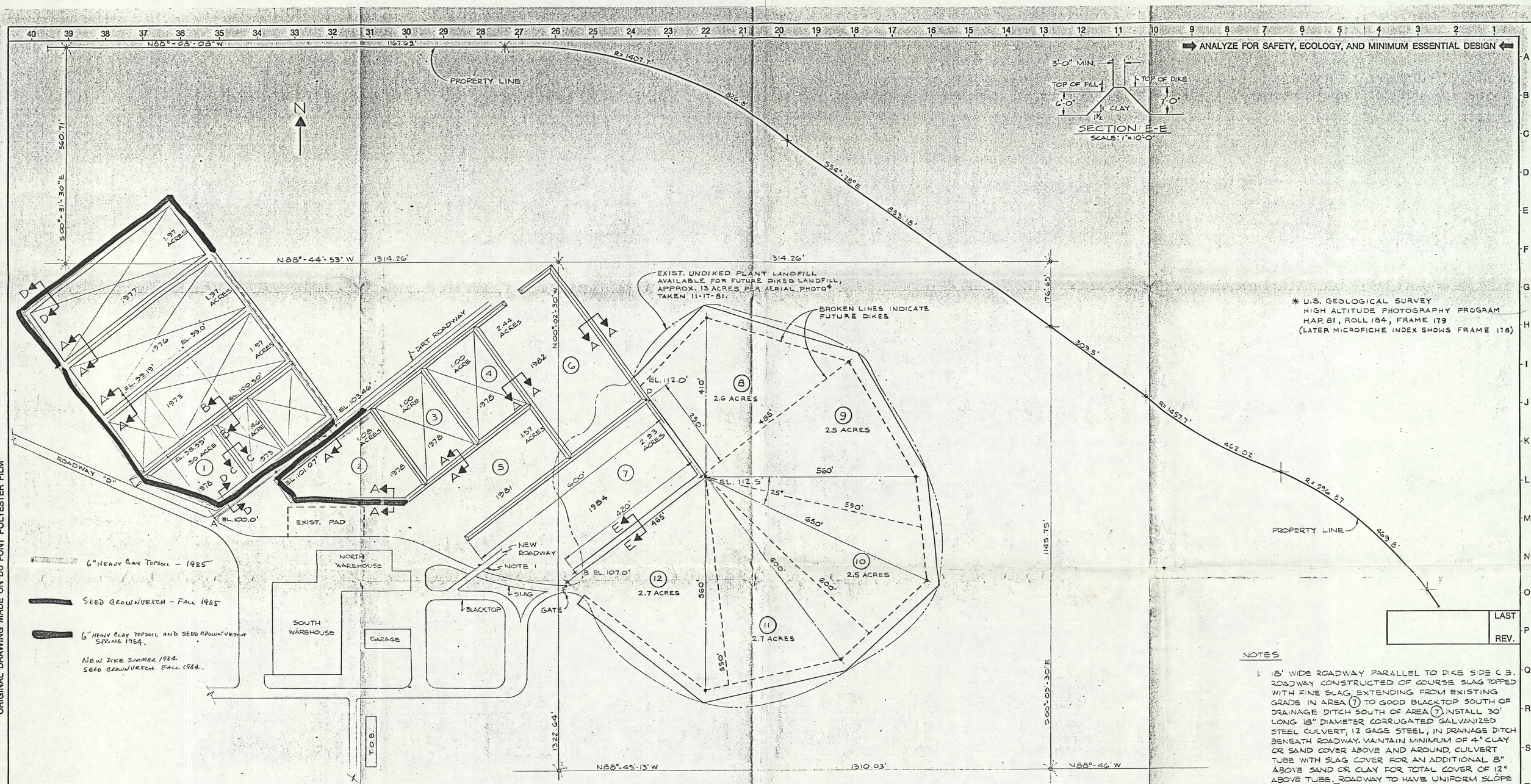
INCORPORATED
WILMINGTON, DELAWARE

E.C. 040677-A

ORIGINAL DRAWING MADE ON DU PONT POLYESTER FILM

➡ ANALYZE FOR SAFETY, ECOLOGY, AND MINIMUM ESSENTIAL DESIGN ⬅



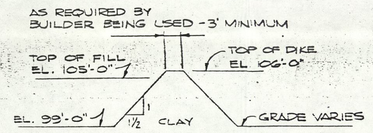
PLAN VIEW
SCALE: 1" = 100'

SECTION E-E
SCALE: 1" = 10'-0"

* U.S. GEOLOGICAL SURVEY
HIGH ALTITUDE PHOTOGRAPHY PROGRAM
H.A.P. 81, ROLL 184, FRAME 179
(LATER MICROFICHE INDEX SHOWS FRAME 178)

NOTES

1. 18' WIDE ROADWAY PARALLEL TO DIKE SIDE C B. ROADWAY CONSTRUCTED OF COURSE SLAG TOPPED WITH FINE SLAG, EXTENDING FROM EXISTING GRADE IN AREA (7) TO GOOD BLACKTOP SOUTH OF DRAINAGE DITCH SOUTH OF AREA (7). INSTALL 30' LONG 18" DIAMETER CORRUGATED GALVANIZED STEEL CULVERT, 12 GAGE STEEL, IN DRAINAGE DITCH BENEATH ROADWAY. MAINTAIN MINIMUM OF 4" CLAY OR SAND COVER ABOVE AND AROUND. CULVERT TUBE WITH SLAG COVER FOR AN ADDITIONAL 8" ABOVE SAND OR CLAY FOR TOTAL COVER OF 12" ABOVE TUBE. ROADWAY TO HAVE UNIFORM SLOPE FROM AREA (7) TO BLACKTOP SOUTH OF DRAINAGE DITCH. CLEAN BOTTOM OF DITCH AS NEEDED FOR UNIFORM SUPPORT OF CULVERT TUBE.



SECTION A-A
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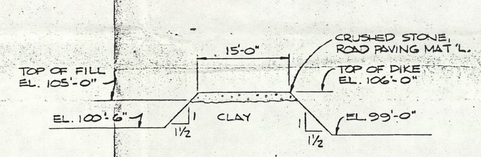

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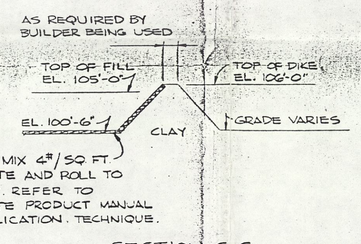

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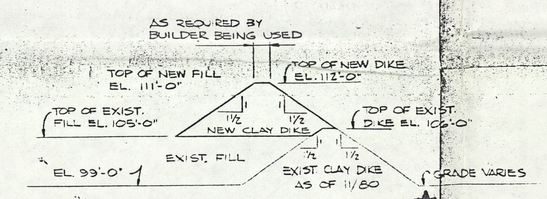

SECTION D-D
SCALE: 1" = 10'-0"

DEC 0010165

001

THIS DWG. SUPERCEEDS EC-040677A

M/F	BLDG.	PROJ.	DA	TYPE		LAST REV. 3

EAST CHICAGO PLANT
GENERAL PLANT
LANDFILL FACILITIES
PLAN & SECTIONS

REVISED DATE 9-11-84 DESTROY ALL PREVIOUS PRINTS

PROJ	NO.	REVISION	RVSD	CHKD	APPD	DATE

PROJ	NO.	REVISION	RVSD	CHKD	APPD	DATE

PROJ	NO.	REVISION	RVSD	CHKD	APPD	DATE

PROJ	NO.	REVISION	RVSD	CHKD	APPD	DATE
	1	UPDATED EXIST. CELL STATUS	8-24-84 DJS			
	2	ADDED FUTURE CELLS #8 - #12	"			
	3	REVISED NOTE (*)	9-11-84 DJS			

STANDARDS	REFERENCE DRAWINGS
	EC-040677A
	MAP 3916 SHT 1

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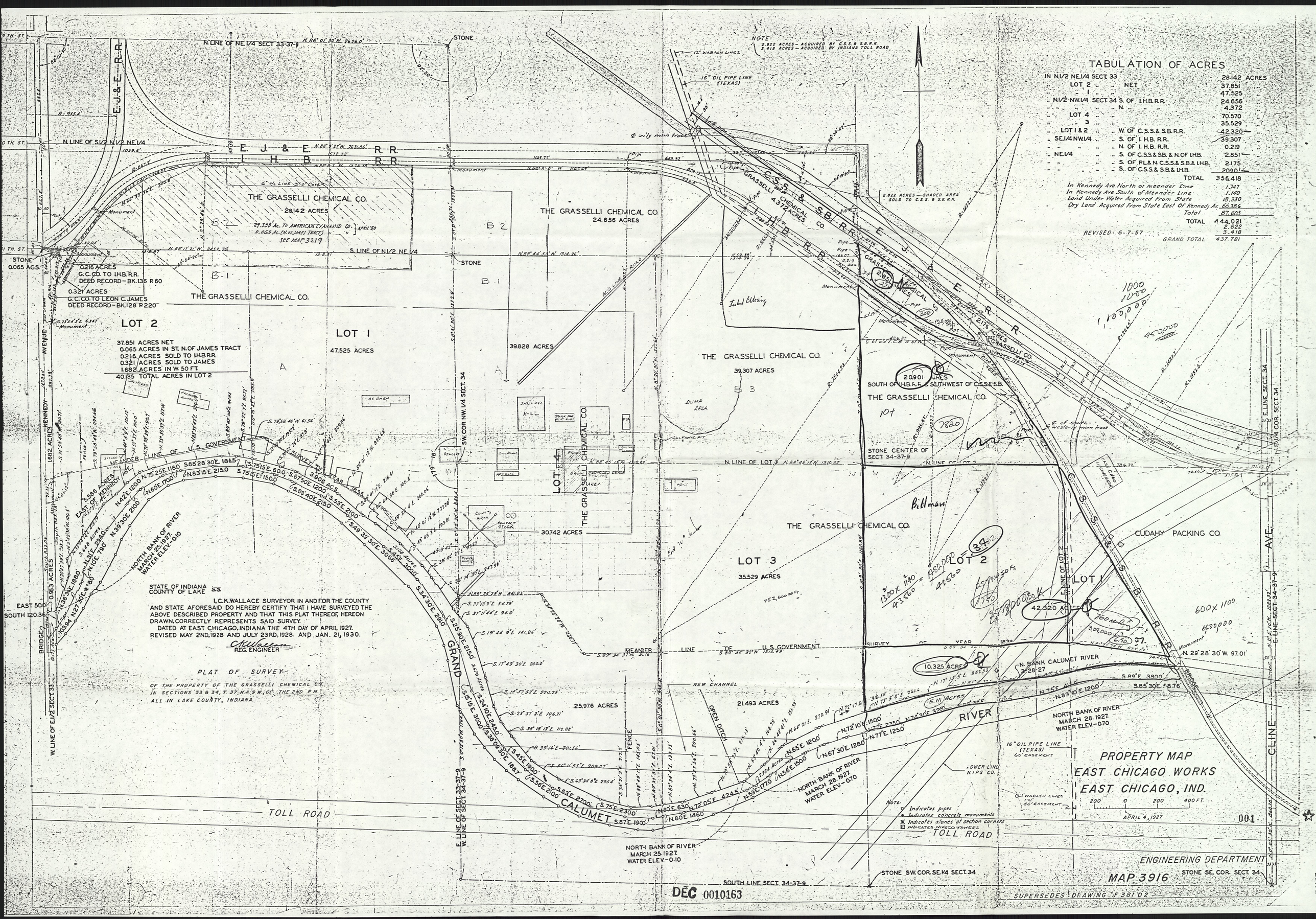
PROJECT		
SCALE AS NOTED		DATE
DRAWN F. PIESZCHALA		3-2-84
CHECKED		
APPROVED-I.C.R.		
APPROVED-FINAL		

E. I. DU PONT DE NEMOURS & CO., INC.
WILMINGTON, DELAWARE

EC-030284A


TABULATION OF ACRES
IN N.1/2 NE.1/4 SECT 33 28.142 ACRES
LOT 2 NET 37.851
1 47.525
N.1/2 NW.1/4 SECT 34 S. OF I.H.B.R.R. 24.656
N. 4.372
LOT 4 70.570
3 35.529
LOT 1 & 2 W. OF C.S.S.& S.B.R.R. 42.320
SE.1/4 NW.1/4 S. OF I.H.B.R.R. 39.307
N. OF I.H.B.R.R. 0.219
NE.1/4 S. OF C.S.S.& S.B. & N.OF I.H.B. 2.851
S. OF P.L.& N.C.S.S.& S.B.& I.H.B. 2.175
S. OF C.S.S.& S.B.& I.H.B. 209.01
TOTAL 356.418
In Kennedy Ave North of meander Line 1.741
In Kennedy Ave South of Meander Line 1.140
Land Under Water Acquired from State 18.330
Dry Land Acquired From State East Of Kennedy Av. 66.386
Total 87.603
TOTAL 444.021
2.822
3.418
REVISED 6-7-57
GRAND TOTAL 437.781
NOTE
2.822 ACRES – ACQUIRED BY C.S.S.& S.B.R.R.
3.418 ACRES – ACQUIRED BY INDIANA TOLL ROAD
THE GRASSELLI CHEMICAL CO.
28.142 ACRES
LOT 2
37.851 ACRES NET
0.065 ACRES IN ST. N.OF JAMES TRACT
0.216 ACRES SOLD TO I.H.B.R.R.
0.321 ACRES SOLD TO JAMES
1.682 ACRES IN W. 50 FT.
40.135 TOTAL ACRES IN LOT 2
LOT 1
47.525 ACRES
THE GRASSELLI CHEMICAL CO.
24.656 ACRES
39.828 ACRES
THE GRASSELLI CHEMICAL CO.
39.307 ACRES
LOT 3
35.529 ACRES
30.742 ACRES
LOT 2
LOT 1
42.320 ACRES
CUDAHY PACKING CO.
STATE OF INDIANA
COUNTY OF LAKE SS
I, C.K. WALLACE SURVEYOR IN AND FOR THE COUNTY AND STATE AFORESAID DO HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY AND THAT THIS PLAT THEREOF, HEREON DRAWN, CORRECTLY REPRESENTS SAID SURVEY.
DATED AT EAST CHICAGO, INDIANA THE 4TH DAY OF APRIL 1927.
REVISED MAY 2ND, 1928 AND JULY 23RD, 1928. AND JAN. 21, 1930.
REG. ENGINEER
PLAT OF SURVEY
OF THE PROPERTY OF THE GRASSELLI CHEMICAL CO. IN SECTIONS 33 & 34, T. 37 N.R. 9 W., OF THE 2ND P.M. ALL IN LAKE COUNTY, INDIANA.
PROPERTY MAP
EAST CHICAGO WORKS
EAST CHICAGO, IND.
APRIL 4, 1927
001
ENGINEERING DEPARTMENT
MAP 3916
SUPERSEDES DRAWING F 381 D2
DEC 0010163