A. B. Meham

Since 1935 we have followed a program of capital improvement at the Michigan Paper Company which, I think, can be summarized as follows: Proceed as fast as you can plan, finance, construct and digest. We have tried to do first things first. We have installed equipment which would show -

1. Substantial savings
2. Increased production
3. Improved product
4. Increased flexibility

Of course, we have found it necessary to make some major repairs, and to proceed with the Stream Improvement Program, which do not fit the above criteria but when we have done so, we tried to fit these items so that they worked in with our overall plan.

The major work that we have carried out includes the following:

New Well	1937
G.E. Turbine	1937
Water Walls and Superheater	1938
Electric Drive for Beater Room	1938
Shartle Refiner	1938
Shartle Refiner #2 Machine	1939
Building for Machine Shop	1939
Moved Coating Mill from Kalamazo to Plainwell -	1940 - 1941
Bird Screens for #2 Machine	1941
Seybold Trimmer	1942
Bird Screens for #4 Machine	1944
Well	1944
Well for Fire Protection	1945
Electric Fire Pump	1945
Hydrapulper	1945
Rewinder	1945
Dock West end of Office	1945
Water tank for Fire Protection	1946
Jordan #3 Machine	1946
#4 Paper Machine	1946
Floor construction around machine	1946
Paper Stock Conveyor	1947
Bauer Pulper	1947
Enclosing Shipping Dock	1947
Bird Screen #3 Machine	1948
Milling Machine	1948
Coal Crusher	1948
Peroxide Tanks	1948
Roto-grate Stokers	1948
New Drive #3 Machine	1949
Water tanks, Stock tanks and Washers, Deinking system -	1949
Winder #4 Paper Machine	1949
Calender Rewinder Stand	1949
Hood #2 Machine	1950

Elevator Paper Stock Warehouse	1951
Inclined Washer	1951
New Well with pump	1951
Shipping and Storage Building	1952
Water Softener	1952
Cameron Rewinder	1952

The above covers the larger items - there have, of course, been many smaller ones.

You will notice, from the above list, that we have attacked first one and then another bottle-neck to increase production. There is one remaining which has not received so far any real attention - that is the beater room and our stock preparation equipment. We are now using, as you know, Holland Beaters. The wood pulp added to the beaters is fed by hand. This is a slow and laborious process. Furthermore, on many sheets (particularly those which require a high percentage of wood pulp) our production, particularly on No. 4 machine, is held down because we can neither break up or treat the pulp properly. Ray Barton and I have thought for a long time that we should have some form of pulp breaker (and there are several on the market) into which we could feed whole bales of pulp, then store the pulp in slush form in a chest so that it could then be pumped to either the beater or some other form of mixing and hydrating machine. We have felt that, in this way, we would get greater value from our pulp and increase the amount of stock that we could prepare. It is my feeling that the next major program at the Michigan Paper Company should include the work in the beater room.

We have been running fairly close to capacity on electric power. We have some surplus steam capacity but I have hesitated to make any major program or suggestion for increased power plant capacity because of the rapid developments now being made with gas turbines even where solid fuel is converted. I also understand that the people working on the Phoenix project at the University of Michigan indicate that they

have high hopes for industrial atomic power within three or four years and that they prophesy that this power will be much lower than power costs today. It is my understanding that Consumers Power Company are very active in this development.

There is one major repair item which we will have to face in the next few years. I don't know just when, but we will have to replace most of the paper machine roof above No. 3 and No. 4 paper machines sometime in the not too distant future. We have repaired the roof decking, supported the timbers which support the decking, but we still do face this major repair.

The other item which I think you may wish to pursue is about as follows and, of course, you will have to adjust your thinking on this based upon the attitude of the State and the speed with which the other mills and the communities go ahead with their waste treatment. So far, on the treatment of waste, the position of the Michigan Paper Company is good. We have been, as you know, the leader and members of the Water Resources Commission have said that if all of the mills had been as foreward-looking as the Michigan Paper Company, there would be no need for an order. We have made good progress with our Saveall on No. 3 machine. I think you may wish to include in your next year's budget Savealls for No. 4 machine. You can then point out to the State what has been accomplished in reducing your white water losses. A study is being made to determine if a collector conveyor can be installed in the horizontal tank which was formerly used for the secondary treatment. If so, based upon my estimate of your use of waste paper stock for the next few years, you will have sufficient capacity to meet the requirements of the State. You are to have, as you know, a plan to submit to the State next April 1st and the project completed July 1st. 1954. I do not think that the City of Kalamazoo will be ready

by that time nor do I think that the other mills will be ready and it has always been my understanding with the State that "It would be unreasonable to expect the Michigan Paper Company, in view of the fact that they are down the river from the other mills and from the City of Kalamazoo, to precede the other mills in their complete treatment of waste". By reporting to the State the progress you are making and working with the State Agencies, I think that more can be accomplished than by being forced into a position.

I believe that the above covers most of my general thinking for the Michigan Paper Company.

HLS:EK

Dwight L. Stocker.

INTER-OFFICE CORRESPONDENCE

nicolet paper company

PLAINWELL DIVISION

RAY MILNE -

MBLEGAN

38369~~63~~ 36

NEWS RELEASE...

September 13, 1971

Mr. Richard L. Radt is appointed Executive Vice President and General Manager of the Plainwell Paper Co., Inc. effective September 13, 1971. In this capacity, Mr. Radt is also appointed Vice President of Nicolet Paper Company and reports to Mr. Robert G. Etter, President, Nicolet Paper Company.

This appointment is in recognition that the challenges and opportunities of the Plainwell Paper Company are greater and more diversified than we anticipated when we acquired the mill. This diversification requires the expenditure of additional management effort and greater concentration in certain functional areas. The appointment of Mr. Radt will provide the additional management effort while Mr. Faber's new post, which is explained below, will provide greater concentration in an extremely important area of the business.

Mr. Horace B. Faber, Jr., who will report to Mr. Radt, is appointed to the newly created position of Vice President, Marketing, Plainwell Paper Company, Inc. Mr. Faber, who also continues as Vice President of Nicolet Paper Company, will concentrate his efforts on Plainwell's sales and marketing areas.

Also reporting to Mr. Radt will be Mr. Donald Martin, Vice President, Plainwell Paper Company, Inc., and Resident Manager, Plainwell Division. Mr. Martin continues to be responsible for those operations currently reporting to him.

Dick Radt comes to Plainwell from the post of President and Chief Executive Officer of Valentine Pulp and Paper Company, Inc., New Orleans, Louisiana. Valentine has the country's only bagasse pulp mill and it produces printing, writing and converting grades of paper. Prior to this assignment, he was associated with Mead Paper Company for over nine years in various sales, marketing and management positions.

Dick, his wife, Judi, and son, Michael, will reside in Kalamazoo.

I know you all join Don, Fabe and me in welcoming Dick to our organization.

Sincerely,

Robert G. Etter

Robert G. Etter, President
Nicolet Paper Company

5 14739

Form II ITEM E

Item E

004 - 24" Cooling Water Outfall area between #4 Paper Machine and the Boiler Plant. See enclosed map.

005

16" Process Water Outfall from three paper machines (3) after passing through treatment system. See enclosed map.

FORM II — WASTEWATER OUTFALL REPORT

Copy Code Number from mailing label here → 0 3 0 0 1 2

	First Outfall	Second Outfall
A. OUTFALL IDENTIFICATION:		
Outfall Number as you Refer to it	0 0 6	
Monthly Operating Report (MOR) Outfall Number		
B. DISCHARGE TYPE Water from the Outfall is Discharged to (Circle One Only for Each Outfall)		
1. Surface Waters (River, Stream, Drain, Storm Sewer, Lake etc.) _____ (Name of Receiving Water)	1	
2. Lagoon or Seepage Pond With No Outlets	2	
3. Spray Irrigation	3	
4. Septic Tank — Tile Field	4	
5. Deep Well Disposal	5	
6. Surface of Ground	6	
7. Other (describe) _____	7	
8. Municipal Sanitary Sewer Plainwell (Name of Municipality)	8	
C. VOLUME OF DISCHARGE		
Average Daily Flow (MGD) (Millions of Gallons per Day)	.06	
Maximum Daily Flow (MGD)		
Total Annual Flow (MGY) (Millions of Gallons per Year)	21.4	
Flow is	☐ Measured ☒ Estimated	☐ Measured ☐ Estimated
D. TYPE OF WASTEWATER		
% Process	%	%
% Cooling	%	%
% Sanitary	100 %	%
EACH Outfall Must Add to 100%		

E. Word Description of Wastewater, Outfall Description and Location

6" sanitary sewer which leaves plant on the side to the south and is pumped to Plainwell Municipal Treatment Plant

WRC USE ONLY BELOW

	First Outfall	Second Outfall
40 1 2 3	40 1 2 3	
O.F.		
D.U. / C.M.	D.U. / C.M.	D.U. / C.M.
Diff. / I.S.A.	Diff. / I.S.A.	Diff. / I.S.A.

FOR ADDITIONAL OUTFALLS MAKE COPIES OF THIS FORM OR REQUEST ADDITIONAL FORMS

14741

1977

30 1 2 3

FORM III — CRITICAL MATERIALS REPORT

(See Instructions on Facing Page)

Copy Code Number from mailing label here → 0 3 0 0 2

A. Name Critical Material: Ammonia

Critical Material Parameter Number → 0 7 6 6 4 4 1

B. Production and Usage Report (Complete items below and Item B1)

If the material in Item A is *purchased for use* describe the use by marking one or more of the following.

- ☐ formulated or resold without change
- ☒ used in production process
- ☐ used in non-production activity (pilot plant, maintenance etc.)
- ☐ other (describe) _____

If you *manufacture* the material in Item A mark one or more of the following.

- ☐ manufactured for sale
- ☐ produced for use as an intermediate or ingredient in another on-site production process
- ☐ produced as contaminant or by-product
- ☐ other (describe) _____

B1: Total lbs/yr produced or used

Circle One

1 = < 11 lbs.
2 = 11—100 lbs.
3 = 101—500 lbs.
4 = 501—1,000 lbs
5 = 1,001—10,000 lb
6 = 10,001—100,000 lbs
7 = 100,000—1 million lbs.
8 = > 1 million lbs

C. Discharge Report (mark one item below and C1)

- ☐ None of the material in Item A is discharged in wastewater. Circle 0 (zero) in C1 then proceed to Item D.
- ☒ The material was or may have been discharged in wastewater effluent. Complete Items C1 and C2.

C1: Total lbs./yr. discharged in wastewat

Circle One

0 = 0 lbs.
1 = < 11 lbs.
2 = 11—100 lbs.
3 = 101—500 lbs.
4 = 501—1,000 lbs
5 = 1,001—10,000 lbs
6 = 10,001—100,000 lbs.
7 = > 100,000 lbs.

Item C2: Indicate the numbers of the outfalls reported on Form II which discharge this critical material:

								0 0 5

D. Residuals Report (mark one item below and D1)

- ☐ None of the material in Item A was contained in a wastewater treatment or Production Process Residual (sludge, residue etc.). Circle 0 (zero) in D1.
- ☒ The material was or may have been contained in a wastewater treatment or Production Process Residual. Complete Item D1 and Form IV page 13.

D1: Total lbs./yr. contained in residuals

Circle One

0 = 0 lbs.
1 = < 11 lbs.
2 = 11—100 lbs.
3 = 101—500 lbs.
4 = 501—1,000 lbs.
5 = 1,001—10,000 lb
6 = 10,001—100,000 lbs.
7 = > 100,000 lbs.

E. ☑ Check here if you want the information supplied in ITEM B to remain confidential as provided by Section 6b of Act 293 and Rule 353(4).

FOR ADDITIONAL CRITICAL MATERIALS MAKE COPIES OF THIS FORM OR REQUEST ADDITIONAL FORMS

5 14742

30 1 2 3

FORM III — CRITICAL MATERIALS REPORT

(See Instructions on Facing Page)

Copy Code Number from mailing label here → 0 3 0 0 2

A. Name Critical Material: Formaldehyde

Critical Material Parameter Number → 0 0 0 5 0 0 0

B. Production and Usage Report (Complete items below and Item B1)

If the material in Item A is *purchased for use* describe the use by marking one or more of the following.

- ☐ formulated or resold without change
- ☒ used in production process
- ☐ used in non-production activity (pilot plant, maintenance etc.)
- ☐ other (describe) _____

If you *manufacture* the material in Item A mark one or more of the following.

- ☐ manufactured for sale
- ☐ produced for use as an intermediate or ingredient in another on-site production process
- ☐ produced as contaminant or by-product
- ☐ other (describe) _____

B1: Total lbs/yr produced or used

Circle One:
1 = < 11 lbs
2 = 11—100 lbs
3 = 101—500 lbs.
4 = 501—1,000 lbs
5 = 1,001—10,000 lb
6 = 10,001—100,000 lbs
7 = 100,000—1 million lbs.
8 = > 1 million lbs

C. Discharge Report (mark one item below and C1)

- ☐ None of the material in Item A is discharged in wastewater. Circle 0 (zero) in C1 then proceed to Item D.
- ☒ The material was or may have been discharged in wastewater effluent. Complete Items C1 and C2.

C1: Total lbs./yr. discharged in wastewater

Circle One:
0 = 0 lbs.
1 = < 11 lbs.
2 = 11—100 lbs.
3 = 101—500 lbs.
4 = 501—1,000 lbs
5 = 1,001—10,000 lbs
6 = 10,001—100,000 lbs.
7 = > 100,000 lbs.

Item C2: Indicate the numbers of the outfalls reported on Form II which discharge this critical material:

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ 0 0 5

D. Residuals Report (mark one item below and D1)

- ☐ None of the material in Item A was contained in a wastewater treatment or Production Process Residual (sludge, residue etc.). Circle 0 (zero) in D1.
- ☒ The material was or may have been contained in a wastewater treatment or Production Process Residual. Complete Item D1 and Form IV page 13.

D1: Total lbs./yr. contained in residuals

Circle One:
0 = 0 lbs.
1 = < 11 lbs.
2 = 11—100 lbs.
3 = 101—500 lbs.
4 = 501—1,000 lbs.
5 = 1,001—10,000 lb
6 = 10,001—100,000 lbs.
7 = > 100,000 lbs.

E. ☐ Check here if you want the information supplied in ITEM B to remain confidential as provided by Section 6b of Act 293 and Rule 353(4).

FOR ADDITIONAL CRITICAL MATERIALS MAKE COPIES OF THIS FORM OR REQUEST ADDITIONAL FORMS

FORM III — CRITICAL MATERIALS REPORT

(See Instructions on Facing Page)

30 2 3

Copy Code Number from mailing label here → 0 3 0 0 2

A. Name Critical Material: Zinc

Critical Material Parameter Number → 0 2

B. Production and Usage Report (Complete items below and Item B1)

If the material in Item A is *purchased for use* describe the use by marking one or more of the following.

- ☐ formulated or resold without change
- ☒ used in production process
- ☐ used in non-production activity (pilot plant, maintenance etc.)
- ☐ other (describe) _____

If you *manufacture* the material in Item A mark one or more of the following.

- ☐ manufactured for sale
- ☐ produced for use as an intermediate or ingredient in another on-site production process
- ☐ produced as contaminant or by-product
- ☐ other (describe) _____

B1: Total lbs/yr produced or used

Circle One
1 = < 11 lbs.
2 = 11—100 lbs.
(3) = 101—500 lbs.
4 = 501—1,000 lbs.
5 = 1,001—10,000 lbs.
6 = 10,001—100,000 lbs
7 = 100,000—1 million lbs.
8 = > 1 million lbs

C. Discharge Report (mark one item below and C1)

- ☐ None of the material in Item A is discharged in wastewater. Circle 0 (zero) in C1 then proceed to Item D.
- ☒ The material was or may have been discharged in wastewater effluent. Complete Items C1 and C2.

C1: Total lbs./yr. discharged in wastewater

Circle One
0 = 0 lbs.
(1) = < 11 lbs.
2 = 11—100 lbs.
3 = 101—500 lbs.
4 = 501—1,000 lbs
5 = 1,001—10,000 lbs
6 = 10,001—100,000 lbs.
7 = > 100,000 lbs

Item C2: Indicate the numbers of the outfalls reported on Form II which discharge this critical material:

								0 0 5

D. Residuals Report (mark one item below and D1)

- ☐ None of the material in Item A was contained in a wastewater treatment or Production Process Residual (sludge, residue etc.). Circle 0 (zero) in D1.
- ☒ The material was or may have been contained in a wastewater treatment or Production Process Residual. Complete Item D1 and Form IV page 13.

D1: Total lbs./yr. contained in residuals

Circle One
0 = 0 lbs.
(1) = < 11 lbs.
2 = 11—100 lbs.
3 = 101—500 lbs
4 = 501—1,000 lbs
5 = 1,001—10,000 lbs
6 = 10,001—100,000 lbs.
7 = > 100,000 lbs

E.

☐ Check here if you want the information supplied in ITEM B to remain confidential as provided by Section 6b of Act 293 and Rule 353(4).

FOR ADDITIONAL CRITICAL MATERIALS MAKE COPIES OF THIS FORM OR REQUEST ADDITIONAL FORMS

5 14744

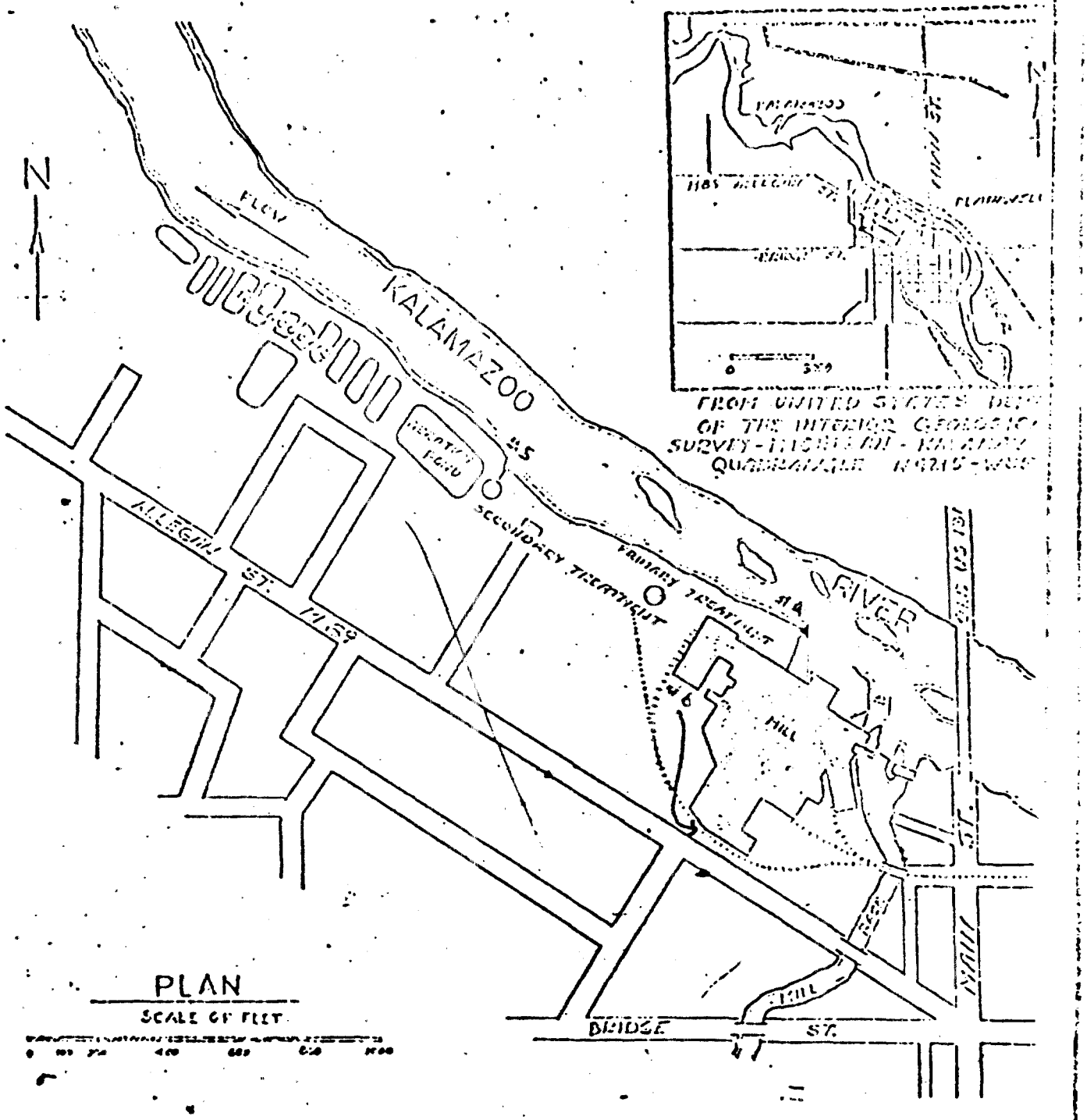
RESIDUALS AND RESIDUES DISPOSAL AND STORAGE REPORT

(see instructions on facing page)

Copy Code Number from Mailing Label here → 0 3 0 0 2

	Wastewater Treatment Residuals	Production Proce: Residuals
A. The physical state of the residue is best described as	1. liquid ☐ 2. heavy sludge ☒ 3. wet solid ☐ 4. dry solid ☐	1. liquid 2. heavy sludge 3. wet solid 4. dry solid
B. The liquid portion of the residue is primarily	1. water ☒ 2. oil ☐ 3. chemical solvent ☐	1. water 2. oil 3. chemical solvent
C. The residue results from	1. process wastewater ☒ 2. sanitary sewage ☐	1. chemical production 2. food processing 3. machining 4. dust collection 5. paint booths 6. water treatment 7. other (specify)
D. Estimate the total annual volume or weight of the material	28,500 ☐ gallons ☐ pounds ☒ cu yds	☐ gallon ☐ poun ☐ cu yd
E. If you dispose of the material yourself indicate the type of disposal site	1. public landfill ☐ 2. private landfill ☐ 3. own land ☒ 4. shipped out of state ☐ 5. incinerated ☐ 6. other (specify) ☐	1. public landfill 2. private landfill 3. own land 4. shipped out of state 5. incinerated 6. other (specify)
F. If a public or private landfill(s) is used give the name(s) and location(s). Attach separate list if necessary	James Harris Box 6 M-40 Allegan, Mi	
G. If you have the material removed by commercial waste or refuse hauler(s) give the name(s) and address(es). Attach separate list if necessary		
H. Indicate how the material is stored before disposal or removal	1. metal drums ☐ 2. fiber drums ☐ 3. above ground tank ☐ 4. underground tank ☐ 5. stockpiled on ground ☐ 6. holding pond/ lagoon ☒ 7. other (specify) ☐	1. metal drums 2. fiber drums 3. above ground tank 4. underground tank 5. stockpiled on ground 6. holding pond/ lagoon 7. other (specify)

5 14745



PLAN

SCALE OF FEET

NOTE: ELEVATIONS SHOWN ON THE FOLLOWING PAGES ARE TAKEN FROM U.S.G.S. BENCH MARK NUMBER F 170

EXISTING OUTFALL & DISCHARGE IN THE KALAMAZOO RIVER AT THE VILLAGE OF PLAINWELL ALLEGAN COUNTY, MICHIGAN

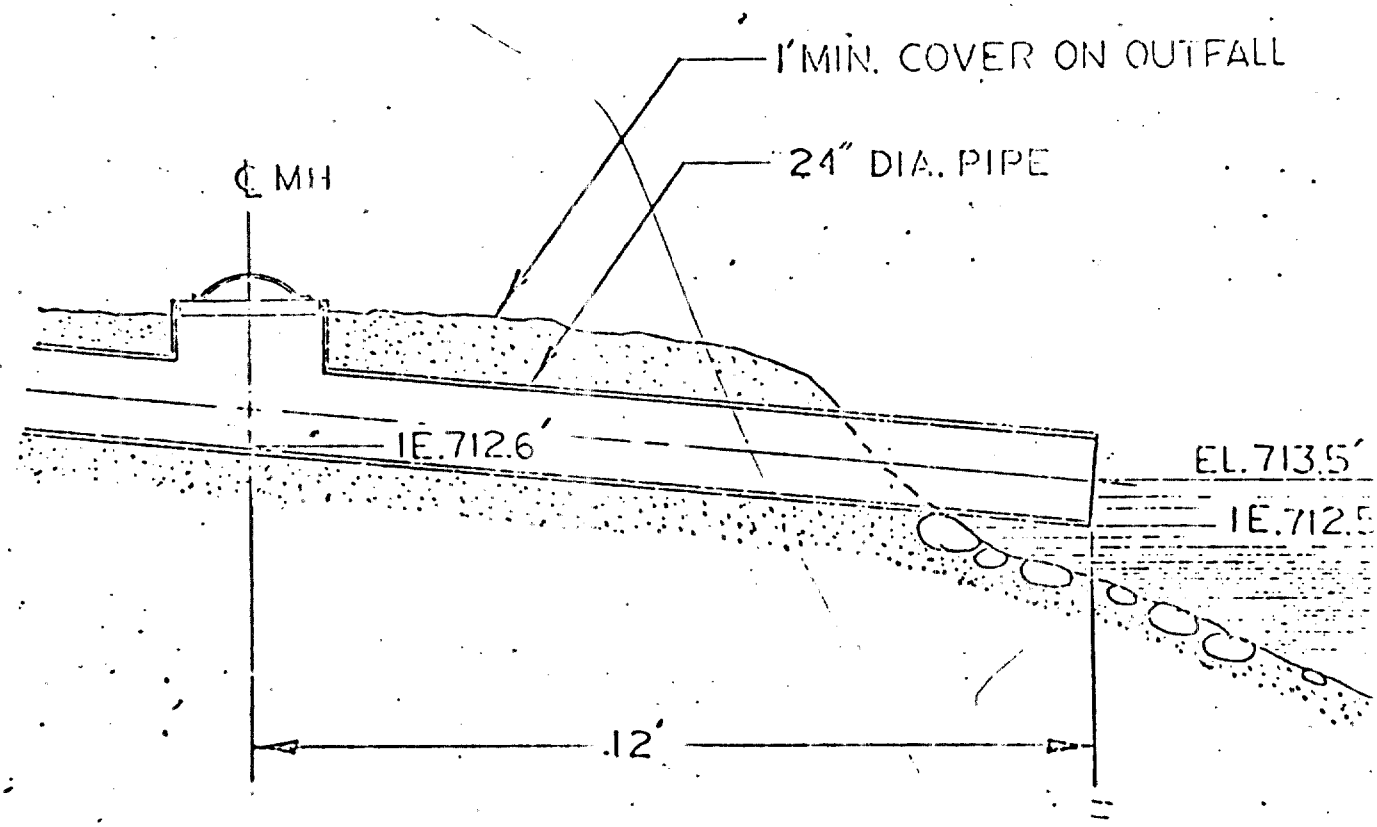
APPLICATION BY _____

SHEET 1 OF 5 DATE _____

5 14746

PROFILE #4 OUTFALL

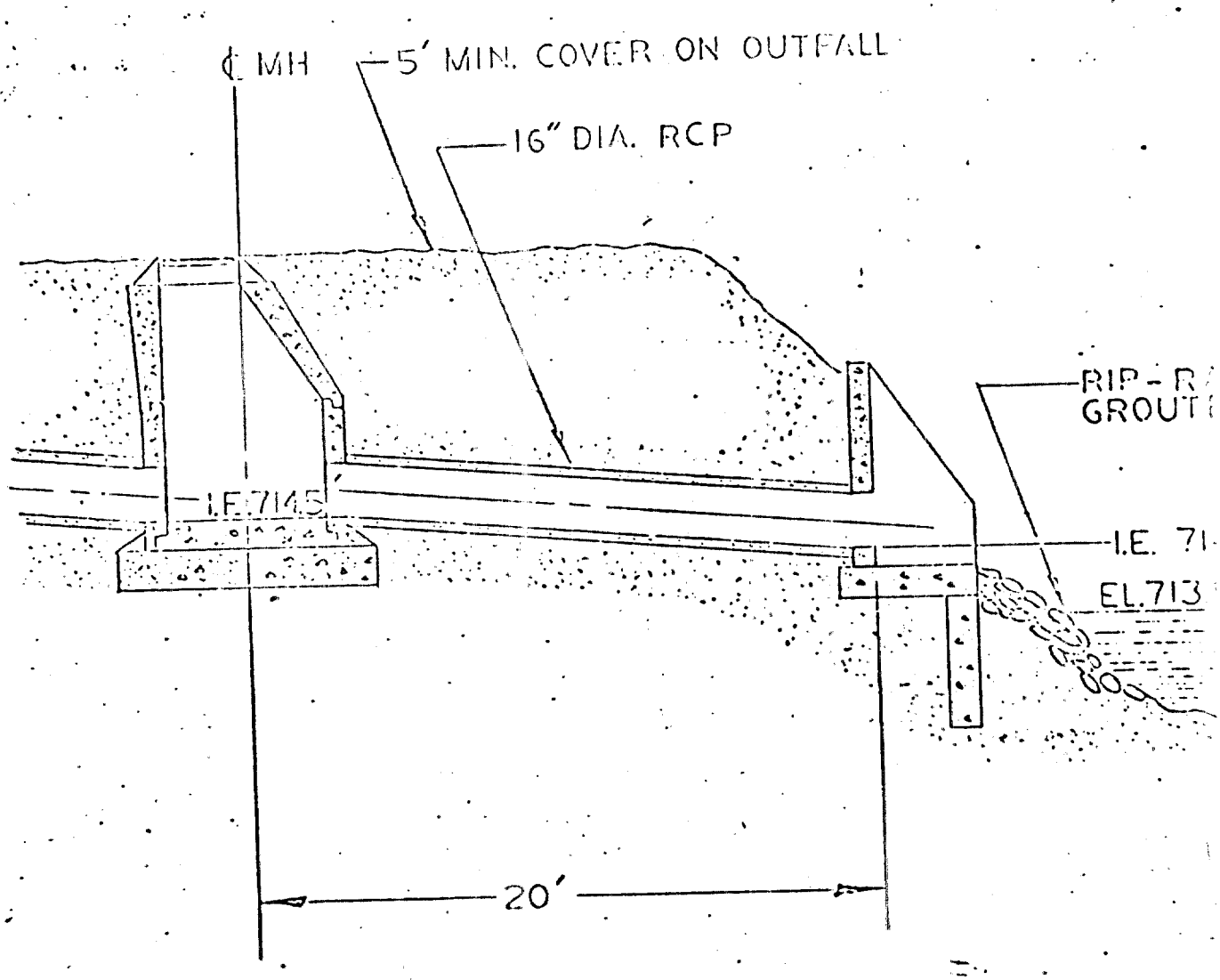
CLEAR WATER SEWER



SHEET 4 OF 5

PROFILE #5 OUTFALL

SECONDARY WASTE TREATMENT



SHEET 5 OF 5

SECTION II. PLANT PROCESS AND DISCHARGE DESCRIPTION

1. Discharge described below is
a. Present [X] b. Proposed new or changed [ ]

2. Implementation schedule [ ]

(Office use only)

Name of corporate boundaries within which the point of discharge is located.

3. State: MICHIGAN
4. County: ALLEGAN
5. City or Town: PLAINWELL

6. Discharge Serial No.: 005

State the precise location of the point of discharge.

7. Latitude ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

8. Longitude ___ ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

9. Name of waterway at the point of discharge: KALAMAZOO RIVER

10. Has application for water quality certification or description of impact been made? If so, give date:

Date: JAN 21 71 (mo day yr)

Check if certificate is attached to form [X]

Name Issuing Agency: WATER RESOURCES COMMISSION STATE OF MICHIGAN

11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing process).

SIC: 26 -

GENERAL: MANUFACTURE OF FINE PRINTING PAPER AND INDUSTRIAL SPECIALTIES.

SPECIFIC: THREE (3) FOURDRINIER PAPER MACHINES, TRAILING BLADE COATER AND OTHER ASSOCIATED EQUIPMENT

SPECIFIC: ~~USE~~ RAW MATERIAL IS 100% PURCHASED PULPS

12. Standard industrial classification number: ~~[illegible]~~ SIC - 26

13. Principal product: Fine & Technical Papers

14. Amount of principal product produced per day: ? ~~150~~ 175 T/D

15. Principal raw material: ~~Bleached Kraft Pulps~~ Need only I

16. Amount of principal raw material consumed per day: ~~[illegible]~~ 155 TONS/DAY - WOOD PULP

17. Number of batch discharges per day: ? CONTINUOUS

18. Average gallons per batch discharge: ~~[illegible]~~

19. Date discharge began: DAY ___ ___ 1967 (mo day yr)

20. Date discharge will begin: ___ ___ ___ (mo day yr)

21. Describe waste abatement practices.

E ESEPAR, RECOVE, REVCE, OMONIT, PSEDOM, SLAGOD, CODORC, BARKAT, PSEDIVM, SLAGOD, CODORC.

~~Blowdown is pumped to Primary Clarifier in solids settling effluent is pumped to clarifier. Clarifier effluent flows to Activated Basin. Activated Basin has biological removal of material takes place. This effluent flows to 2nd clarifier for further settling. Clear water flows to Kal. River. Sludge is pumped to drying pits or recycled to the activated basin.~~

ENG FORM MAY 71 4345-1

Copy Rewrite

Page 1 of 5

5 14749

22. PHYSICAL DESCRIPTION OF INTAKE WATER AND DISCHARGE

Intake | Discharge | (Office use only)

Discharge Serial No. 005

Parameter and (Code)	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	AVERAGE (DAILY) (3)	MINIMUM (OPERATING YEAR) (4)	MAXIMUM (OPERATING YEAR) (5)	SAMPLE FREQUENCY (6)	CONTINUOUS MONITORING (7)
Flow (Gallons per day) 00056	2,304,000	1,005,000	1,643,000	450,000	2,100,000	DYLY	REC
pH 00400	7.2	7.2	7.4	6.8	8.5	DYLY	ABS
Temperature (Winter) (°F) 74028	NOT KNOWN	NOT KNOWN	56	40	62	"	ABS
Temperature (Summer) (°F) 74027	59	59	75	69	80	"	ABS

23. DISCHARGE CONTENTS

PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT
Color 00080	✓		Aluminum 01105	✓		Nickel 01067		✓
Turbidity 00070	✓		Antimony 01097		✓	Selenium 01147		✓
Radioactivity 74050	?		Arsenic 01002		✓	Silver 01077		✓
Hardness 00900	✓		Beryllium 01012		✓	Potassium 00937	?	
Solids 00500	✓		Barium 01007		✓	Sodium 00929	✓	
Ammonia 00610	✓		Boron 01022		✓	Titanium 01152	✓	
Organic Nitrogen 00605	✓		Cadmium 01027		✓	Tin 01102		✓
Nitrate 00620	?		Calcium 00916	✓		Zinc 01092		✓
Nitrite 00615	?		Cobalt 01037		✓	Algicides 74051		✓
Phosphorus 00665	✓		Chromium 01034		✓	Oil and Grease 00550	✓	X
Sulfate 00945	✓		Copper 01042			Phenols 32730	?	
Sulfide 00745	✓		Iron 01045	✓		Surfactants 38260	?	
Sulfite 00740	?		Lead 01051		✓	Chlorinated Hydrocarbons 74055		✓
Bromide 71870		✓	Magnesium 00927	✓		Pesticides 74053		✓
Chloride 00940	✓		Manganese 01055		✓	Fecal Streptococci Bacteria 74054		✓
Cyanide 00720	?		Mercury 71900		✓	Coliform Bacteria 74056	✓	
Fluoride 00951		✓	Molybdenum 01062		✓			

ENG FORM 4345-1 MAY 71

5 14750

24a. Have all known hazardous or potentially hazardous substances in your plant been inventoried?

[X] Yes [ ] No

24b. If yes, have steps been taken to insure that there exists no possibility of any such known hazardous or potentially hazardous substance entering this discharge?

[X] Yes [ ] No

25. Remarks

Note Check Jim Hays Original copy for remarks

The information above completes the basic reporting requirements which are required of all applicants. Those applicants whose discharge results from an activity included within any of the Standard Industrial Classification Code (SIC Code) categories listed below must complete Part A of this form as well.

CRITICAL INDUSTRIAL GROUPS

SIC	098	FISH HATCHERIES, FARMS, AND PRESERVES
SIC	10-14	DIVISION B – MINING
SIC	201	MEAT PRODUCTS
SIC	202	DAIRY PRODUCTS
SIC	203	CANNED PRESERVED FRUITS, VEGETABLES (EXCEPT SEAFOODS, SIC 2031 AND 2036)
SIC	2031, 2036	CANNED AND CURED FISH AND SEAFOODS; FRESH OR FROZEN PACKAGED FISH AND SEAFOODS
SIC	204	GRAIN MILL PRODUCTS
SIC	206	SUGAR
SIC	207	CONFECTIONARY AND RELATED PRODUCTS
SIC	208	BEVERAGES
SIC	209	MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS
SIC	22	TEXTILE MILL PRODUCTS
SIC	23	APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS
SIC	242	SAWMILLS AND PLANING MILLS
SIC	2432	VENEER AND PLYWOOD
SIC	2491	WOOD PRESERVING
SIC	26	PAPER AND ALLIED PRODUCTS
SIC	281	INDUSTRIAL INORGANIC AND ORGANIC CHEMICALS (EXCEPT SIC 2818)
SIC	2818	INDUSTRIAL ORGANIC CHEMICALS
SIC	282	PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHE MAN-MADE FIBERS, EXCEPT GLASS
SIC	283	DRUGS
SIC	284	SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS
SIC	285	PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS
SIC	2871	FERTILIZERS
SIC	2879	AGRICULTURAL PESTICIDES, AND OTHER AGRICULTURAL CHEMICALS, NOT ELSEWHERE CLASSIFIED
SIC	2891	ADHESIVES AND GELATIN
SIC	2892	EXPLOSIVES
SIC	29	PETROLEUM REFINING AND RELATED INDUSTRIES
SIC	3011, 3069	TIRES AND INNER TUBES; FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED
SIC	3079	MISCELLANEOUS PLASTICS PRODUCTS
SIC	311	LEATHER TANNING AND FINISHING
SIC	32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC	331	BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS
SIC	332	IRON AND STEEL FOUNDRIES
SIC	333, 334	PRIMARY SMELTING AND REFINING OF NONFERROUS METALS; SECONDARY SMELTING AND REFINING OF NONFERROUS METALS
SIC	336	NONFERROUS FOUNDRIES
SIC	347	COATING, ENGRAVING, AND ALLIED SERVICES
SIC	35	MACHINERY, EXCEPT ELECTRICAL
SIC	36	ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES
SIC	37	TRANSPORTATION EQUIPMENT (EXCEPT SHIP BUILDING AND REPAIRING, SIC 3731)
SIC	3731	SHIP BUILDING AND REPAIRING
SIC	491	ELECTRIC COMPANIES AND SYSTEMS
SIC	493	COMBINATION COMPANIES AND SYSTEMS

PART A

(Note: Submission of Part A is required of all applicants whose processes are listed on page 3 above.)

(Office use only)

Discharge Serial No. 005

INFORMATION REQUIRED OF SPECIFIED INDUSTRIES

Intake | Discharge

PARAMETER AND CODE	(1) DAILY AVG. CONCENTRATION UNTREATED INTAKE WATER	(2) (DAILY AVG. CONCENTRATION) TREATED INTAKE WATER	(3) MAXIMUM CONCENTRATION PER PROCESS UNIT	(4) MAXIMUM POUNDS PER DAY	(5) DAILY AVG. CONCENTRATION	(6) AVERAGE POUNDS PER DAY	(7) SAMPLE TYPE	(8) SAMPLE FREQUENCY	(9) METHOD OF ANALYSIS	(10) CONTINUOUS MONITORING	(11)
ALKALINITY (as $CaCO_3$) 00410	240	240				262					ABS
B.O.D. 5-DAY 00310	2.0	2.0	243	5.82/T	2540	60 1018	CONT	DYLY	STANDARD METHODS		ABS
CHEMICAL OXYGEN DEMAND (C.O.D.) 00340	8		336	13.8/T	4350	173	CONT	DYLY	"		ABS
TOTAL SOLIDS 00500	432 338	432	844	32.3/T	8,200	510 338	5650	"	"		ABS
TOTAL DISSOLVED SOLIDS 70300	418 339	418	746	28.6/T	8,000	486 563	5000	"	"		ABS
TOTAL SUSPENDED SOLIDS 00530	14 1	14 1	180	3.71/T	1750	24 75	650	"	"		ABS
TOTAL VOLATILE SOLIDS 00505	86	86	152	2.11/T	1509	94 42	370	"	"		ABS
AMMONIA (as N) 00610	.06	.06				.30		"			ABS
KJELDAHL NITROGEN 00625	.26	.26				.60		"			ABS
NITRATE (as N) 00620	2.0	2.0				.03		"			ABS
PHOSPHORUS TOTAL (as P) 00665	.00	.00				.00		"			ABS

ENG FORM 4345-1 MAY 71 * ~~Simplified Laboratory Procedures per Wastewater Examination~~

5 14752

5/19/82

Marty Rock of the DNR came to the mill unannounced. Tues. 5/18/82.

Went to lunch of the mill 12 D.

Conditions of Plant water
1 - Very cloudy
2 - Both Aerators on high speed & alot of Carryover.
P.O. I.O. Came up to 1.2 5/19/82.
3 - Took flow reading from flume 11:38 AM.

4 - Showed him where to get 004 Cooling water sample.
(a) Weir was leaking although it had not been. We fixed it temporarily on the spot.
Took out our flow measurement device because he said we wanted the servers open & our floats had nothing to hold it permanently there if we had high flow & it could have been knocked off.

I also replaced the float because I thought it had some water inside. He had later decided to compare flow readings here.

Some Oil film had come from the OV4. He took 24 hour sample but mentioned nothing about the film. There is still oil near where coating prep jacket cooling water drops into this sewer.
At night I came in & yellow stock (9:00pm) was on the floor in the general area of the cooling water.
This was one of the worst days for losses to the sewer I have ever seen.
They left around 1-2 pm 5/21/82
They (Marty Rock) asked more question than ever before.
Also gave Mrs Rock Mill tour.

30006

FORM APPROVED
OMB NO. 49-R 0400

DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

APPLICATION FOR PERMIT TO DISCHARGE OR WORK IN NAVIGABLE WATERS AND THEIR TRIBUTARIES

SECTION I. GENERAL INFORMATION

1. State	Application Number (to be assigned by Corps of Engineers)			
M I	Div	Dist	Type	Sequence No.

2. Name of applicant and title of signing official: PLAINWELL PAPER CO., INC. - Division of NICOLET PAPER CO. Vice President, Resident Manager

3. Mailing address of applicant:
200 Allegan Street
Plainwell, Michigan 49080

4. Name, address, telephone number and title of applicant's authorized agent for permit application coordination and correspondence.
James M. Hays
Manager Product Development & Technical Services
Nicolet Paper Co.
Plainwell, Michigan 49080
(616) - 685-5851

NOTE TO APPLICANT: Refer to the pamphlet entitled "Permits for Work and Structures in and for Discharges or Deposits into Navigable Waters" before attempting to complete this form.

Required Information

a. All information contained in this application will, upon request, be made available to the public for inspection and copying. A separate sheet entitled "Confidential Answers" must be used to set out information which is considered by the applicant to constitute trade secrets or commercial or financial information of a confidential nature. The information must clearly indicate the item number to which it applies. Confidential treatment can be considered only for that information for which a specific written request of confidentiality has been made on the attached sheet. However, in no event will identification of the contents and frequency of a discharge be recognized as confidential or privileged information.

b. The applicant shall furnish such supplementary information as is required by the District Engineer in order to evaluate fully an application.

c. If additional space is needed for a complete response to any item on this form, attach a sheet entitled "Additional Information." Indicate on that sheet the item numbers to which answers apply.

d. Drawings required by items 20 and 21 should be attached to this application. Other papers which must be attached to this application include, if applicable, copies of a water quality certification or a written communication which describes water quality impact (see Item 22 and Item 10 of Section II below), the additional information sheet(s) in "c" above, and the confidential information sheet described in "a" above.

Fees

If any discharge or deposit is involved, an application fee of $100 must be submitted with this application. An additional $50 is required for each additional point of discharge or deposit.

Signature

a. If a discharge is involved, an application submitted by a corporation must be signed by the principal executive officer of that corporation or by an official of the rank of corporate vice president or above who reports directly to such principal executive officer and who has been designated by the principal executive officer to make such applications on behalf of the corporation. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor. Other signature requirements are discussed in the pamphlet.

b. If no discharge is involved, an application may be signed by the applicant or his authorized agent.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate.

Signature of Applicant

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

FOR CORPS OF ENGINEERS USE ONLY

Acronym name of applica

Are discharge structures Major? ☐ Minor? ☐ N/A? ☐

Date received, form not complete
Date received, form complete but without certificate
Date received, form complete
Date of Cert./Ltr.
(day mo yr)

Date sent to EPA, form not complete
Date sent to EPA, NOA / AEC, FPC in complete form
(day mo yr)

ENG FORM 4345
MAY 71

5 14755

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LAND RESOURCE PROGRAMS DIVISION

PERMIT

ISSUED TO

Plainwell Paper Company
200 Allegan Street
Plainwell, Michigan 49080

Permit No. 80-12-106
Date Issued August 8, 1980
Extension
Expiration June 30, 1981
Revised: December 15, 1980

MODIFIED

This permit is granted under provisions of:

- [x] The Inland Lakes and Streams Act, 1972 P.A. 346.
- [ ] The Great Lakes Submerged Lands Act, 1955 P.A. 247, as amended.

Permitted Activity

Construct a 16-inch effluent pipeline 800 feet in length adjacent to the Kalamazoo River, and place a 16-inch O.D. radius elbow with approximately 5 cubic yards of clean pea gravel at effluent outfall.

Water Course Affected	County	Town	Range	Sect.	Sub. and Lot Number
Kalamazoo River	Allegan	1N	11W	30	

Authority granted by this permit is subject to the following limitations:

A. Initiation of any work on the permitted project confirms the permittees acceptance and agreement to comply with all terms and conditions of this permit.
B. The permittee in exercising the authority granted by this permit shall not cause unlawful pollution as defined by Act No. 245 of the Public Acts of 1929, as amended.
C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
D. All work shall be completed in accordance with the plans and specifications submitted with the application and/or plans and specifications attached hereto.
E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein.
F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with Act 53 of the Public Acts of 1974, and comply with each of the requirements of that act.
G. This permit does not convey property rights in either Real Estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits or complying with other state statutes.
H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
I. Permittee shall notify the Department of Natural Resources within one week after the completion of the activity authorized by this permit, by completing and forwarding the attached preaddressed post card to the office addressed thereon.
J. This permit shall not be assigned or transferred without the written approval of the Land Resource Programs Division, Department of Natural Resources.
K. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

Project shall be completed as per attached drawing.

All fill shall consist of non-biodegradable material free from pollutants.

Authority granted by this permit does not waive permit requirements under the Soil Erosion and Sedimentation Control Act, 1972 Public Act 347, or the need to acquire applicable permits from the County Drain Commission.

Authority granted by this permit does not waive any jurisdiction of the U.S. Corps of Engineers and the need for a federal permit.

HOWARD A. NNER
Director, Department of Natural Resources

By Merle D. Raber

Merle D. Raber

cc: LRPD, Plainwell
Dist. 12 Law
USCOE
Allegan CEA (L. Fleming)
Floodplains (8003 318)

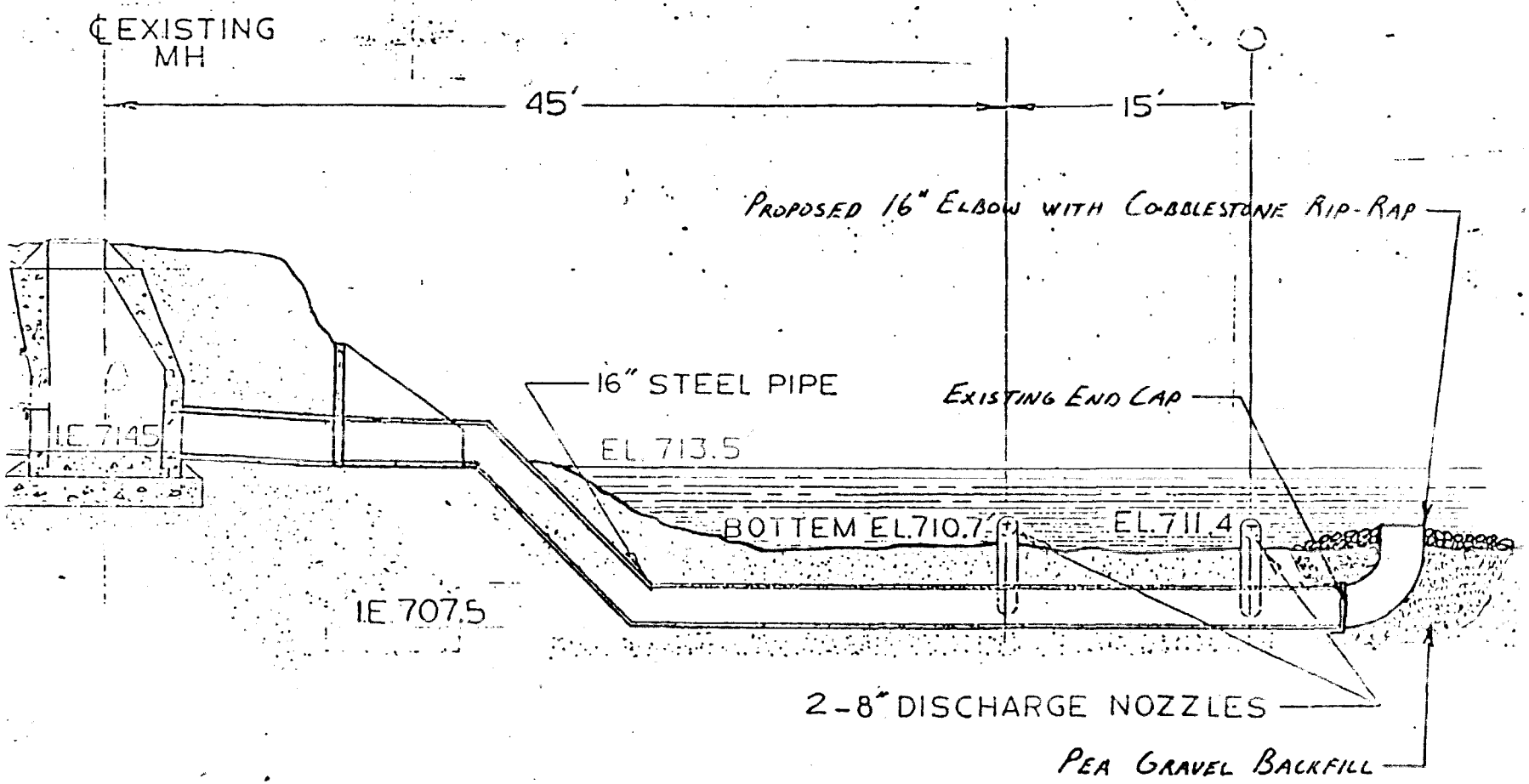
MDR:ECB:jah

R2706
Rev 9/79

14756

D-2880

PROPOSED
PROFILE #5 OUTFALL
SECONDARY WASTE TREATMENT



80-12-106m

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

May, 1977

Carl A. Gren
334 Lakeview Lane
Plainwell, MI 49080

Dear Mr. Gren:

We are taking this opportunity to bring to your attention the necessity of applying for renewal of your certification as an industrial or commercial wastewater treatment plant operator.

Specifically, we refer to Part 10, Rule 323 of the General Rules of the Water Resources Commission which states in part as follows:

> R 323.1257. Renewal and revocation of certificates.
>
> Rule 257. (1) A certificate is valid for 5 years from the next July 1st after the date of issuance. On or after January 1 of the year in which a certificate expires, the certified person may apply for renewal thereof. The commission may waive re-examination if the certified operator's operation record justifies such exceptions. Failure to apply for renewal shall result in termination of such certification. The commission shall notify the certified operator and the owner as to the action it has taken.
>
> (2) If the certificate of an operator is not renewed within 30 days after its renewal date, the commission shall give notice of the non-renewal to the owner and the operator and 30 days thereafter certification shall be terminated unless application for renewal has been received in the interim.

Enclosed you will find a form which must be filled out completely and returned to this office by June 15, 1977, if you wish to maintain your operator certification.

Very truly yours,

WATER QUALITY DIVISION

Howard B. Selover

Howard B. Selover, Chief
Training and Certification Section

HBS:jg
enclosure

R1026 10/76

14758

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
BOX 30028
LANSING, MICHIGAN 48909

LANSING MICH MAY 18 '77 U.S. POSTAGE 13

Carl A. Gren
334 Lakeview Lane
Plainwell, MI 49080

R 1052 4833-5582

5

14759

INDUSTRIAL WASTEWATER TREATMENT PL

Application for Certification

NAME: _____
Last First

HOME ADDRESS: _____
Street Number Street

_____
City State Zip Code

SOCIAL SECURITY NUMBER: _____

CERTIFICATE NUMBER: _____

CLASSES CERTIFIED IN: _____

NAME AND ADDRESS OF
PRESENT EMPLOYER: _____

_____

_____

_____

ADDRESS OF WORK STATION
IF DIFFERENT FROM ABOVE: _____

_____

_____

ARE YOU PRESENTLY IN THE WASTEWATER TREATMENT FIELD? _____

ARE YOU THE DESIGNATED OPERATOR (the individual designated to sign the monthly operating reports)? _____

_____
Signature

_____
Date

RETURN THIS FORM TO:

Training & Certification Section
Water Quality Division
Department of Natural Resources
Box 30028, 8th Floor Mason Building
Lansing, Michigan 48909

5 14760

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

July 1977

Mr. Carl A. Gren
334 Lakeview Lane
Plainwell, Michigan 49080

Dear Mr. Gren:

The Board of Examiners has determined from the information contained in the application form that you submitted and in our files, that you have demonstrated acceptable evidence of your qualifications and continued proficiency in these categories and, therefore, waive the necessity of reexamination at this time.

With the recommendation of the Board of Examiners and with the authority granted by the Natural Resources Commission, you are hereby granted a continuance of your certification in the treatment plant classifications listed below.

A-1b, C-1b

This certification is to be considered valid for all facilities with the same classifications as indicated and is to remain in effect until July 1, 1982, unless revoked for a just cause as set forth in the rules of the Water Resources Commission being Part 10 of the said rules.

An official certificate is enclosed. Your designated certificate number will continue to be the same, W 483, and should be included with your signature when signing and submitting all operating reports.

Sincerely,

Howard A. Tanner
Director

MICHIGAN
THE GREAT LAKE STATE

R1026 10/76

5 14761

DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
P O BOX 1027
DETROIT, MICHIGAN 48231

IN REPLY REFER TO
NCECO-O

30 April 1971

Dear Sir:

Our records indicate that your company will require Federal permits for discharges into navigable waters of the United States or their tributaries under Section 13 of the River and Harbor Act of 1899.

To assist you in applying for necessary permits, inclosed are copies of:

a. The pertinent regulation regarding permits required for discharges and/or deposits under Section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407), commonly known as the "Refuse Act".

b. The application form and a booklet giving detailed information on preparing the application. (Note: Section I of the information booklet has been omitted. When published, this section will pertain to permits for structures. Sections II and III pertain to the Refuse Act.)

c. A map showing the Division and District boundaries of the Corps of Engineers.

d. The addresses and telephone numbers of the Corps of Engineers Division and District offices.

Salient points regarding an application (followed by the paragraph reference in the inclosed regulation) are:

a. Applications for <u>existing</u> discharges and deposits must be filed with the respective Corps of Engineers District office not later than 1 July 1971. Applicants for <u>new</u> discharges or deposits

must file an application no less than 120 days in advance of the date on which it is desired to commence discharge or deposit, (para (d) (3)).

b. The applicant must furnish the Corps of Engineers District office with a certification from the State that there is reasonable assurance that such activity will be conducted in a manner which will not violate applicable water quality standards, (para (h) (1)). This certification, if available, should be furnished to the District at the time the application is filed. If State certification is not available at that time, a copy of your request to the State for such certification should be furnished with the application. The State should also be furnished a copy of your application when applying for the certification. When certification is subsequently received by the applicant he should immediately furnish a copy to the Corps' District office. In Michigan, requests for State certification should be made to the Michigan Water Resources Commission, Stevens T. Mason Building, Lansing, Michigan 48926.

c. The application must be signed by the appropriate corporation or company officer, (para (g) (2)).

d. Determination as to whether or not a permit will be issued will be based on an evaluation of the impact of the discharge on:

(1) Anchorage and navigation, as determined by the District Engineer, (para (d) (5)).

(2) Applicable water quality standards, based on State certification and approval by the Environmental Protection Agency, (para (d) (7)).

(3) Fish and Wildlife, where applicable as determined by the Department of the Interior and the National Oceanic and Atmospheric Agency, (para (d) (6)).

Additional copies of the application form may be obtained from the respective Corps of Engineers District Office. Within the Detroit District, these are:

U. S. Army Engineer District, Detroit
P. O. Box 1027
Detroit, Michigan 48231

Telephone 313-226-6813
313-226-6334

5 14763

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
E. R. CAROLLO
~~JACOB A. HOEFER~~
STEPHEN F. MONSMA
~~HILARY F. SNELL~~
~~PAUL H. WENDLER~~
HARRY H. WHITELEY
Marlene J. Fluharty
O. Stewart Myers
Raymond Poupore

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

RONALD O. SKOOG, Director

District 12 Headquarters
P.O. Box 355, Plainwell, Michigan 49080

May 9, 1984

Mr. Carl Gren, Superintendent
Wastewater Treatment Facility
Plainwell Paper Company
200 Allegan Street
Plainwell, Michigan 49080

Dear Mr. Gren:

Attached is a copy of the Point Source Survey conducted by the Michigan Department of Natural Resources (MDNR) during October 1982. I offer my personal apology for the extended time required to forward this report.

Since this report was published, Plainwell Paper Company has completed a major expansion to its wastewater treatment facility. However, I believe the following comments are appropriate:

1. On page 7, for outfall 005, there is a substantial discrepancy in suspended solids as reported by Plainwell Paper on its M.O.R. and the value reported by the survey crew.

2. On page 6, for outfall 004, low levels of 1,1 Dichlorethane and Chloroform were detected. It appears that some of these compounds are present in the intake water and not the result of Plainwell Paper.

3. On page 5, for outfall 005, the reported values for both Total Phosphorus and Ortho-Phosphate are higher than the 1 p.p.m. limit recommended by the International Joint Commission. As indicated by letter to Mr. George Lawton, from Mr. William Marks, a Phosphorus of 1 mg/l as a daily average will be included in your re-issued NPDES permit.

If you have any questions, please contact me at the Plainwell District Office.

Sincerely,

SURFACE WATER QUALITY DIVISION

Garth Aslakson

Garth Aslakson
Water Quality Specialist
Plainwell District
(616) 685-9886

GA:ek
cc: Bev Long
R1026-1 Enclosure

5 14764

NCECO-O Permit No. 71-52-35D
Process No. 71831

COMMENTS: This office has received no information from you concerning discharge serial numbers 001 thru 003. Submit this information when you return your inclosed applications.

NCE 187 (O/T)
Aug 71

14765

INTER-OFFICE CORRESPONDENCE

Plainwell Paper

Affiliate of Philip Morris Industrial Incorporated

TO: S. Taylor, J. Kurtzweil, B. Hines, L. Henseler, G. Longworth, C. Gren, GWL 83-140

DATE: June 16, 1983

FROM: G. Lawton

SUBJECT: Michigan DNR - Consent Decree

I spoke to Garth Aslakson early this afternoon. He reported that he had written a draft of a proposed Consent Decree for us and sent it to Lansing this morning. The basic details are listed below:

1. No change in present discharge limits through the end of 1986.

2. The addition of a phosphorous discharge limit at 1 ppm daily average, 2 ppm max. day to the permit. This is to account for the use of phosphoric acid in the new plant.

3. Construction to start within 10 days after formal signing.

4. Construction complete within 6 months. Plant in full operation, including tests, within 9 months from formal signing date.

The Decree has to be reviewed in Lansing. Then we should meet with DNR to review it and make any changes. The draft, with our indication of agreement, would be presented to the Natural Resources Commission at their mid-July meeting for approval. Formal signing would take place shortly afterwards.

Garth felt that the week of June 27 or July 4 would be practical as a date for the DNR-Plainwell meeting. We will prepare for that meeting in the interim period.

The proposed limits and timetables do not appear to cause us any problems.

In order to get ready to meet the timetable we should be prepared to do the following very soon:

1. Sign the formal agreement with Arus, contingent on the DNR approval proceeding as outlined.

2. Sell the Bonds.

3. Engage the Dewatering Contractor as soon as bids are evaluated.

4. Engage the Civil Contractor as soon as bids are evaluated.

5. Release formal purchase orders for equipment immediately after the date of the NRC meeting, if approval is voted.

We can still get the plant completed prior to January 1, 1984. We will have to work quickly during the remaining part of the summer to accomplish this.

George

George

GL:jj

FORM APPROVED
OMB No. 158-R0100

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Application for Permit to Discharge Wastewater

5060

Supplementary Instructions for STANDARD FORM C – MANUFACTURING AND COMMERCIAL

EPA Form 7550-23A (7-73)

5 14768

STANDARD FORM C – MANUFACTURING AND COMMERCIAL
SUPPLEMENTARY INSTRUCTIONS

TABLE OF CONTENTS

	Page
General Instructions	1
Instructions for Individual Items	3
Section I. Applicant and Facility Description: Municipal	3
Section II. Basic Discharge Description: Manufacturing and Commercial	5
Section III. Waste Abatement Requirements and Implementation (Construction) Schedule: Manufacturing and Commercial	9
Appendix A – Standard Analytical Methods (Interim)	13

5 14769

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE
GENERAL INSTRUCTIONS
STANDARD FORMS

The Federal Water Pollution Control Act, as amended by Public Law 92-500 enacted October 18, 1972, prohibits any person from discharging pollutants into a waterway from a point source unless his discharge is authorized by a permit issued either by the U.S. Environmental Protection Agency or by an approved State agency. Regulations for the operation of this program are published in the FEDERAL REGISTER as 40 CFR part 125 (38 F.R. 13528, May 22, 1973), available from the Government Printing Office, Washington, D.C. 20402. Applicants wishing detailed information regarding this form or the permit should refer to this publication. It is expected, however, that for most applicants, the attached cover letter and the general instructions below will provide the information necessary to complete the form.

Who must apply.—The owner and operator of any activity or wastewater system, publicly or privately owned, which discharges wastes from one or more point sources into a waterway, must obtain a permit for such discharge(s). Where the system is owned by one person but leased to another person for operation, it is the responsibility of the operator to obtain the permit. A separate application is to be submitted for each facility discharging separately which is owned and/or operated by the applicant. Federal departments, agencies, and instrumentalities are also subject to these requirements. Discharges into publicly owned treatment works are not subject to permit requirements. However, discharges to publicly owned collection systems not connected to a treatment works are subject to these requirements. For a municipality, a facility is defined as a distinct activity or installation, including connected wastewater transport systems, which operates under the control or jurisdiction of a single responsible organization and discharges pollutants from one or more discharge points.

Application form to be used.—There are two sets of National Pollutant Discharge Elimination System (NPDES) Forms which are to be used, short forms (A-D) and standard forms (A and C). These instructions are for the standard forms A and C. The standard form requires specific information on the activity or wastewater facility and on each discharge. Depending on the adequacy of the data submitted for determining the issuance of a permit, additional information and analyses may be required from an applicant. Standard forms are designed for different sources of discharge as follows:

Form A—Municipal Wastewater Systems.

Form C—Manufacturing and Commercial (including mining and vessel discharges).

If the discharge is from a Federal facility's treatment plant receiving more than 50 percent domestic waste (based on the dry weather flow rate), complete standard form A. All other dischargers (including dischargers of domestic waste), with the exception of municipalities, municipal-type activities (e.g., subdivisions, shopping centers, etc.) and Federal facilities described above, must complete standard form C.

Signature on application. The person who signs the application form will often be the applicant himself; when another person signs on behalf of the applicant, his title or relationship to the applicant should be shown in the space provided. In all cases the person signing the form should be authorized to do so by the applicant. An application submitted by a corporation must be signed by a principal executive officer of at least the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge(s) described in the form originate. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a municipal, State, Federal, or other public facility, the application must be signed by either a principal executive officer, ranking elected official or other duly authorized employee.

Attachments and supplemental information.—Some items in this form may require narrative explanation; for this purpose, use the item labeled "Additional Information" at the end of sections I and II, or attach a separate sheet entitled "Additional Information." Where a separate sheet is used, be sure it is identified by the name of the applicant, the activity, and the discharge number to which it applies. Also, identify each separate remark by the item number and section of the form to which it refers.

Drawings required in section I should be attached to this application and identified by the name of the applicant and the activity. All other papers and attachments to the application must be similarly identified.

Use of information.—Except as specified below, all information contained in this application will, upon request, be made available to the public for inspection and copying. A separate sheet entitled "Confidential Answers" must be used to set out information which the applicant believes if disclosed to the general public would divulge methods and processes entitled to protection as trade secrets. The information must clearly indicate the item number to which it applies. Confidential treatment can be considered only for the information for which a specific written request for confidential treatment has been made on the attached sheet. However, in no event will identification of the contents, volume, and frequency of a discharge be recognized as confidential or privileged information.

Completion of forms.—Unless otherwise specified in the detailed instructions, each item in the forms must be answered. To indicate that each item has been considered, enter "NA," for not applicable, where a particular item does not fit the circumstances or characteristics of your operation or activity.

Assistance and advice regarding requirements for filing permit applications can be obtained through contact with your EPA Regional Office or approved State agency.

5 14770

Addresses of EPA Regional Offices and States Within Their Jurisdiction

Region	Address and Phone	State
I	Regional Administrator, Region I, Environmental Protection Agency, John F. Kennedy Federal Bldg., room 2303, Boston, Mass. 02203; attention: Permits Branch. 617-223-7210.	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.
II	Regional Administrator, Region II, Environmental Protection Agency, 26 Federal Plaza, room 908, New York, N.Y. 10007; attention: Permits Branch. 212-264-9895.	New Jersey, New York, Virgin Islands, Puerto Rico.
III	Regional Administrator, Region III, Environmental Protection Agency, Curtis Bldg., Sixth and Walnut Sts., Philadelphia, Pa. 19106; attention: Permits Branch. 215-597-9966.	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia.
IV	Regional Administrator, Region IV, Environmental Protection Agency, 1421 Peachtree St. NE., Atlanta, Ga. 30309; attention: Permits Branch. 404-526-3971.	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee.
V	Regional Administrator, Region V, Environmental Protection Agency, 1 North Wacker Dr., Chicago, Ill. 60606; attention: Permits Branch. 312-353-1472.	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.
VI	Regional Administrator, Region VI, Environmental Protection Agency, 1600 Patterson St., suite 1100, Dallas, Tex. 75201; attention: Permits Branch. 214-749-1983.	Arkansas, Louisiana, New Mexico, Oklahoma, Texas.
VII	Regional Administrator, Region VII, Environmental Protection Agency, 1735 Baltimore Ave., Kansas City, Mo. 64108; attention: Permits Branch. 816-374-5955.	Iowa, Kansas, Missouri, Nebraska.
VIII	Regional Administrator, Region VIII, Environmental Protection Agency, 1860 Lincoln St., suite 900, Denver, Colo. 80203; attention: Permits Branch. 303-837-4901.	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming.
IX	Regional Administrator, Region IX, Environmental Protection Agency, 100 California St., San Francisco, Calif. 94111; attention: Permits Branch. 415-556-3450.	Arizona, California, Hawaii, Nevada, Guam, American Samoa, Trust Territories.
X	Regional Administrator, Region X, Environmental Protection Agency, 1200 Sixth Ave., Seattle, Wash. 98101, attention: Permits Branch. 206-442-1213.	Alaska, Idaho, Oregon, Washington.

5 14771

SECTION I. APPLICANT AND FACILITY DESCRIPTION: MANUFACTURING AND COMMERCIAL

1. *Legal name of applicant.*—This term applies to the person, agency, firm, municipality, or any other entity which owns or is responsible for any waste treatment works, interceptor system or any facility/activity conducting operations that result or may result in a discharge of pollutants to a navigable water. This may or may not be the same name as the facility or activity producing the discharge. Enter the name of the applicant as it is officially or legally referred to, e.g., Wire Steel Corp., Johnson Photo Processing Co. Do not use colloquial names as a substitute for the official name.

2. *Mailing address of applicant.*—Use the complete mailing address of the applicant's main office. This often will not be the same address used to designate the location of the work or activity.

3. *Applicant's authorized agent.*—Give the name of a person who is thoroughly familiar with the facts reported on the forms and who can be contacted by the Environmental Protection Agency, State offices, and other agencies involved in permit application processing and review.

The person named, although not necessarily the same as the signing official, is also subject to the provisions of the law quoted below the signature line on the first page of the form.

Give the mailing address and telephone number where the agent can be reached.

5. *Discharge facility/activity.*—A facility is a distinct activity or installation, including connected transport systems, which operates under the control or jurisdiction of a single responsible organization and produces or may produce one or more sources of pollution. Name the facility/activity as it is officially or legally referred to in order to distinguish it from similar entities, if any, in the same geographical area. Do not use colloquial names as a substitute for the official name.

Items 7-9.—An accounting of all water associated with this facility is required. Values for the major categories of water intake, use, and discharges and losses are to be specified. All remaining categories are to be entered as "other" with the type specified in the appropriate space. If there are numerous categories for "other," specify them with the appropriate item number in "Additional Information" (item 12). Solely storm water discharges need not be reported in item 7-9. However, if storm water is combined with other flows, it is to be included as part of the totals. For example, if storm water enters the collection system of the facility, is passed around the main facility processes and then combined with other flows before being discharged to a surface water, it should appear as "other" in items 7 and 8, and as part of "surface water" discharge in item 9.

7. *Facility intake water. (Mining activities may omit this item).*—The volume per day of intake water may be estimated from water supply meter readings or from billing statements from a water supply utility. If water is not metered, estimate from pump capacity (in gallons per minute) times 60 times average number of hours the pump operates per day, dividing the product by 1,000 to obtain thousands of gallons per day to the nearest thousand of gallons.

Municipal or private water systems.—Any publicly or privately owned system that is a source of water for domestic, commercial, industrial, and public services.

Surface water.—Water other than subterranean water (e.g., ocean, lakes, and streams).

Ground water.—All subsurface or subterranean water.

8. *Facility water use.*—Estimate the net volume per day used at the facility for each type of use listed. Do not count twice water which is reused.

Noncontact cooling water.—Water used to reduce temperature which does not come in contact with any raw material, intermediate, or end product.

Boiler feed water.—Water forced into a boiler to replace water that evaporated in the generation of steam.

Process water.—Water that comes in contact with any raw material, intermediate material, or end product.

Sanitary water.—Wastewater discharged from the sanitary conveniences (e.g., toilets, sinks, showers) of dwellings, office buildings, industrial plants, or institutions.

If water is first used for one purpose and the same water is subsequently used for one or more other purposes, indicate the volume per day of the last designated use before treatment and/or discharge.

For example, if water is initially used as noncontact cooling water and then as process water (before being treated and discharged) the quantity of water given should be indicated as process water.

The total of item 8 should equal the total of item 7. Any difference in these totals should be explained in item 12, "Additional Information."

9. *Facility discharges, number and facility discharge volume.*—The total volume per day of discharges or losses (e.g., evaporation and water consumed by process) should equal the total intake volume per day (item 7). Any difference in the sum of items 7 and 9 should be explained in item 12, "Additional Information." If discharge is directly to land, use category "Surface impoundment with no effluent," or "Underground Percolation," or if to a surface which drains into a waterway, "Surface Water." If discharge is intermittent and less than once per day, divide average gallons per discharge by average number of days between discharges.

Surface water.—All water on the surface, as distinguished from subterranean water.

Sanitary wastewater transport system.—Conveys through a system of pipes:

(1) Domestic wastewater with storm and runoff water excluded.

(2) Wastewater discharging from the sanitary conveniences of dwellings (including apartment houses and hotels), office buildings, industrial plants, or institutions.

(3) The water supply of a community after it has been

14772

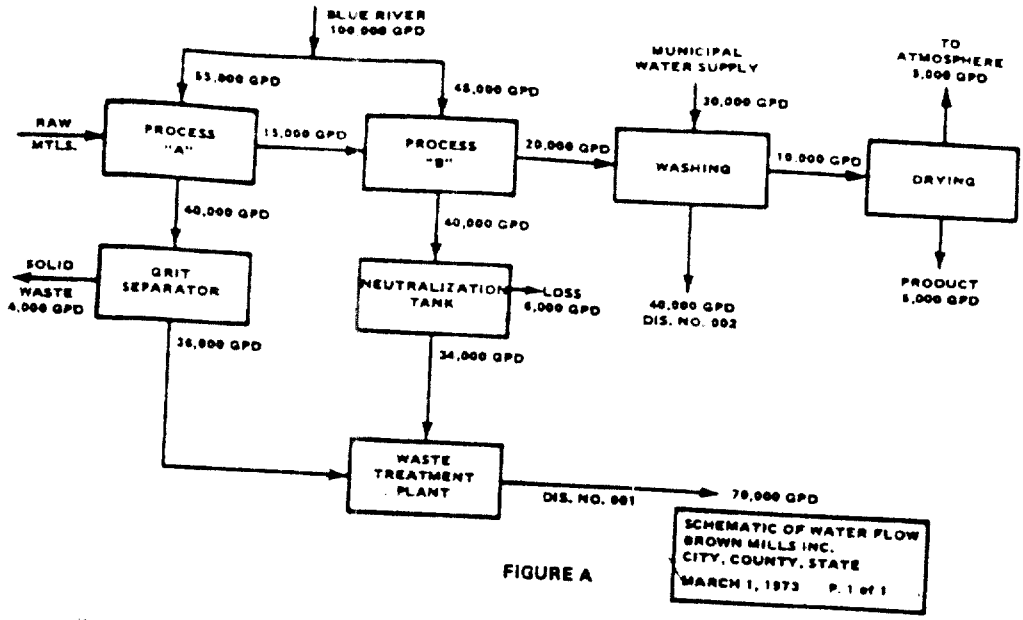


FIGURE A

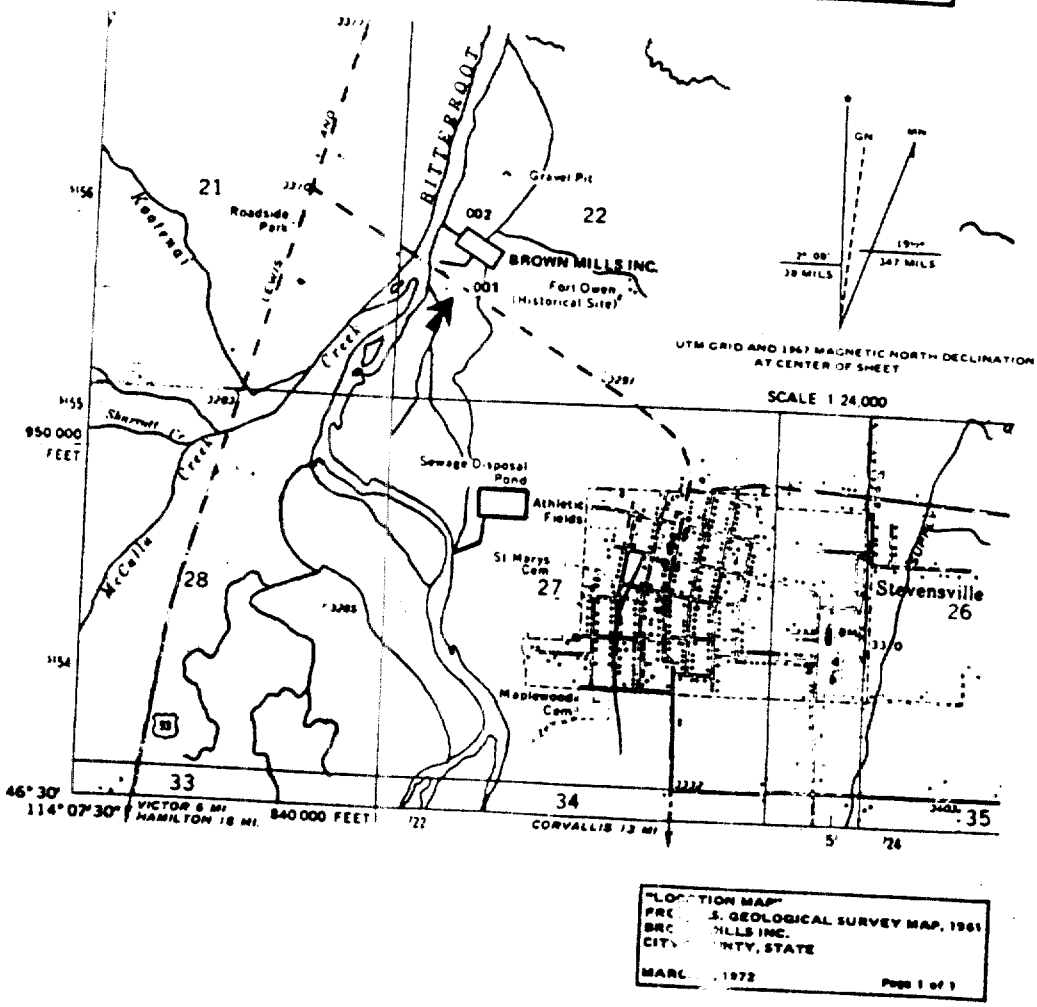


FIGURE B

5 14773

used and discharged into a sewer.

Storm water transport system.—A separate collection system of pipes that convey runoffs from buildings and land caused by precipitation.

A system of drains and appurtenances for conveying the runoff from street surfaces caused by precipitation.

Combined sanitary and storm water transport system.—A system of pipes which carries a mixture of storm water runoff, surface water runoff, and other wastewater such as domestic or industrial wastewater.

Surface impoundment with no effluent.—A manmade holding pond or basin large enough to contain all wastes discharged which allows evaporation with no or an insignificant amount of percolation into the ground and has no overflow.

Underground percolation.—The movement or flow of water through the interstices or the pores of the soil or other porous medium.

Well injection.—This code is to be used for injection of wastes into a well.

Waste acceptance firm.—A company which collects stored wastes and conveys them to a central location for treatment or disposal.

Evaporation.—The volume of water that is being changed into vapor and lost to the atmosphere.

Consumption.—Water that is incorporated into the product or its byproduct during a production process.

10. *Permits, licenses, and applications.*—List all existing permits and licenses or permit and license applications granted by or requested from Federal, interstate, State, or local agencies associated with any discharge described in this application. Examples: A license to operate a powerplant issued by the Atomic Energy Commission or the Federal Power Commission; a permit to construct issued by the Army Corps of Engineers; a permit to discharge issued by a State water control office.

11. *Required maps and drawings.*—A "schematic of water flow" and a "location map" are required with this application. All maps and drawings should be either on paper or other material suitable for reproduction. If possible, all sheets should be approximately letter size with margins suitable for binding. As few sheets should be used as necessary to show clearly what is involved. All discharge points should be identified with the discharge serial numbers used in section II of this application. Titles are to be located in the lower right-hand corner. Titles must include applicant's name, facility location, date of drawing, and designation of number of sheets as "page __ of __."

(a) *Schematic of water flow.*—A line drawing of water flow through the facility producing the discharges must be attached to this application. Clearly indicate all intake points and sources. Average flow rates should be shown for various streams if possible. Specific plant processes are to be indicated by blocks of at least 1-inch square. The title is to be headed by the statement "Schematic of Water Flow." An example of the drawing required is shown in figure A.

(b) *Location map.*—A map showing the location of each discharge structure, including any and all outfall devices, dispersive devices, and nonstructural points of discharge, must be attached to this application. All maps must be drawn to scale and the scale shown. The usual meridian arrow showing north must be shown at the top of each sheet. The direction of river flow is to be indicated by a suitable arrow. Maps may be traced from a Coast Survey, Lake Survey, or Geological Survey chart, road map, or other general map and must bear a note showing the number and title of such map or chart (e.g., "Traced from U.S. Coast Survey Chart 273"). The name of the waterway and the names of the towns and prominent points are to be placed on this map and identified. The location of each existing and proposed discharge structure must be clearly identified using the discharge serial number specified in section II of this application. The title is to be headed by the statement "Location Map." An example of the location map is shown in figure B.

SECTION II—BASIC DISCHARGE DESCRIPTION: MANUFACTURING AND COMMERCIAL

1.a. *Discharge serial number.*—Assign a three-digit number beginning with 001 for the point of discharge covered by the first description. Discharge serial numbers must be consecutive for each additional discharge described; hence, the second serial number should be 002, the third 003, etc. Enter this number at the top of each page of section II in the space provided.

b. *Discharge point name.*—Give the name, if any, of the discharge point which distinguishes it from all other discharge points from the facility, e.g., Main Street Outfall; Mill Creek Pipe.

c. *Previous discharge serial number.*—If application for a National or Federal permit was made previously for this discharge (see item 4, section I), supply the serial number assigned for this discharge.

3. *Engineering report.*—An engineering report assembles basic information, presents design criteria and assumptions, examines alternate project with preliminary layouts and cost estimates and offers a conclusion with a proposed project for client consideration. This document provides a technical basis for detailed design and preparation of construction plans and specifications.

If an engineering report was prepared on the facility producing this discharge, check the box provided and list in item 26 all such reports and indicate where they are available for inspection by the reviewing office.

5. *Discharge point description.*—See instructions for section I, item 9 for definitions of terms.

7. *Name of waterway.*—Use the name of the waterway by which it is usually designated on published maps of the area; if possible, refer to one of the map series published by the U.S. Geological Survey. When the discharge is to an unnamed tributary, please so state and give the name of the first body of water fed by that tributary which is named on the map, e.g., unnamed ditch to Vaughan Creek; unnamed arroyo to Serpent River, where Serpent River is the first

14774

body of water that is named on the map and is reached by the discharge.

9.a. *Type of discharge.*—A continuous discharge is one which occurs without interruption throughout the operating hours of the facility. An intermittent discharge is a discharge that occurs and ceases at regular or irregular intervals, either during or outside of the operating hours of the facility.

c. *Discharge occurrence.*—This item refers to a discharge occurring at intervals and lasting for periods of weeks or months. During this period, the discharge may be continuous or intermittent. Example of such a discharge is a cannery that operates only during the summer months.

13. *Description of activity.*—Provide a separate narrative description of each specific activity or process causing this discharge. Descriptions should be as concise as possible. Example: "Manufacture of sulfuric acid by contact process."

14. *SIC code.*—Report the standard industrial classification (SIC) code(s) which identifies the activity actually causing the discharge. These may differ from the SIC code describing the overall activity of the facility. For example, if an aircraft manufacturer (SIC 3721) is discharging wastes from an electroplating process (SIC 3471), SIC Code 3471 should be entered.

If discharge is from a separate cooling water and/or steam generation system, use SIC 4930.

Standard industrial classification (SIC) code numbers and descriptions may be found in the 1972 edition of the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, which is available from the Government Printing Office, Washington, D.C. Do not use previous editions of the manual.

Copies are also available for reference at your State Water Pollution Control Office, Regional Offices of the Environmental Protection Agency, and at most public libraries.

Raw material/product produced.—For each SIC number listed, specify either the principal product or the principal raw material and the average quantity per day produced or consumed at heaviest product mix during a month of maximum production which is representative of the expected level of activity contributing to this discharge. Levels of production may be obtained from actual operating records or expected production levels based on market projections.

Figures are to be reported in the units of measurement given in table I for the particular SIC categories that are listed. Enter the letter-number code from the "Code" column in table I for the units selected in the appropriate "Units" box of item 14. Other SIC categories should use the units of measurement normally used by that industry.

For discharges which are composed solely of domestic waste, use SIC 4952 and report under 14a. Raw material. Under column labeled "Maximum amount/day" enter the estimated number of people contributing to this discharge.

Shared discharges.—If the wastewater from this process contributes to other discharges, indicate the other discharge points by their discharge serial numbers under the column labeled "Shared discharges." If none, enter "None." Separate each serial number by a comma. If [illegible] waste stream goes to a municipal treatment facil[illegible] by entering "MUN" in place of the discha[illegible] number.

Example:

a. RAW MATERIALS

SIC Code	Name	Amount/ Day Maximum	Units (See Table I)	D[illegible]
2911	Crude Oil	10,000	S-1	[illegible]

15. *Waste abatement practices.*—a. Provide in th[illegible] a brief narrative description of the waste abatem[illegible] tices currently in use which affect this discharge. I[illegible] those process changes in raw materials, recycling [illegible] wastewater treatment equipment, and other tec[illegible] employed that result in waste abatement for this di[illegible]

b. Describe the wastewater abatement procedu[illegible] this discharge using the alphabetic codes for abat[illegible] practices listed in table II. List the codes in the seque[illegible] which the wastewater abatement procedures are appli[illegible] this discharge.

16. *Wastewater characteristics.*—Presence or absence [illegible] wastewater constituent should be based on any pre[illegible] analysis performed or based on knowledge of the co[illegible] uents associated with the activities and/or processes c[illegible] this discharge (e.g., raw materials, catalysts, intermed[illegible] etc.). For example, if zinc is used in a process from w[illegible] there is a discharge, the box next to zinc should be che[illegible] unless it is known from actual analysis conducted previ[illegible] that zinc is not present in the effluent. Constituents pr[illegible] solely in the intake water (i.e. not part of any process [illegible] which no previous analysis has been performed do NOT require additional analyses to determine their presence [illegible] the effluent.

17. *Description of intake and discharge.*—For each of [illegible] parameters listed, enter in the appropriate box the value [illegible] code letter answer required. Values must be representa[illegible] of the discharge during the previous 12 months of operati[illegible] or represent best engineering estimates for proposed [illegible] charges. Detailed instructions for completing particu[illegible] columns are provided below.

Each parameter has been assigned units as specified [illegible] the form. If you choose to use different units, follow t[illegible] directions below:

(a) To report flow in million gallons per day (MGD) li[illegible] out number 00056 and insert 50050 below the printe[illegible] number.

(b) To report temperature in degrees centigrade, line o[illegible] the printed numbers and insert 74025 below the printed numbers for winter and 74025 for sum[illegible]

Column 1. Untreated intake water.—[illegible]ve the daily aver[illegible]age value of the intake water at the point it enters the facility. If intake water for this discharge is from more than one source, and enters the facility at separate entry points,

11-3 Check

14775

supply the total average daily flow from all sources. Also supply type and flow for each source in item 26. Daily average intake values for the remaining parameters should be the weighted average proportional to the quantity of flow contributed from each source.

If intake water is from a navigable water, its tributary, private well, or other source of ground water, the value for the incoming water before treatment must be entered. If intake water is from a different body of water than the receiving water, give the type (tributary, well, etc.) of this intake source in "Additional Information" (item 26). If water is treated prior to use, completion of column 1 is not required (see instructions for column 2). Values of intake water are not required for mining activities.

Column 2. In-plant treated intake water.—If all or part of intake water is treated before use, provide values for total intake here instead of in column 1. Also describe briefly in item 26 "Additional Information," the type of treatment performed on intake water (e.g., rapid sand filtration, coagulation, flocculation, ion exchange, etc.) and the percent of intake water contributing to this discharge that has been treated.

NOTE: The quantity of intake flow should only reflect the amount contributing to this discharge. If this is impossible to determine and the influent contributes to more than one discharge, specify in the space provided the serial number(s) (separated by commas) of discharge(s) to which this influent contributes.

Column 3. Daily average.—Supply daily average value for the days when discharge is actually operating or is expected to be operating (for a new discharge). Daily average values are to be computed by weighting the daily value in proportion to the daily flow. If a discharge occurs irregularly, the value supplied in the column marked "Daily Average" should represent an average for the days the discharge actually occurs. Average values are not to be supplied for pH, specific conductance, and bacteriological parameters (e.g., coliform bacteria).

Columns 4 and 5. Minimum values, maximum values.—Supply minimum and maximum values observed (or expected for new discharges) over any one day when the discharge is operating.

Column 6. Frequency of analysis.—Specify the average frequency of analysis for each parameter as number of analyses per number of days (e.g., "3/7" is equivalent to three analyses performed every 7 days). If continuous, enter "CONT." When analyses are conducted on more than one individual grab sample collected during the same day, the analysis frequency should reflect one analysis whose value is the average of the individual grab sample measurements. Average frequency should be based on an operating month.

Column 7. Number of analyses.—Specify the number of analyses performed during the previous 12 months of operations: the average frequency specified in column 6 up to 365.

Column 8. Sample type.—Specify sample type as follows:

G For grab sample (individual sample collected in less than 15 minutes).

For composite sample "#" is to be replaced by the average number of hours over which the composite sample was collected. Composite samples are combinations of individual samples obtained at intervals over a time period. Either the volume of each individual sample is directly proportional to discharge flow rates or the sampling interval (for constant-volume samples) is inversely proportional to the flow rates over the time period used to produce the composite.

NA If "CONT" was entered in column 6.

Analytical methods.—Appendix A contains all parameters with their reporting levels, test descriptions and references. The parameter values can be determined either by use of one of the standard analytical methods as described in table A or by methods previously approved by the EPA Regional Administrator or Director of a federally approved State program (or their authorized representatives) which has jurisdiction over the State in which the discharge occurs. If the test used is not one shown in table A, the test procedure should be referenced in item 26 or on a separate sheet. If values are determined to be less than the detectable limit (as determined by referenced standard analytical techniques and/or instrument manufacturer's literature), specify "LT (value of detectable limit)" in the appropriate space. For example, if the detectable limit is .005 mg/l and quantities of less than this are determined, specify "LT .005." Do not enter descriptors such as "NIL," "TRACE," "NEG," etc., for this purpose. If it is your reasoned judgment that one or more of the required parameters is not present in the initial untreated or treated process water and/or the discharge, enter "A" (meaning "absent") in the appropriate space.

In order for values reported to be representative, it is recommended that they be based on at least five to seven analyses of daily composite samples (if applicable). Samples should be taken during period of maximum production, if possible. If samples are taken at period of less than maximum production, state in item 26 (except for mining activities) the percent of maximum production that was obtained during the sampling period.

19. *Water treatment. d. chemical composition.*—The chemical composition may be taken from the manufacturer's label or literature. If this is done, so state. If not available, specify "NOT AVAILABLE."

20. *Thermal discharge source.*—If several of the sources listed are present in an installation and result in discharges from more than one point, a separate copy of section II must be completed for each discharge point. If several discharge sources are combined to result in a discharge from one point, only one copy of section II need be completed.

21. *Discharge/receiving water temperature difference.*—Value should represent temperature difference between discharge point and ambient temperature of receiving water.

22. *Discharge temperature, rate of change per hour.*—If the temperature of this discharge is subject to abrupt change, give the maximum rate at which change occurs.

14776

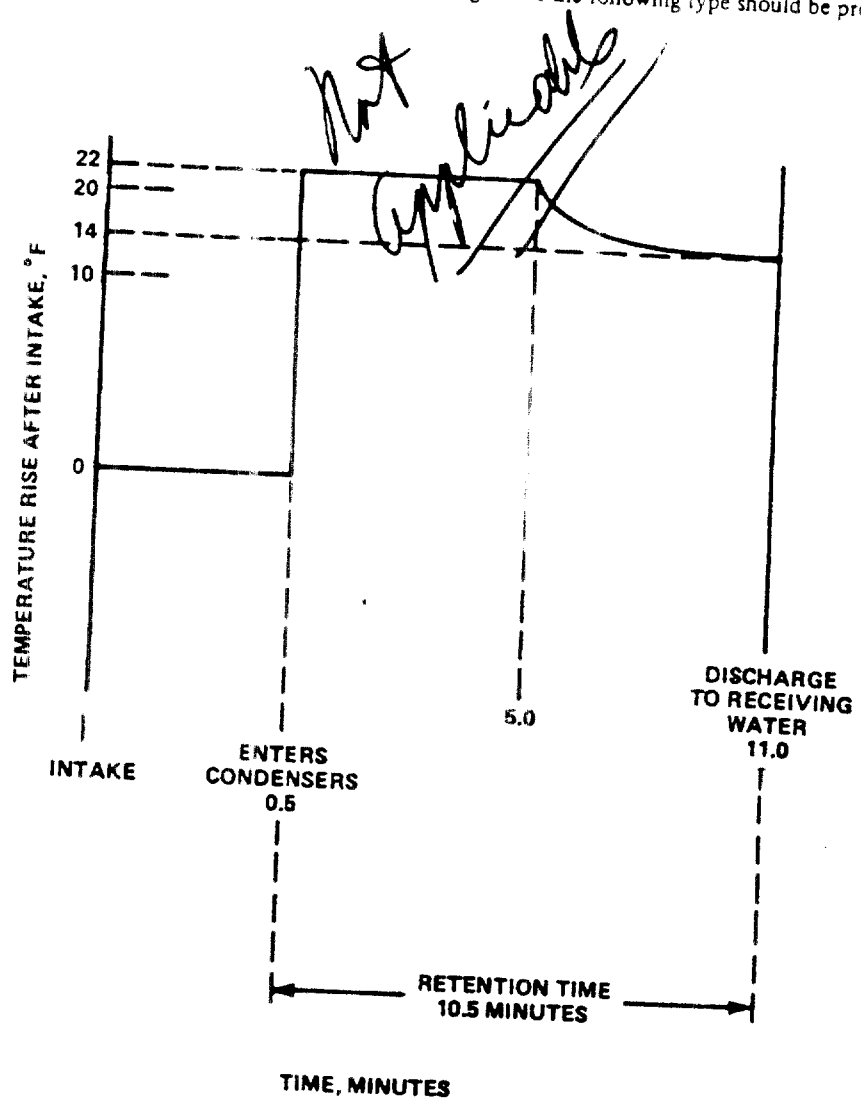
Compute the change rate by dividing the discharge temperature change by the time, in hours, over which the change occurs. For example, if the discharge temperature drops from 80° to 70° F over a 5-hour period, the rate is

$$\frac{80^\circ\ F - 70^\circ\ F}{5\ \text{hours}} = 2^\circ\ F/\text{hour}.$$

23. *Water temperature, percentile report.*—Values given should represent temperatures at point of intake and point of discharge.

24. *Water intake velocity.*—The intake velocity is defined as the critical or highest approach velocity measured at any point prior to intake screening. (This includes any point prior to the trash racks, log screens, etc.)

25. *Retention time.*—This item pertains primarily to cooling water discharges. Give the average length of time during which the temperature rise occurs prior to discharge. If the discharge temperature is significantly less than the maximum temperature of the water, a diagram indicating time-temperature relationships during the retention time should be supplied. For example, if under average conditions the condenser rise is 22° F and the cooling water passes through a canal and is finally discharged at 14° rise, a diagram of the following type should be provided:



SECTION III—WASTE ABATEMENT REQUIREMENTS AND IMPLEMENTATION (CONSTRUCTION) SCHEDULE: MANUFACTURING AND COMMERCIAL

1.b. *Improvements—authority imposing requirements.*—*Locally developed plan.*—A schedule developed at the county or municipal or Federal facility level.

Areawide plan.—A schedule developed by a metropolitan authority or other agency formed by local or municipal governments, e.g., Greater Washington area.

Basin plan.—A schedule developed by a river basin commission, or other body having authority over a watershed area, e.g., Delaware River Basin, Potomac River Basin.

State approved implementation schedule.—A schedule imposed to achieve compliance with water quality standards approved by the Environmental Protection Agency or by its predecessors, the Federal Water Quality Administration and the Federal Water Pollution Control Administration.

State approved implementation schedule.—A plan imposed to achieve compliance with State water quality standards for intrastate waters or by a permit or equivalent document issued by a State water pollution control agency.

Federal approved water quality standards implementation plan.—A schedule imposed to achieve compliance with water quality standards approved by the Environmental Protection Agency or by its predecessors, the Federal Water Quality Administration, and the Federal Water Pollution Control Administration.

Federal enforcement procedure or action.—A schedule imposed by an enforcement conference held under section 10(a) of the Federal Water Pollution Control Act prior to the date of enactment of the FWPCA amendments of 1972.

State court order.—A schedule imposed in an order or settlement issued or approved by a State court of law.

Federal court order.—A schedule imposed in an order or settlement issued or approved by a court of the United States.

2. *Implementation schedule.*—Supply the following dates as they are applicable to the implementation schedule (plan) being described:

a. *Preliminary plan approval.*—The date the preliminary engineering plans are to be submitted.

b. *Final plan submission.*—The date the final engineering plans are to be submitted.

c. *Final plan approval.*—The date the final engineering plans are to be approved.

d. *Financing complete.*—The date all financing arrangements are to be completed.

e. *Site acquired.*—The date the land to be used for the treatment works is to be acquired.

f. *Begin action (e.g., construction).*—The date the action to be implemented is scheduled to begin.

g. *End action (e.g., end construction).*—The date the action to be implemented is scheduled to be completed.

h. *Begin discharge.*—The date the discharge is scheduled to start operating after the action has been completed.

i. *Operational level attained.*—The date the effluent level is scheduled to meet the conditions imposed by the implementation plan.

3. *Actual completion.*—Supply actual completion dates for those steps of the implementation schedule which have been completed.

14778

SIC Code(s)	Code	Units of measurement	Industry
201; 2077	A-1	Pound live weight killed (meatpacking in slaughterhouse or packinghouse, poultry processing).	Meat products
	A-2	Pound product (slaughtering & rendering; processing).	
	A-3	Pound raw material (rendering in offsite plant).	
202; 5143	B-1	1,000 lb milk equivalent	Dairy products
2033; 2034; 2037; 2038.	C-1	Ton raw material	Canned and preserved fruits and vegetables.
204	D	1,000 bu processed	Grain mill products.
2061	E-1	Ton sugar cane processed	Raw cane sugar.
2062	E-2	Ton raw sugar processed	Cane sugar refining.
2063	E-3	Ton beets sliced	Beet sugar.
2077		See SIC 201	
2084	F-1	Ton grapes pressed	Wines, brandy, and brandy spirits.
	F-2	1,000 gal wine (table wine, for process season only).	
2085	F-3	1,000 bu grain processed	Distilled liquor, except brandy.
2086	F-4	1,000 standard cases	Bottled and canned soft drinks.
2091; 2092	G-1	Ton raw material	Seafoods.
22	H-1	1,000 lb raw material	Textile mill products.
	H-2	*or* 1,000 lb product	
2421	I-1	1,000 fbm	Sawmills and planing mills.
2435; 2436	I-2	1,000 ft^2 on three-eighths inch basis	Veneer and plywood.
2491	I-3	1,000 ft^3 treated	Wood preserving.
2492	I-4	1,000 ft^2 on a three-fourths inch basis	Particle board.
26	J-1	Ton product	Paper and allied products.
2812; 2816; 2819	K-1	Ton product	Inorganic chemicals.
2821; 2823; 2824; 2891; 3079.	L-1	1,000 lb product	Plastic materials and synthetics industry.
2822	M-1	1,000 lb rubber produced	Synthetic rubber (vulcanizable elastomers).
283	N-1	1,000 lb raw material	Drugs and pharmaceuticals.
2841	O-1	1,000 lb product	Soap and detergents.
	O-2	*or* 1,000 gal product	
2865; 2869	P-1	1,000 lb product	Organic chemicals.
2873; 2874; 2875	Q-1	1,000 ton product	Fertilizer industry.
2879	R-1	1,000 lb product	Agricultural chemicals and pesticides.
2891		See SIC 2821	
2911	S-1	1,000 bbl crude or partially refined feed stock (stream day).	Petroleum refining.
3011; 3021; 3031; 3041; 3069.	T-1	1,000 lb raw material	Rubber products.
3111	U-1	1,000 lb green salted hides or pickled skins.	Leather tanning and finishing.
3211; 3231	V-1	1,000 ton product	Flat glass and glass products made from purchased glass.
	V-2	*or* 1,000 ft^2 mirrored surface (for mirrored glass only).	
3241	V-3	1,000 bbl product	Hydraulic cement.
327	V-4	1,000 ton product	Concrete, gypsum, and plaster products.

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Table I – Units of Measurement by SIC Code (Industry)
(To Be Used for Item 14, Section II)
(Continued)

SIC Code(s)	Code	Units of measurement	Industry
3292	V-5	1,000 ton asbestos used	Asbestos products.
331	W-1	Ton dry coal	Coke making.
	W-2	Ton hot metal	Blast furnaces.
	W-3	Ton liquid steel	Steelworks.
	W-4	Ton hot formed steel	Hot forming.
	W-5	Ton processed steel	Rolling and finishing mills.
332	W-6	Ton metal cast	Iron and steel foundries.
333	X-1	1,000 lb metal product	Primary smelting and refining of nonferrous metals.
334	X-2	1,000 lb metal product	Secondary smelting and refining of nonferrous metals.
335	X-3	1,000 lb metal processed	Rolling, drawing, and extruding of nonferrous metals.
336	X-4	1,000 lb metal cast	Nonferrous foundries.
3465, 3711; 3714	Y-1	Unit production	Automobile manufacturing.
	Y-2	*or* square feet	
4911; 4931	Z-1	1,000 MWe generated	Electric power services.
4961	Z-2	1 million lb steam produced	Steam supply.

14780

Table II–Waste Treatment Process Codes

1. IN-PLANT CONTROL MEASURES

E Series–Engineering Design Considerations

ESEPAR–Installation of separate drainage systems.
ESEGRE–Segregation and collection of specific wastes.
ESURFA–Use of surface condensers in place of barometric condensers.
EMERGE–Emergency storage facilities.
ECOUNT–Countercurrent use of chemicals and/or wash waters.
EPUMPS–Use of pumps and valves with special seals to minimize leakage.
EOTHER–Other.

D Series–Process Design Modifications

DREACT–Use of reaction chemicals or feed stocks producing minimum waste.
DCHEMI–Chemical regeneration.
DDOWNG–Downgraded use of chemicals.
DELIMI–Elimination of air blowing and water washing.
DHYSIC–Physical separators.
DCHANG–Change in design basis for chemical recovery facilities.
DSTOPD–Elimination of discharge.
DOTHER–Other.

R Series–Recovery & Utilization

RECOVE–Recovery of material for reuse in process.
RDOWNG–Downgraded use of spent chemicals in other processes.
RUSEOR–Use or sale of wastes as raw material for other processes.
RECYCL–Recycle or reuse of water.
RHEATR–Heat recovery.
REVAPO–Multieffect evaporators.
ROTHER–Other.

L Series–Local Pretreatment or Disposal

LOCALS–Local separators and traps.
LEVAPO–Evaporation and incineration of noxious liquid wastes.
LUSEOF–Use of emulsion prevention chemicals.
LOTHER–Other.

O Series–Operation Control

OMONIT–Monitoring sewer effluents.
OOTHER–Other.

2. WASTEWATER TREATMENT UNIT OPERATIC

P Series–Physical Treatment

PEQUAL–Equalization.
PSCREE–Screening.
PAERAT–Preaeration.
PSEDIM–Sedimentation.
PFLOAT–Flotation.
PTEMPE–Temperature control.
PSKIMC–Skimming and clarification.
PSEPAR–Separation (API separator).
PAIRSG–Air stripping.
PSTRIP–Steam stripping.
PSANDF–Sand filtration.
PDIATO–Diatomite filtration.
PMIXED–Mixed media filtration.
POTHER–Other.

C Series–Chemical Treatment

CNEUTR–Neutralization.
CCOAGU–Chemical coagulation.
CPHADJ–pH adjustment (other than neutralization).
CODORC–Odor control.
CNUTRI–Nutrient addition.
CFLOCC–Flocculation.
CMTDRO–Chemical hydrolysis (use NaOH to hydrolize to urea to NH_3 then apply steam stripping).
CCLDIS–Chlorine disinfection.
CODISN–Other disinfection.
COTHER–Other.

B Series–Biological Treatment

BSTABI–Stabilization pond (facultative).
BACTIV–Activated sludge (all modifications).
BTRICK–Trickling filter.
BAERAT–Aerated lagoon.
BANERO–Anaerobic contact.
BAPOND–Anaerobic pond.
BDENIT–Denitrification.
BNUTRI–Biological nitrification.
BPOLIS–Polishing lagoon.
BROTAT–Rotating biological contactor.
BHYDRO–Biological hydrolysis (urea to NH_3).
BOTHER–Other.

S Series–Sludge Handling

STHICK–Thickening.
SLAGOO–Lagooning or drying bed.

14781

SCENTR–Centrifugation
SVACUM–Vacuum filtration.
SDRYCO–Dry combustion.
SWETCO–Wet combustion.
SLANDD–Land disposal.
SEADIS–Sea disposal.
SANAER–Anaerobic digestion.
SAEROB–Aerobic digestion.
SPRESS–Filter press.
SOTHER–Other.

3. ADVANCED WASTE TREATMENT

T Series–Temperature Change Process

TEVAPO–Evaporation.
TFREEZ–Freezing.
TDISTI–Distillation.
TEUTEC–Eutectic freezing.
TWETOX–Wet oxidation.
TPROCE–Process residue, handling and disposal.
TOTHER–Other.

M Series–Miscellaneous

MADSOR–Adsorption.
MELECT–Electrodialysis.
MIONOX–Ion exchange.
MSOLVE–Solvent extraction.
MREVER–Reverse osmosis.
MFOAMI–Foaming.
MTREAT–Electrochemical treatment.
MPOSTA–Post aeration.
MUNDIS–Discharge to municipal waste treatment facility.
MOTHER–Other.

4. NO WASTE ABATEMENT PRACTICE

NONONE–None.

APPENDIX A – STANDARD ANALYTICAL METHODS (INTERIM)

(To be Used with Item 17, Section II, and the "Additional Required Information" Form)

The following tables are to be used as a guide in reporting the data concerning each parameter. The first column of each table, "PARAMETER & UNITS," indicates the preferred units for reporting data for a given parameter. The second column, "METHOD," lists the preferred analytical method (if any) for determining the required parameter values. The next three columns, "REFERENCES," give the page numbers in standard reference works where a detailed description of the recommended analytical technique given under "METHOD" can be found. These standard references are:

1. Standard Methods for the Examination of Water and Wastewaters, 13th Edition, 1971, American Public Health Association, New York, N.Y. 10019.
2. A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis, 1972 American Society for Testing and Materials, Philadelphia, Pa. 19103.
3. EPA Methods for Chemical Analysis of Water and Wastes, April 1971, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, NERC, Cincinnati, Ohio 45268.

Copies of the publications are available from the above sources, or for review in the Regional Offices of the Environmental Protection Agency or the State Water Control Board.

Data must be reported with an accuracy of *at least* two significant digits, i.e., values less than 1 must be reported *at least* to the nearest .01, values between 1 and 10 to the nearest 0.1, values between 10 and 100 to the nearest 1.0, and so forth.

14783

TABLE A

Chemical Parameters				
Parameter & Units	Method	References		
		Standard Methods 13th Ed. 1971	A.S.T.M Standards Pt. 23 1972	EPA Methods 1971
Alkalinity (as $CaCO_3$) 00410	Titration-Electrometric or Automated Method-Methyl Orange End Point	p. 370	p. [illegible]	p. 6 p. 8
BOD 5 Day mg/liter 00310	Modified Winkler or Probe Method	p. 489	p. 618	p. 15
Chemical Oxygen Demand (COD) mg/liter 00340	Dichromate Reflux	p. 495	p. 219	p. 17
Total Solids mg/liter 00500	Gravimetric, 105°C.	p. 535	–	p. 280
Total Dissolved (Filterable) Solids mg/liter 70300	Glass Fiber Filtration 180°C.	–	–	p. 275
Total Suspended (Non-Filterable) Solids mg/liter 00530	Glass Fiber Filtration 103-105°C.	p. 537	–	p. 278
Total Volatile Solids mg/liter 00505	Gravimetric Method 550°C.	p. 536	–	p. 282
Settleable Matter (Residue) ml/liter 00545	Imhoff Cone, by Volume mg/l – ?	p. 539	–	–
Ammonia (as N) mg/liter 00610	Distillation-Nesslerization or Automated Phenolate	–	–	p. 134 p. 141
Kjeldahl Nitrogen (as N) mg/liter 00625	Digestion-Distillation or Automated-Digestion and Phenolate	p. 469	–	p. 149 p. 157
Nitrate (as N) mg/liter 00620	Brucine Sulfate or Automated-Hydrazine or Cadmium Reduction	p. 461	p. 124	p. 185 p. 170 p. 175
Total Phosphorus (as P) mg/liter 00665	Persulfate Digestion and Single Reagent or Manual Digestion and Automated Single Reagent or Stannous Chloride	p. 526	–	p. 246 p. 235 p. 259
Acidity (as $CaCO_3$) mg/liter 00435	Volumetric-color or Electrometric End Point	p. 370	p. 143	p. 5
Total Organic Carbon (TOC) mg/liter 00680	Combustion-Infrared Method	p. 257	p. 702	p. 221
Hardness-Total (as $CaCO_3$) mg/liter 00900	EDTA Titration-Automated Colorimetric, or Atomic Absorption Spectrophotometer	p. 179	p. 169	p. 76 p. 78
Nitrite (as N) mg/liter 00615	Diazotization-Manual or Automated Colorimetric	p. 468	p. 228	p. 195

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TABLE A (Continued)

Total Metal Content				
Parameter & Units	Method	References		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Aluminum-Total** mg/liter 01105	Atomic Absorption Spectrophotometer	p. 57	–	p. 98
Antimony-Total** mg/liter 01097	Atomic Absorption Spectrophotometer	–	–	p. 83
Arsenic-Total** mg/liter 01002	Silver Diethyldithiocarbamate or Atomic Absorption Spectrophotometer	p. 62	–	p. 13 p. 99
Barium-Total** mg/liter 01007	Atomic Absorption Spectrophotometer	p. 66	–	p. 83
Beryllium-Total** mg/liter 01012	Aluminon or Atomic Absorption Spectrophotometer	p. 67	–	p. 83
Boron-Total** mg/liter 01022	Curcumin, Carmine or Potentiometric	p. 69	–	p. 83
Cadmium-Total** mg/liter 01027	Atomic Absorption Spectrophotometer or Colorimetric	p. 422	p. 692	p. 101
Calcium-Total** mg/liter 00916	EDTA Titration or Atomic Absorption Spectrophotometer or Colorimetric	p. 84	p. 692	p. 102
Chromium-Total** mg/liter 01034	Atomic Absorption Spectrophotometer or Colorimetric	p. 426	p. 692	p. 104
Cobalt-Total** mg/liter 01037	Atomic Absorption Spectrophotometer	–	p. 692	p. 83
Copper-Total** mg/liter 01042	Atomic Absorption Spectrophotometer or Colorimetric	p. 430	p. 692	p. 106
Iron-Total** mg/liter 01045	Atomic Absorption Spectrophotometer or Colorimetric	p. 433	p. 692	p. 108
Lead-Total** mg/liter 01051	Atomic Absorption Spectrophotometer or Colorimetric	p. 436	p. 692	p. 110
Magnesium-Total** mg/liter 00927	Atomic Absorption Spectrophotometer or Colorimetric	p. 416	p. 692	p. 112
Manganese-Total** mg/liter 01055	Atomic Absorption Spectrophotometer	–	p. 692	p. 114

**See Note 2 at end of table.

14785

TABLE A (Continued)

Total Metal Content				
Parameter & Units	Method	References		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Mercury-Total** mg/liter 71900	Flameless Atomic Absorption Procedure. For updated method, see JAWWA, 64, No. 1, pp. 20-25 (Jan. 1972)	–	–	p. 121
Molybdenum-Total** mg/liter 01062	Atomic Absorption Spectrophotometer	–	–	p. 83
Nickel-Total** mg/liter 01067	Absorption or Atomic Spectrophotometer	p. 443	p. 692	p. 83
Potassium-Total** mg/liter 00937	Colorimetric, Flame Photometric or Atomic Absorption Spectrophotometer	p. 285 p. 283	p. 326	p. 115
Selenium-Total** mg/liter 01147	Colorimetric-Diaminobenzidine	p. 296	–	p. 271
Silver-Total** mg/liter 01077	Atomic Absorption Spectrophotometer	p. 309	–	p. 117
Sodium-Total** mg/liter 00929	Flame Photometric or Atomic Absorption Spectrophotometer	p. 317	p. 326	p. 118
Thallium-Total** mg/liter 01059	Atomic Absorption Spectrophotometer	–	–	p. 83
Tin-Total** mg/liter 01102	Atomic Absorption Spectrophotometer	–	–	p. 83
Titanium-Total** mg/liter 01152	Atomic Absorption Spectrophotometer	–	–	p. 83
Zinc-Total** mg/liter 01092	Colorimetric, or Atomic Absorption Spectrophotometer	p. 444 p. 211	p. 692	p. 120

**See Note 2 at end of table.

14786

TABLE A (Continued)

Chemical Parameters				
Parameter & Units	Method	References		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Organic Nitrogen (as N) mg/liter 00605	Kjeldahl Nitrogen Minus Ammonia (N)	p. 468	–	p. 149
Ortho-Phosphate (as P) mg/liter 70507	Direct Single Reagent, Automated Colorimetric-Single Reagent or Stannous Chloride	p. 532	p. 42	p. 235 p. 246 p. 259
Sulfate (as SO_4) mg/liter 00945	Turbidimetric or Automated Colorimetric-Barium Chloranilate	p. 334	p. 52	p. 286 p. 288
Sulfide (as S) mg/liter 00745	Titrimetric-Iodide, Methylene Blue Color Matching or Methylene Blue Colorimetric	p. 551	–	p. 294
Sulfite (as SO_3) mg/liter 00740	Iodide-Iodate Titration	p. 337	p. 261	–
Bromide mg/liter 71870	Colorimetric	p. 75	p. 214	–
Chloride mg/liter 00940	Mercuric Nitrate or Automated Colorimetric-Ferric Thiocyanate	p. 97	p. 21	p. 29 p. 31
Cyanide mg/liter 00720	Distillation-Silver Nitrate Titration or Pyridine Pyrazolone Colorimetric	p. 404	p. 556	p. 41
Fluoride mg/liter 00951	Distillation-Spadns Automated Complexone or Electrode	p. 171	p. 191	p. 64 p. 66 p. 72
Chlorine-Total Residual mg/liter 50060	Amperometric or Colorimetric	p. 107	–	–
Oil and Grease mg/liter 00550	Liquid-Liquid Extraction	p. 254	–	–
Phenols mg/liter 32730	Colorimetric, 4-AAP	p. 502	p. 445	p. 232
Surfactants mg/liter 38260	Methylene Blue Procedure	p. 559	p. 619	p. 131
Algicides* mg/liter 74051	Specify Method Used in "Remarks"	–	–	–
Chlorinated Organic Compounds* (Except Pesticides) 74052	Specify Method Used in "Remarks"	–	–	–
Pesticides* mg/liter 74053	Specify Method Used in "Remarks"	–	–	–

*See Note 1 at end of table.

14787

TABLE A (Continued)

Physical and Biological Parameters				
Parameter & Units	Method	References		
		Standard Methods 13th Ed. 1971	A.S.T.M. Standards Pt. 23 1972	EPA Methods 1971
Color Pt-Co units 00080	Platinum-Cobalt Visual	p. 160	–	p. 38
Specific Conductance micromhos/cm at 25°C 00095	Wheatstone Bridge	p. 323	p. 163	p. 284
Turbidity Jackson units 00070	Turbidimeter	p. 577	p. 467	p. 308
Fecal Streptococci Bacteria number/100 ml 74054	Specify Method Used in "Remarks"	p. 688	–	–
Coliform Bacteria, Fecal number/100 ml 74055	Specify Method Used in "Remarks"	p. 669 p. 684	–	–
Coliform Bacteria, Total number/100 ml 74056	Specify Method Used in "Remarks"	p. 664 p. 679	–	–

14788

5. Date JUN 30 71
mo day yr

(Office use only)

6. Check type of application:
a. Original [X] b. Revision [ ]

7. Number of original application

8. Name of facility where discharge or construction will occur.
PLAINWELL PAPER CO., INC.
Division of Nicolet Paper Co.

9. Full mailing address of facility named in item 8 above.
Plainwell Paper Co., Inc.
Division of Nicolet Paper Co.
200 Allegan Street
Plainwell, Michigan

10. Names and mailing addresses of all adjoining property owners whose property also adjoins the waterway.
City of Plainwell
141 North Main
Plainwell, Michigan 49080

11. Check to indicate the nature of the proposed activity:
a. Dredging [ ] b. Construction [ ] c. Construction with Discharge [ ] b. Discharge only [X]

12. If activity is temporary in nature, estimate its duration in months.

If application is for a discharge:

13. List intake sources

Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	0.4
Surface water body	
Ground water	3.30
Other	

14. Describe water usage within the plant

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	1.48
Boiler Feed water	0.6
Process water	1.70
Sanitary system*	0.4
Other	

15. List volume of discharges or losses other than into navigable waters.

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	
Surface containment	
Underground disposal	
Waste acceptance firms	
Evaporation	0.7
Consumption	

* Indicate number employees served per day 245

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If structures exist, or dredging, filling or other construction will occur, the precise location of the activity must be described.

(Office use only)

a. Name the corporate boundaries within which the structures exist or the activity will occur.

State	County	City or Town
16. Michigan	17. Allegan	18. Plainwell

b. Name of waterway at the location of the activity

19. Kalamazoo River

20. Maps and sketches which show the location and character of each structure or activity, including any and all outfall devices, dispersive devices, and non-structural points of discharge, must be attached to this application.

21. For construction or work in navigable waters for which a separate permit is sought under 33 U.S.C. 403, the character of each structure must be fully shown on detailed plans to be submitted with this application. Note on the drawings those structures for which separate discharge information (Section II of this form) has been submitted.

22. List all approvals or denials granted by Federal, interstate, State or local agencies for any structures; construction, discharges or deposits described in this application.

Type of document	Id. No.	Date	Issuing Agency
Order of Determination	1455	Jan. 21, 1971	Water Resources Commission State of Michigan

23. Check if facility existed or was lawfully under construction prior to April 3, 1970. [X]

24. If dredging or filling will occur:

State the type of materials involved, their volume in cubic yards, and the proposed method of measurement.

25. Describe the proposed method of instrumentation which will be used to measure the volume of any solids which may be deposited and to determine its effect upon the waterway.

Total solids, volatile solids, suspended solids, BOD and COD tests taken in a daily composite sampling basis. Standard methods are used to determine solids content.

Solids remain in suspension temporarily but will settle out eventually.

26. State rates and periods of deposition described in Item 25.

Treated mill effluent averages 1,643,000 gallons/day per operating day.

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SECTION II. PLANT PROCESS AND DISCHARGE DESCRIPTION

1. Discharge described below is
a. Present [x] b. Proposed new or changed [ ]

2. Implementation schedule [ ]

(Office use only)

Name of corporate boundaries within which the point of discharge is located.

3. State: Michigan

4. County: Allegan

City or Town: Plainwell

6. Discharge Serial No.: 004 Should be 003 Cabren

State the precise location of the point of discharge.

7. Latitude ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

8. Longitude ___ ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

9. Name of waterway at the point of discharge.

Kalamazoo River

10. Has application for water quality certification or description of impact been made? If so, give date:

Date: JAN (mo) 21 (day) 71 (yr)

Check if certificate is attached to form [x]

Name Issuing Agency: Water Resources Commission State of Michigan

11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing process).

Sic 26 -
General: Manufacture of fine printing paper and industrial specialtie
Three (3)
Specific: A fourdrinier paper machines, trailius blade coater and other associated equipment.
Specific: Raw material is 100% purchased pulps

12. Standard industrial classification number.

Sic - 26

13. Principal product.

Fine and Technical psprtd

14. Amount of principal product produced per day.

175 T/O

15. Principal raw material.

Bleached Kraft Pulp

16. Amount of principal raw material consumed per day.

155 Tons/Day - wood pulp

17. Number of batch discharges per day.

Continuous

18. Average gallons per batch discharge.

1,643,000/Day

19. Date discharge began. ___ (mo) ___ (day) ___ (yr)

20. Date discharge will begin. ___ (mo) ___ (day) ___ (yr)

21. Describe waste abatement practices.

ESEPAR, RECOVE, RECYCL, OMONIT, PSEPIM, SLAGOO, CODORC, BAERAT, PSEDIM, SLAGOO, CODORC

Discharge is pumped to primary clarifier for settling. Sludge from primary is pumped to sludge pits. Clarifier effluent flows by gravity to aeration basin. Material is aerated as biological removal of material takes place. This effluent flows to second clarifier for further settling. Clear water flows to Kalamazoo River. Sludge from secondary is pumped to drying pits or recycled to aeration for improved retention. Odor control takes place at points of sludge pumping.

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22. PHYSICAL DESCRIPTION OF INTAKE WATER AND DISCHARGE

Intake | Discharge | (Office use only)

Discharge Serial No. 005

Parameter and (Code)	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	AVERAGE (DAILY) (3)	MINIMUM (OPERATING YEAR) (4)	MAXIMUM (OPERATING YEAR) (5)	SAMPLE FREQUENCY (6)	CONTINUOUS MONITORING (7)
Flow (Gallons per day) 00056	2,304,000	1,008,000	1,643,000	450,000	2,100,000	DYLY	REC
pH 00400	7.2	7.2	7.4	6.9	8.5	DYLY	ABS
Temperature (Winter) (°F) 74028			56	40	62	"	ABS
Temperature (Summer) (°F) 74027			75	69	80	"	ABS

23. DISCHARGE CONTENTS

PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT
Color 00080	x		Aluminum 01105	x		Nickel 01067		x
Turbidity 00070	x		Antimony 01097		x	Selenium 01147		x
Radioactivity 74050	?		Arsenic 01002		x	Silver 01077		x
Hardness 00900	x		Beryllium 01012		x	Potassium 00937	?	
Solids 00500	x		Barium 01007		x	Sodium 00929	x	
Ammonia 00610	x		Boron 01022		x	Titanium 01152	x	
Organic Nitrogen 00605	x		Cadmium 01027		x	Tin 01102		x
Nitrate 00620	?		Calcium 00916	x		Zinc 01092		x
Nitrite 00615	?		Cobalt 01037		x	Algicides 74051		x
Phosphorus 00665	x		Chromium 01034		x	Oil and Grease 00550		x
Sulfate 00945	x		Copper 01042			Phenols 32730	?	
Sulfide 00745	x		Iron 01045	x		Surfactants 38260	?	
Sulfite 00740	?		Lead 01051		x	Chlorinated Hydrocarbons 74052		x
Bromide 71870		x	Magnesium 00927	x		Pesticides 74053		x
Chloride 00940	x		Manganese 01055		x	Fecal Streptococci Bacteria 74054		x
Cyanide 00720	?		Mercury 71900		x	Coliform Bacteria 74056	x	
Fluoride 00951		x	Molybdenum 01062		x			

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24a. Have all known hazardous or potentially hazardous substances in your plant been inventoried?

[x] Yes [ ] No

24b. If yes, have steps been taken to insure that there exists no possibility of any such known hazardous or potentially hazardous substance entering this discharge?

[x] Yes [ ] No

25. Remarks.

The information above completes the basic reporting requirements which are required of all applicants. Those applicants whose discharge results from an activity included within any of the Standard Industrial Classification Code (SIC Code) categories listed below must complete Part A of this form as well.

CRITICAL INDUSTRIAL GROUPS

SIC	098	FISH HATCHERIES, FARMS, AND PRESERVES
SIC	10-14	DIVISION B – MINING
SIC	201	MEAT PRODUCTS
SIC	202	DAIRY PRODUCTS
SIC	203	CANNED PRESERVED FRUITS, VEGETABLES (EXCEPT SEAFOODS, SIC 2031 AND 2036)
SIC	2031, 2036	CANNED AND CURED FISH AND SEAFOODS; FRESH OR FROZEN PACKAGED FISH AND SEAFOODS
SIC	204	GRAIN MILL PRODUCTS
SIC	206	SUGAR
SIC	207	CONFECTIONARY AND RELATED PRODUCTS
SIC	208	BEVERAGES
SIC	209	MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS
SIC	22	TEXTILE MILL PRODUCTS
SIC	23	APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS
SIC	242	SAWMILLS AND PLANING MILLS
SIC	2432	VENEER AND PLYWOOD
SIC	2491	WOOD PRESERVING
SIC	26	PAPER AND ALLIED PRODUCTS
SIC	281	INDUSTRIAL INORGANIC AND ORGANIC CHEMICALS (EXCEPT SIC 2818)
SIC	2818	INDUSTRIAL ORGANIC CHEMICALS
SIC	282	PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS
SIC	283	DRUGS
SIC	284	SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS
SIC	285	PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS
SIC	2871	FERTILIZERS
SIC	2879	AGRICULTURAL PESTICIDES, AND OTHER AGRICULTURAL CHEMICALS, NOT ELSEWHERE CLASSIFIED
SIC	2891	ADHESIVES AND GELATIN
SIC	2892	EXPLOSIVES
SIC	29	PETROLEUM REFINING AND RELATED INDUSTRIES
SIC	3011, 3069	TIRES AND INNER TUBES; FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED
SIC	3079	MISCELLANEOUS PLASTICS PRODUCTS
SIC	311	LEATHER TANNING AND FINISHING
SIC	32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC	331	BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS
SIC	332	IRON AND STEEL FOUNDRIES
SIC	333, 334	PRIMARY SMELTING AND REFINING OF NONFERROUS METALS; SECONDARY SMELTING AND REFINING OF NONFERROUS METALS
SIC	336	NONFERROUS FOUNDRIES
SIC	347	COATING, ENGRAVING, AND ALLIED SERVICES
SIC	35	MACHINERY, EXCEPT ELECTRICAL
SIC	36	ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES
SIC	37	TRANSPORTATION EQUIPMENT (EXCEPT SHIP BUILDING AND REPAIRING, SIC 3731)
SIC	3731	SHIP BUILDING AND REPAIRING
SIC	491	ELECTRIC COMPANIES AND SYSTEMS
SIC	93	COMBINATION COMPANIES AND SYSTEMS

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PART A

(Note: Submission of Part A is required of all applicants whose processes are listed on page 3 above.)

(Office use only)

Discharge Serial No. Chans 004 to 005 CaG

INFORMATION REQUIRED OF SPECIFIED INDUSTRIES

Intake	Discharge										
PARAMETER AND CODE	(DAILY AVG. CONCENTRATION) UNTREATED INTAKE WATER (1)	(DAILY AVG. CONCENTRATION) TREATED INTAKE WATER (2)	MAXIMUM CONCENTRATION (3)	MAXIMUM POUNDS PER DAY PER PROCESS UNIT (4)	MAXIMUM POUNDS PER DAY (5)	DAILY AVG. CONCENTRATION (6)	AVERAGE POUNDS PER DAY (7)	SAMPLE TYPE (8)	SAMPLE FREQUENCY (9)	METHOD OF ANALYSIS (10)	CONTINUOUS MONITORING (11)
ALKALINITY (as $CaCO_3$) 00410	A	A	A	A	A	A	A				ABS
B.O.D. 5-DAY 00310	A	A	243	A	2840#	91	1018#	CONT	DYLY	Std. Methods	ABS
CHEMICAL OXYGEN DEMAND (C.O.D.) 00340	A	A	336	A	4350#	173	2420#	CONT	"	"	ABS
TOTAL SOLIDS 00500	A	A	894	A	8200#	638	5650#	CONT	"	"	ABS
TOTAL DISSOLVED SOLIDS 70300	A	A	796	A	8000#	563	5000#	CONT	"	"	ABS
TOTAL SUSPENDED SOLIDS 00530	A	A	180	A	1750#	75	650#	CONT	"	"	ABS
TOTAL VOLATILE SOLIDS 00505	A	A	152	A	1509#	42	370#	CONT	"	"	ABS
AMMONIA (as N) 00610	A	A	A	A	A	A	A				ABS
KJELDAHL NITROGEN 00625	A	A	A	A	A	A	A				ABS
NITRATE (as N) 00620	A	A	A	A	A	A	A				ABS
PHOSPHORUS TOTAL (as P) 00665	A	A	A	A	A	A	A				ABS

ENG FORM 4345-1 MAY 71

5 14794

TABLE A
Guide for Completion of Part A

PARAMETER & UNITS	METHOD	REFERENCES			SIGNIFICANCE IN REPORTING DATA
		STANDARD METHODS 13TH ED. 1971	A.S.T.M. STANDARDS Pt. 23 1970	W.Q.O. METHODS 1971	
ALKALINITY AS $CaCO_3$ Mg/liter	ELECTROMETRIC TITRATION TECHNICON METHYL ORANGE METHOD	p. 370	p. 154	p. 6	X.
B.O.D. 5-DAY Mg/liter	MODIFIED WINKLER METHOD OR PROBE METHOD	p. 489	p. 712	p. 15	X.
CHEMICAL OXYGEN DEMAND (C.O.D.) Mg/liter	DICHROMATE REFLUX METHOD	p. 496	–	p. 17	X.
TOTAL SOLIDS Mg/liter	GRAVIMETRIC, 105°C. METHOD	p. 535	–	p. 280	X.
TOTAL DISSOLVED (FILTERABLE) SOLIDS Mg/liter	GLASS FIBER FILTRATION METHOD, 180°C.	p. 539	–	p. 275	X.
TOTAL SUSPENDED (NON-FILTERABLE) SOLIDS Mg/liter	GLASS FIBER FILTRATION METHOD, 103-105°C.	p. 537	–	p. 278	X.
TOTAL VOLATILE SOLIDS Mg/liter	GRAVIMETRIC METHOD 550°C.	p. 538	–	p. 282	X.
AMMONIA (as N) Mg/liter	DISTILLATION-NESSLERIZATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 453	–	p. 134	.XX
KJELDAHL NITROGEN Mg/liter	DIGESTION-DISTILLATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 469	–	p. 149	.XX
NITRATE (as N) Mg/liter	BRUCINE SULFATE METHOD OR TECHNICON-HYDRAZINE REDUCTION METHOD	p. 461	–	p. 170	.XX
TOTAL PHOSPHORUS (as P) Mg/liter	PERSULFATE DIGESTION & SINGLE REAGENT METHOD OR TECHNICON-MANUAL DIGESTION & SINGLE REAGENT OR STANNOUS CHLORIDE	p. 526	–	p. 235	.XX

ENG FORM MAY 71 4345-1

5 14795

DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
P O BOX 1027
DETROIT, MICHIGAN 48231

IN REPLY REFER TO
NCECO-O Permit No. 71-52-35D 3 September 1971
Process No. 71831

Mr. James M. Hays
Manager Product Development & Technical Services
Plainwell Paper Co., Divn. of Nicolet Paper Co.
200 Allegan Street
Plainwell, Michigan 49080

Dear Mr. Hays:

Reference your application dated 30 June 1971 for a permit to be issued under Section 13 of the River and Harbor Act of 1899 for a discharge from your plant at Painwell, Michigan.

The spaces checked in red on the following page(s) and corresponding to those on ENG Forms 4345 and 4345-1, indicate the additional information and/or corrections that should be made to your application, inclosed herewith.

Your application with the additions and/or corrections indicated above should be returned to this office within 15 days.

Should you have questions in this matter, please feel free to contact this office, above address or telephone 313 - 226-6334.

Sincerely yours,

Urban W. Boresch

URBAN W. BORESCH, Chief
Operations and Maintenance Branch
Construction-Operations Division

2 Incls
1. ENG Form 4345
2. ENG Form 4345-1

NCE FL 145
Aug 71

14796

NCECO-O Permit No. 71-52-35D
Process No. 71831

Corrections to be made to:
ENG Form 4345 (SECTION I)

Spaces to be corrected:

1. /__/	6. /__/	11. /__/	16. /__/	21. /__/
2. /__/	7. /__/	12. /__/	17. /__/	22. /__/
3. /__/	8. /__/	13. /__/	18. /__/	23. /__/
4. /__/	9. /__/	14. /__/	19. /__/	24. /__/
5. /__/	10. /__/	15. /__/	20. /__/	25. /__/
				26. /__/

Comments on corrections to be made:

/__/ Space 2, title of signing official does not meet requirements in note to applicant on page 1 of 3 of ENG Form 4345.

ok /X/ Space 10, addresses of two adjacent property owners at a point where below grade route enters a collection system, ditch or stream.

ok /X/ Total volume in space 13 minus total volume in space 15 should equal the volume entered in the first line of space 22, column 3 of Section II, ENG Form 4345-1.

/__/ Space 15 lists _____ number of employes, but space 14 shows no usage for sanitary facilities.

/__/ Space 20 lacking in items redlined on sample drawing attached.

ok /X/ Space 20. A sketch as prescribed in "Permits for Work and Structures in, and for Discharges or Deposits into Navigable Waters", Section III, pages 6-9 is required.

/__/ Space 25. Your Part A, ENG Form 4345-1 shows discharge of solids therefore space 25 must be completed.

/__/ Your check in amount of _____ was not received with the application.

NCE 189 (O/T)
Aug 71

5 14797

NCECO-O Permit No. 71-52-35D
Process No. 71831

Corrections to be made to: ENG Form 4345-1 (SECTION II)

DISCHARGE SERIAL NO(s). 001 - 004

Spaces to be corrected/or completed: PART A /__/

1. /__/	6. /__/	11. /__/	16. /__/	21. /__/
2. /__/	7. /__/	12. /__/	17. /__/	22. /__/
3. /__/	8. /__/	13. /__/	18. /__/	23. /__/
4. /__/	9. /__/	14. /__/	19. /__/	24. a. /__/
5. /__/	10. /__/	15. /__/	20. /__/	b. /__/

Comments on corrections to be made:

/__/ Space 2. Since checked, a narrative description must be furnished.

/X/ Space 10. Furnish this office a copy of your request for certification that your discharge is not violating water quality standards. The appropriate agency to apply to for certification is checked below.

/__/ Indiana Stream Pollution Board, State Board of Health Building, Room A 407, 1330 West Michigan Street, Indianapolis, Indiana, 46206.

/X/ Michigan Water Resources Commission, Stevens T. Mason Building, Lansing, Michigan 48926.

/__/ Ohio Water Pollution Control Board, P. O. Box 118, Columbus, Ohio 43216.

/__/ Space 12. Reference: Standard Industrial Classification Manual, Executive Office, Bureau of Budget, 1967 (Published by Supt. of Documents, Washington, D. C.)

/__/ Space 14 must be completed since space 13 was completed.

NCE 188 (O/T)
Aug 71

NCECO-O Permit No. 71-52-35D
Process No. 71831

Corrections to be made to: ENG Form 4345-1 (SECTION II)

DISCHARGE SERIAL NO(s). 001 - 004

[ ] Space 16 must be completed since space 15 was completed.

[ ] Space 21, add appropriate codes in order of which abatement measures occur.

[ ] Space 21, provide a narrative description of waste abatement practices.

ok [X] Space 22, line all, column all must be completed.

[ ] Space 23, Discharge Contents. A check, either for Present or Absent, must be made for each item.

[ ] Part A (page 4) must be completed, regardless of type of discharge, since your SIC number appears on page 3 of the form.

ok [X] Part A (page 4) an entry, even though it is an "A" for absent, must be entered in each of the 77 spaces, columns 1 through 7, or provide a reason why this data was not furnished.

[ ] If a code of OTHR is used for sample frequency in Space 22 or Part A an explanation of the frequency must be provided in Remarks.

NCE 190 (O/T)
Aug 71

14799

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, the "Michigan Act"),

Plainwell Paper Co. Inc.

is authorized to discharge from a facility located at

200 Allegan St.
Plainwell, MI 49080

to receiving waters named Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, March 31, 1981. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on the company's application numbered MI 0003794, dated September 29, 1978, and shall supersede any and all Orders of Determination, Stipulation, or Final Orders of Determination previously adopted by the Michigan Water Resources Commission.

Issued this _____ day of _____, for the Michigan Water Resources Commission. Superceding NPDES Permit No. MI 0003794 expiring January 15, 1979.

PROPOSED
DATE: [illegible] 19, 1979
SUBJECT TO REVISION

Robert J. Courchaine
Executive Secretary

~~Removed~~
Spec. on Mill Plan
3.5 MGD 005
004 = 200,000 GALS/day

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations

During the period beginning upon the effective date of this permit and lasting until the expiration of this permit, the permittee is authorized to discharge up to a maximum of 133,000 gallons per day of noncontact cooling water from outfall 004, to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Daily Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow M^3/day (MGD)	--	--	--	--	Continuous	Total Daily Flow
Oil & Grease	--	--	--	10 mg/l	Weekly	Grab
Total Residual Chlorine*				0.024 mg/l	Weekly	Grab

* measured by the amperometric titration technique

The term noncontact cooling water shall mean water used for cooling which does not come into direct contact with any raw material, intermediate product, [illegible] product, waste product, or finished product.

a. The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: weekly grab.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

e. In the event the permittee shall require the use of Water Treatment additives, the permittee shall notify the Michigan Water Resources Commission in accordance with the requirements of Part II, Section A-1.

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2. Final Effluent Limitations

During the period beginning upon the effective date of this permit and lasting until the expiration of this permit, the permittee is authorized to discharge up to a maximum of 3,500,000 gallons per day of process wastewater from outfall 005 to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Daily Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow M^3/day (MGD)	--	--	--	--	Continuous Daily	Total Daily Flow Grab
Settleable Solids	--	--	--	--	Daily	24 hr. Comp.
From June 1 to October 31						
BOD_5		545(1200)	--	--	Daily	24 hr. Comp.
Total Suspended Solids		636(1400)	--	--	Daily	24 hr. Comp.
From November 1 to May 31						
BOD_5	545(1200)	818(1800)	--	--	Daily	24 hr. Comp.
Total Suspended Solids	636(1400)	955(2100)	--	--	Daily	24 hr. Comp.
Oil & Grease	--	--	--	10 mg/l	Weekly	Grab

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: weekly; grab.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

3. Special Conditions

"This permit may be modified, or, alternatively, revoked and reissued, to comply with any applicable effluent limitation issued pursuant to the order the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc. et. al. v. Russell E. Train, 8 ERC 2120 (D.D.C. 1976), if the effluent limitations so issued:

(1) is different in conditions or more stringent than any effluent limitation in the permit; or

(2) controls any pollutant not limited in the permit."

4. Special Conditions

The permittee shall install and operate sludge dewatering facilities generated by the permittee's wastewater treatment facilities in accordance with the schedule of compliance provided in Part I C. Schedule of Compliance. Said dewatered sludge shall be disposed of in accordance with Act No. 87 Public Acts of 1965, as amended.

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PART I

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit monitoring reports containing results obtained during the previous month and shall be postmarked no later than the 10th day of the month following each completed report period. The first report shall be submitted within 90 days of the date of issuance of this permit.

3. Definitions

a. The daily average discharge is defined as the total discharge by weight, or concentration if specified, during a calendar month divided by the number of days in the month that the production or commercial facility was operating. When less than daily sampling is required, the daily average discharge shall be determined by the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

b. The daily maximum discharge means the total discharge by weight, or concentration if specified, during any calendar day.

c. The Regional Administrator is defined as the Region V Administrator, U.S. EPA, located at 230 South Dearborn, 13th Floor, Chicago, Illinois 60604.

d. The Michigan Water Resources Commission is located in the Stevens T. Mason Building. The mailing address is Box 30028, Lansing, Michigan 48909.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(h) of the Act, under which such procedures may be required.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. the analytical techniques or methods used; and

e. The results of all required analyses.

C. SCHEDULE OF COMPLIANCE

1. The permittee shall submit plans and specifications for sludge dewatering facilities resulting from the wastewater treatment facilities and for effluent flow measuring for outfall 005 in accordance with the following schedule.

a. Submit a preliminary engineering report and basis of design for said facilities to the Chief of the Water Quality Division and obtain his approval thereof on or before September 30, 1979.

b. Submit final plans and specifications for said facilities to the Chief of the Water Quality Division and obtain his approval thereof on or before December 31, 1979.

c. Commence construction of said facilities on or before March 31, 1980.

d. Complete construction of said facilities on or before September 30, 1980.

e. Attain operational level necessary to meet the limitations specified herein on or before October 31, 1980.

2. The permittee shall comply with the requirements of Section 10, Part II-A in accordance with the following:

a. Submit plans for approval to the Chief of the Water Quality Division necessary to comply with the primary power provision of Section 10 in Part II on or before NA.

b. The permittee shall comply with the requirements of items 10a or 10b contained in Part II on or before NA. Not withstanding the preceding sentence the permittee shall at all times halt, reduce, or otherwise control production in order to protect the waters of the State of Michigan upon the reduction or loss of the primary source of power.

3. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

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PART II

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide approved facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Water Resources Commission, as required by Section 2a of the Michigan Act.

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface or groundwaters of the state by calling the Department of Natural Resources 24 hour Emergency Response telephone number (517) 373-7660; and, the permittee shall within ten (10) days of the spill or loss provide the State with a full written explanation as to the cause and discovery of the spill or loss, clean up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

6. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

7. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

8. By-passing

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Michigan Water Resources Commission and the Regional Administrator, in writing, of such diversion or by-pass.

9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters, or the entry of toxic or harmful contaminants thereof onto the groundwaters in concentrations or amounts detrimental to the groundwater resource.

10. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. Provide an alternative power source sufficient to operate facilities utilized by permittee to maintain compliance with the effluent limitations and conditions of this permit which provision shall be indicated in this permit by inclusion of a specific compliance date in each appropriate "Schedule of Compliance for Effluent Limitations",
or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

14803

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Executive Secretary of the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon the presentation of the credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Michigan Water Resources Commission and the Regional Administrator.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act and Rule 2128 of the Water Resources Commission Rules, Part 21, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State Water Pollution Control Agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Sections 7 and 10 of the Michigan Act.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully, all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, A-8) and Power Failures" (Part II, A-10), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or labor disputes.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

10. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

11. Notice to Public Utilities

It is further made a condition of this permit that the applicant give notice to public utilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws, and comply with each of the requirements of that Act.

14804

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PLAINWELL PAPER CO., INC.
Plainwell, Michigan
MI 070 0X5 2 710549

The mixing zone for the purpose of evaluating compliance with the states water quality standards is defined as the right ¼ of the stream a distance of 600 feet downstream from each discharge.

14805

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PUBLIC NOTICE

Date January 19, 1978

Michigan Water Resources Commission
Stevens T. Mason Building
Lansing, Michigan 48909
517-373-8098

Permit Number:
MI 0003794

NOTICE: Application for National Pollutant Discharge Elimination System (Public Law 92-500) Permit by Plainwell Paper Co., Inc. Plainwell, Michigan, to discharge process and noncontact cooling waters

Plainwell Paper Co. Inc. has applied for a National Pollutant Discharge Elimination System (NPDES) Permit to discharge process and noncontact cooling water into the waters of the State of Michigan. The permit will be issued by the Michigan Water Resources Commission.

The applicant is engaged in the manufacture of non-integrated specialty paper. The company discharges its effluent to the Kalamazoo River.

On the basis of preliminary staff review and application of applicable standards and regulations, the Michigan Water Resources Commission proposes to issue a permit for the discharge subject to certain effluent limitations and special conditions. The permit expiration date is March 31, 1981.

The proposed determination to issue an NPDES Permit is tentative. Persons wishing to comment upon, or object to, the proposed determination are invited to submit the same in writing to:

Engineering & Technical Services Section
Water Quality Division
Dept. of Natural Resources
Box 30028
Lansing, Michigan 48909

The permit application number should appear next to the above address on the envelope and the first page of any submitted comments. All comments received within thirty (30) days of the date of issuance of this public notice will be considered in the formulation of the final determinations. If no written objections are received, the Michigan Water Resources Commission will issue its final determinations no later than sixty (60) days following the date of this notice.

The application, proposed permit including proposed effluent limitations and special conditions, comments received, and other information, are on file and may be inspected at the Water Quality Division offices, 8th Floor, Stevens T. Mason Building, Lansing, Michigan and at the District Office located at The State Office Building, 350 Ottawa Ave., Grand Rapids, MI 49503 phone 616/456-6231 at any time between 8:30 a.m. and 3:30 p.m., Monday through Friday. Copies of the Public Notice and corresponding Fact Sheet summarizing application information and proposed permit conditions are available at no charge. Copies of all other information are available at a cost of 5¢ per page.

Please bring the foregoing to the attention of persons whom you know would be interested in this matter.

Permit Number:
MI 0003794

FACT SHEET

The Kalamazoo River is classified for Recreation - partial body contact; Fish, Wildlife, and Aquatic Life - intolerant fish, warm-water species; Agriculture; Commercial; Water Supply - industrial; and other uses. A more complete description of the discharges and a sketch of their location follow below.

Description of Existing Discharge *

Outfall 004 (Noncontact cooling water)

Constituents	Average	Maximum
Flow (MGD)	0.0267	0.133
BOD_5 MG/L	2.76	3.73
BOD_5 LBS/DAY	0.6	4.1
Total Suspended Solids MG/L	1.9	4.0
Total Suspended Solids LBS/DAY	0.4	1.5 4.4
Oil & Grease, MG/L	2.9	4.2
pH, SU	7.0 (min)	8.7

Outfall 005 (Treated process water)

Flow (MGD)	2.87	3.50
BOD_5, LBS/DAY	988	1443
Settlable Solids, MG/L	34	96
Total Suspended Solids LBS/DAY	713	1381
Oil & Grease, MG/L	3.4	17.2
pH, S.U.	6.6 (min)	7.6

*Data calculated from company's July, August and September operating reports.

Rec'd 1-27-79

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Proposed Determinations

The Water Quality Division has examined the above application. The effluent limitations contained in the proposed permit are based upon application of guidance materials reflecting "best practicable control technology currently available" and the State of Michigan Water Quality Standards, whichever is more restrictive. The Michigan Water Resources Commission proposes to issue the applicant a permit to discharge subject to effluent limitations and certain other conditions. The following is a brief description of the proposed effluent limitations and special conditions:

1. Proposed Limitations

CONSTITUENTS	AVERAGE	MAXIMUM
Outfall 004		
Oil & Grease	--	10 mg/l
pH	6.5 (min)	9.5
Total Residual Chlorine		0.024 mg/l
Outfall 005		
June 1 - October 31:		
BOD_5, lbs/day	--	1,200
Total Suspended Solids, lbs/day	--	1,400
November 1 - May 31:		
BOD_5, lbs/day	1,200	1,800
Total Suspended Solids, lbs/day	1,400	2,100
Oil & Grease, mg/l	--	10
pH s.u.	6.0 (min)	9.0

2. Proposed Special Conditions

The company shall continue to meet the limitations of their permit. Monitoring of essential parameters with monthly reporting are specified in the permit. The permit expiration date is March 31, 1981.

Register of Interested Persons

Any person interested in a particular application or group of applications, may leave his name, address, and phone number as part of the file for an application. The list of names will be maintained as a means for persons with an interest in an application to contact others with similar interests.

Public Hearing

If submitted comments indicate a significant public interest in the application or if useful information may be produced thereby, the Michigan Water Resources Commission at its discretion, may hold a public hearing on the application. Any person may request the Michigan Water Resources Commission to hold a public hearing on the application.

Public notice of a hearing will be circulated at least thirty (30) days in advance of hearings. The hearing will be held in the vicinity of the discharge. Thereafter, the Michigan Water Resources Commission will formulate its final determinations within sixty (60) days. Further information regarding the conduct and nature of public hearings concerning discharge permits may be obtained by writing or visiting the address shown on the Public Notice.

14807

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Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

cc: Carl Gren
Chester Harvey (Wtr. Qual. Div
Don Martin
R. Przybysz (Water Qual. Div.)

February 14, 1979

Engineering & Technical Services Section
Water Quality Division
Department of Natural Resources
Box 30028
Lansing, Michigan 48909

Re: Permit No. 0003794

Dear Sirs:

After reviewing our proposed new NPDES permit, we have several concerns which we feel should be discussed before the final issuance of the permit.

1. FLOW MAXIMUMS:
The 004 maximum flow of 0.133MGD is lower than has occurred in the last twelve months. Several roof drains feed into this sewer and thus we can't control the flow at all times. In addition, we have a cooling water recycling system which fails on rare occasions (pump breakdown), obviously resulting in temporarily high flows. Without this system, our cooling water flows would be regularly many times higher than they are now.

We, therefore, propose a flow maximum of at least 0.20 MGD, reflecting the highest level that has occurred in the last year. Furthermore, we would hope that a flow above that level on a particularly rainy day or from temporary cooling water pump failure should not be cause for disciplinary action.

In addition, any flow maximum on both 004 and 005 outfalls could be a problem because of future production increases (with existing equipment) which will increase our flows (but not exceed our current BOD and TSS limits). However, these speed-ups will probably not occur until mid-1981, at which time a new permit will be in effect which will hopefully reflect these increased needs.

2. TOTAL RESIDUAL CHLORINE MAXIMUM (004):
We object to this limitation completely. First of all, the limit is extremely low, far below that allowed in other treatment plants, including drinking water supply. Secondly, we add chlorine to give a residual of 0.1-0.2 mg/l to most mill water, but by the time this water reaches the river, the concentration is less than 0.05 mg/l. Finally, if a limit must be set, a realistic limit could be tested by more conventional (and economical) methods rather than the amperometric titration

14808

technique required in the permit.

Thus, we request that this specification be dropped due to the small flow and trace level of chlorine present.

3. SETTLEABLE SOLIDS (005):
This is not an objection but a question. This test has always been done on a grab sample in the past, which should give the most accurate test for that one sample. Admittedly, the 24-hour composite is more representative, but the settling characteristics of our waste solids can change with time and a very different result may be obtained. We really don't care which way we do it but we want to point out that the results can be different.

4. REPRESENTATIVE SAMPLING (page 5):
We cannot meet this requirement now but will be able to by the Fall of 1980. Although we have a refrigerated sampler which can be connected to a flow meter for proportional sampling, we have no flow monitoring at the 005 outfall. Our magnetic flow meter is located at the main pumping station before the treatment plant. Although this meter gives us accurate daily flows for the plant, it cannot be used to pace a sampler because the flows can be very different from one end of the treatment plant to the other at any one time.

However, as part of our plans to install a new primary clarifier and sludge dewatering plant by the end of 1980, we also will install a flow monitoring unit on the 005 outfall for both flow measurement and sampler pacing.

5. SCHEDULE OF COMPLIANCE (page 6):
The schedule for the installation of sludge dewatering facilities is a little tight. We request a delay of two months in each of the last three completion dates (c, d and e). We definitely plan on having the unit running by the end of 1980 but the expected long delivery times on major equipment will put delivery in the Fall, based on being able to order equipment by August or September, 1979.

I look forward to your response on these items.

Sincerely,

PLAINWELL PAPER CO., INC.

James C. Farrand
Director - Research & Development

JCF/kem

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
E. R. CAROLLO
JACOB A. HOEFER
STEPHEN F. MONSMA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

RONALD O. SKOOG, Director

January 18, 1984

TO: People on the Act 64 "Changes in Rule" Mailing List

FROM: Delbert Rector, Chief, Hazardous Waste Division

SUBJECT: Availability of Revised Rules Draft

On October 4, 1983, I notified you of the availability of proposed revisions to the Act 64 rules, and the two-day workshop on November 17-18, 1983, to get feedback on these revisions. Since that time, a substantial number of comments have been received on the proposed revisions.

A second draft of the proposed Act 64 rules revision is now available for public review. This draft incorporates many of the comments we have received, and hopefully, is close to being a final draft. Anyone interested in reviewing this draft may obtain a copy by sending a stamped (the rules weigh approximately 10 ounces) self-addressed envelope capable of holding 60 pages of 8½" x 11" paper to the following address:

Hazardous Waste Division
Michigan Department of Natural Resources
P.O. Box 30038
Lansing, Michigan 48909

Comments and suggested language changes must be in DNR hands no later than February 22, 1984 in order for us to incorporate them into the "final draft" which we intend to have available for release 30 days in advance of the formal public hearings which are now tentatively scheduled for the fourth week in April.

If you have questions concerning this letter, please contact Alan Howard at 517-373-2730.

Del Rector

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Survey Procedure

The flows and samples were obtained as follows:

Outfalls	030049 (005)	030135 (004)
Flow Measurement		
Weir Type & Size	36" rectangular weir, company installed. Water level recorder.	12" rectangular weir, company installed. Water level recorder.
Sampling		
	Submergible. Individual grab.	Automatic air act. Individual grab.

A water level recorder provides a continuous account of the liquid level of head above the crest of a weir or through a flume. A head versus time graph is obtained for the duration of the survey period. The total volume of wastewater over the weir or through the flume during the survey period is computed from the graph.

An automatic sampler composites samples at timed intervals. Samples may be proportional to the instantaneous flow over the weir or through the flume.

A submergible sampler obtains samples at a continuous rate.

A grab composite consists of a series of individual grabs composited into one sample.

The following formula was used to compute the kilograms per day of various wastewater constituents discharged: kg/day = flow (M^3/d) x conc. (mg/l) x 0.001.

Samples were analyzed by the Environmental Protection Bureau Laboratories located in Lansing.

Samples were preserved according to Table 6. The results of the physical and chemical analyses are presented in Tables 1 and 2.

Plainwell Paper Company - Plainwell

Table 1 Analyses of composite samples.

Outfalls	030049 (005)	030135 (004)
Survey Period From	7-10-78 - 1745	7-10-78 - 1730
To	7-11-78 - 1745	7-11-78 - 1730
Computed flow rate* (M^3/day)	11,600 - 3.062	200
Highest flow rate (M^3/day)	4.54 - 17,200 - 7-11-78 @ 1043	1,200 - 7-10-78 @ 2317
Lowest flow rate (M^3/day)	1.98 - 7,500 - 7-11-78 @ 0826	240 - 7-11-78 @ 0024

	mg/l	kg/day	mg/l	kg/day
5-day BOD	96	1,100	2.6	0.78
COD	260	3,000	18	5.0
Suspended solids	52	600	1	0.3
Dissolved solids	670	7,800	580	160
Nitrite & nitrate nitrogen-N	< 0.01	--	1.2	0.34
Ammonia nitrogen-N	< 0.01	--	0.05	0.01
Organic nitrogen-N	3.1	36	0.54	0.15
Total phosphorus-P	0.24	2.8	0.24	0.07
Chlorides (Cl)	82	950	148	41
Sulfide (S)	< 0.05	--	--	--
Sulfates (SO_4)	200	2,000	51	14
Cyanides (CN)	0.01	0.12	--	--
Phenols	0.01	0.12	--	--
Total cadmium (Cd)	< 0.01	--	--	--
Total chromium (Cr)	< 0.01	--	--	--
Total lead (Pb)	< 0.05	--	--	--
Total zinc (Zn)	0.08	0.93	--	--
Total arsenic (As)	< 0.001	--	--	--
Magnesium (Mg)	25	290	--	--
	ug/l		ug/l	
PCB 1242	< 0.1	--	< 0.1	--
PCB 1254	0.1	--	0.1	--
PCB 1260	< 0.1	--	< 0.1	--

* Flow rates used in the computation of kg/day.
To obtain MGD multiply M^3/day by 0.000264
To obtain lbs/day multiply kg/day by 2.2046

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Plainwell Paper Company - Plainwell

Table 2 Analyses of grab samples.

Date	Time	Temp.[1] °C	pH[1] S.U.	Oil & Grease mg/l	BOD_5 mg/l	Susp. solids mg/l	Settle. solids mg/l	Diss. solids mg/l	Nitrite & nitrate nitrogen mg/l	Ammonia nitrogen mg/l	Organic nitrogen mg/l	Total phosphorus mg/l
030049 (005)												
7-11-78	0020	21	7.7	14	110	58	14	680	< 0.01	< 0.01	[illegible]	0.26
7-11-78	0820	21	7.8	5	120	48	2	710	< 0.01	< 0.01	[illegible]	0.22
030135 (004)												
7-11-78	0040	25	8.8	2	2.1	2	--	570	1.2	0.04	0.58	0.36
7-11-78	0830	18	8.9	< 1	1.1	< 1	--	500	1.2	0.04	0.44	0.21

Date	Time	Chlorides mg/l	Sulfates mg/l	Magnesium mg/l	Cadmium mg/l	Chromium mg/l	Lead mg/l	Zinc mg/l	Arsenic mg/l
030049 (005)									
7-11-78	0020	82	220	25	< 0.01	< 0.01	< 0.05	0.09	< 0.001
7-11-78	0820	93	195	25	< 0.01	< 0.01	< 0.05	0.06	< 0.001
030135 (004)									
7-11-78	0040	157	49	--	--	--	--	--	--
7-11-78	0830	152	51	--	--	--	--	--	--

1 - Values determined in the field at time of sampling.

Plainwell Paper Company - Plainwell

Table 3 Comparison of survey results with the facility's NPDES Permit and Monthly Operating Report.

Parameter (Unit)	NPDES Permit Final Limitations: Daily Average	NPDES Permit Final Limitations: Daily Maximum	July Monthly Operating Report: Monthly Average	July Monthly Operating Report: Monthly Maximum	July Monthly Operating Report: 7-10-78	July Monthly Operating Report: 7-11-78	Survey Results: Composite	Survey Results: Grab 1st	Survey Results: Grab 2nd
030049 (005)									
Flow (M^3/day)	--	--	11,000	13,100	11,400	11,900	11,600	--	--
Settleable sol. (mg/l)	--	--	31	68	26	30	12	14	2
BOD_5 (kg/day)	--	545	381	489	261	308	1,100	--	--
Suspended sol. (kg/day)	--	636	317	672	166	632	600	--	--
Oil & Grease (mg/l)	--	10	2	3.3	--	--	--	14	5
pH (S.U.)	not <6.5 nor >9.5		6.8 min.	7.2	7.0	7.0	--	7.7	7.8
030135 (004)									
Flow (M^3/day)	--	--	76	450	76	76	280	--	--
BOD_5 (mg/l)	--	20	2.1	2.9	--	--	2.8	2.1	1.1
BOD_5 (kg/day)	--	20	0.5	0.5	--	--	0.78	--	--
Suspended sol. (mg/l)	--	20	1.1	1.5	--	--	1	2	< 1
Suspended sol. (kg/day)	--	20	0.5	0.5	--	--	0.3	--	--
Oil & Grease (mg/l)	--	10	2.5	4.5	--	--	--	2	< 1
pH (S.U.)	not <6.5 nor >9.5		7.2 min.	8.0	--	--	--	8.8	8.9

To obtain MGD multiply M^3/day by 0.000264
To obtain lbs/day multiply kg/day by 2.2046

Table 4 Comparison of the laboratory analytical results obtained by Plainwell Paper Company and the Environmental Protection Bureau from the split composite samples.

Outfalls	030049 (005)		030135 (004)	
	E.P.B.	Plainwell Paper	E.P.B.	Plainwell Paper
* Flow (M^3/day)	11,600	11,500	280	76
	mg/l	mg/l	mg/l	mg/l
5-day BOD	96	24	2.8	< 5
Suspended solids	52	42	1	0
Settleable solids	12	26	--	--

* Flow obtained from company totalizer.

Table 5 Comparison of the previous survey results with the results obtained in this survey.

Outfalls	030049 (005)		030135 (004)	
Survey Date From	8-9-76	7-10-78	8-9-76	7-10-78
To	8-10-76	7-11-78	8-10-76	7-11-78
Flow Rate (M^3/day)	9,200	11,600	303	280
	mg/l	mg/l	mg/l	mg/l
5-day BOD	50	96	< 5	2.8
COD	120	280	11	18
Suspended solids	56	52	6	1
Dissolved solids	564	670	1,540	580
Settleable solids	4	12	--	--
Nitrite & nitrate nitrogen-N	0.02	< 0.01	0.70	1.2
Ammonia nitrogen-N	< 0.01	< 0.01	< 0.01	0.05
Organic nitrogen-N	2.6	3.1	0.58	0.54
Total phosphorus-P	0.48	0.24	0.17	0.24
Chlorides (Cl)	88	82	650	148
Sulfates (SO_4)	100	200	40	51
Total lead (Pb)	< 0.05	< 0.05	--	--

Table 6 Sample Preservation

Parameter	Preservative
COD	10 drops conc. H_2SO_4/250 ml (to pH <2).
Cyanide & Phenolics	Dechlorinate with ascorbic acid (if needed). 10 drops 10 N NaOH (to pH 12)/250 ml.
Total Metals	2 ml 1:1 HNO_3/250 ml (to pH <2).
Oil & Grease	10 drops conc. H_2SO_4/250 ml (to pH <2).
Sulfides	10 drops 1M ZnAc/250 ml.

All samples cooled to 4°C upon collection and chain of custody maintained.

Survey by: Martin Rock, Sanitary Engineer
William Long, Water Quality Investigator
Joseph Hey, Water Quality Investigator

Contact with Management: Carl A. Gren, Certified Operator

Hydrocarbon Analyses by: Environmental Protection Bureau Laboratory

Physical & Chemical Analyses by: Environmental Protection Bureau Laboratory

Report by: Martin Rock
William Long
Point Source Studies Section
Environmental Services Division
Environmental Protection Bureau
Michigan Department of Natural Resources

Distribution "A"
MM

14813

NPDES

Permit

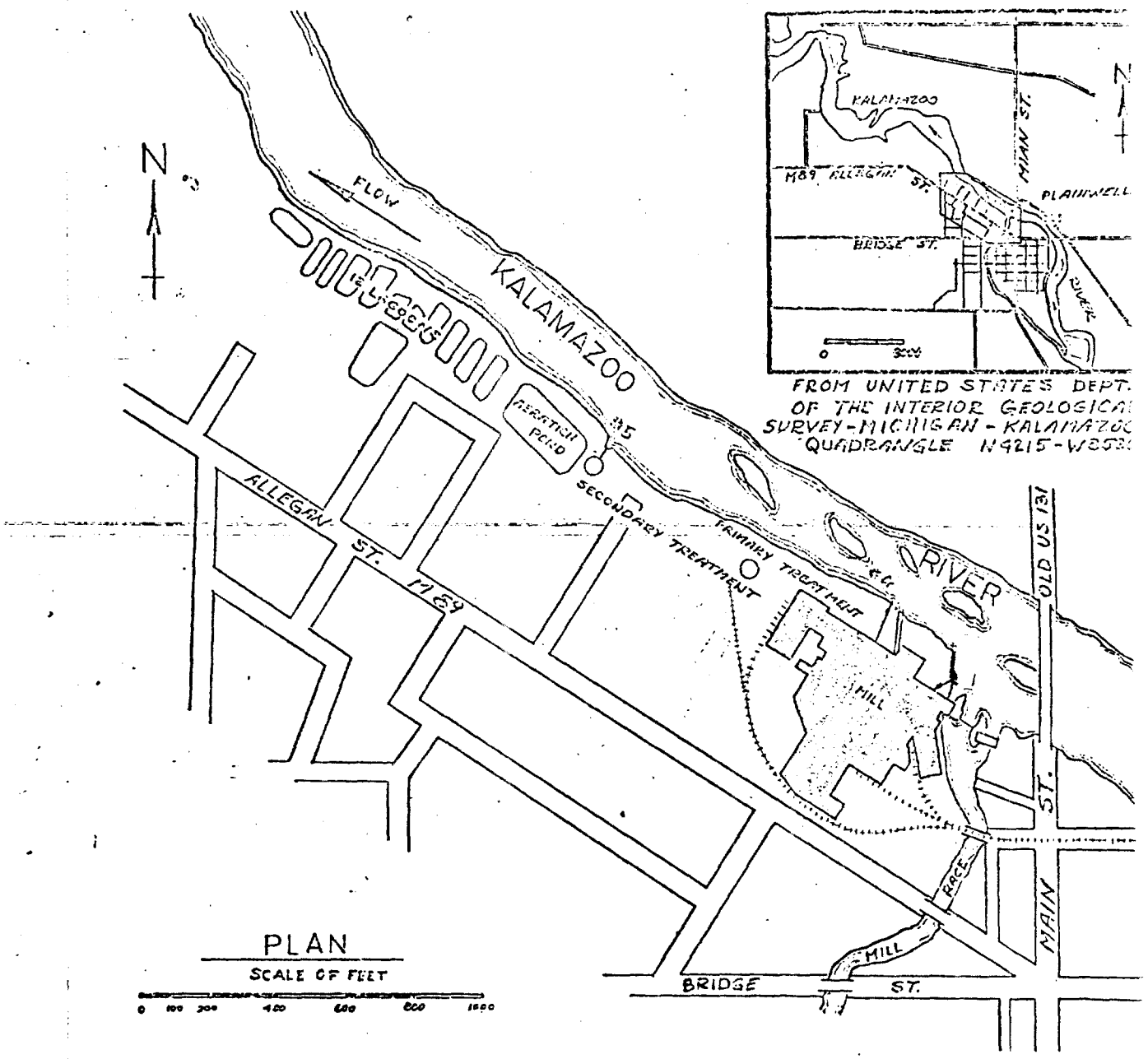
1- USGA List map of Outfalls - NPDES meetings 10/30/[illegible]

2- People on Prospect ave - addresses -
Ecrement - next to pits 131 Mich ave
next to aeration - William Fred Foreman
next to middle gate - LEELON J. BONEY 150 PROSPECT

3- Look PIPP number - and date - 23147 ok

4-

LEE

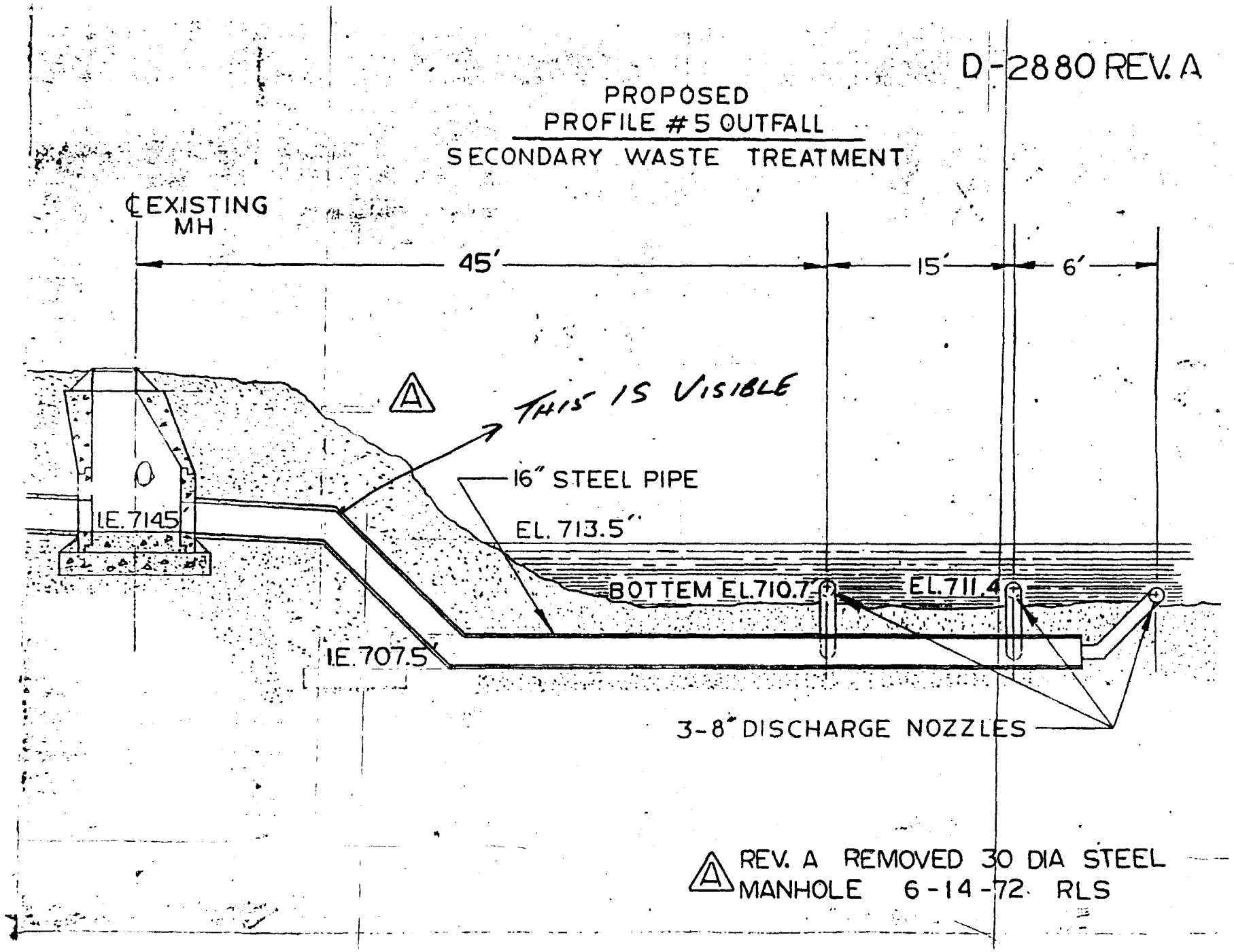


NOTE ELEVATIONS SHOWN ON THE FOLLOWING PAGES ARE TAKEN FROM U.S.G.S BENCH MARK NUMBER F 170

EXISTING OUTFALL & DISCHARGES IN THE KALAMAZOO RIVER AT THE VILLAGE OF PLAINWELL ALLEGAN COUNTY, MICHIGAN

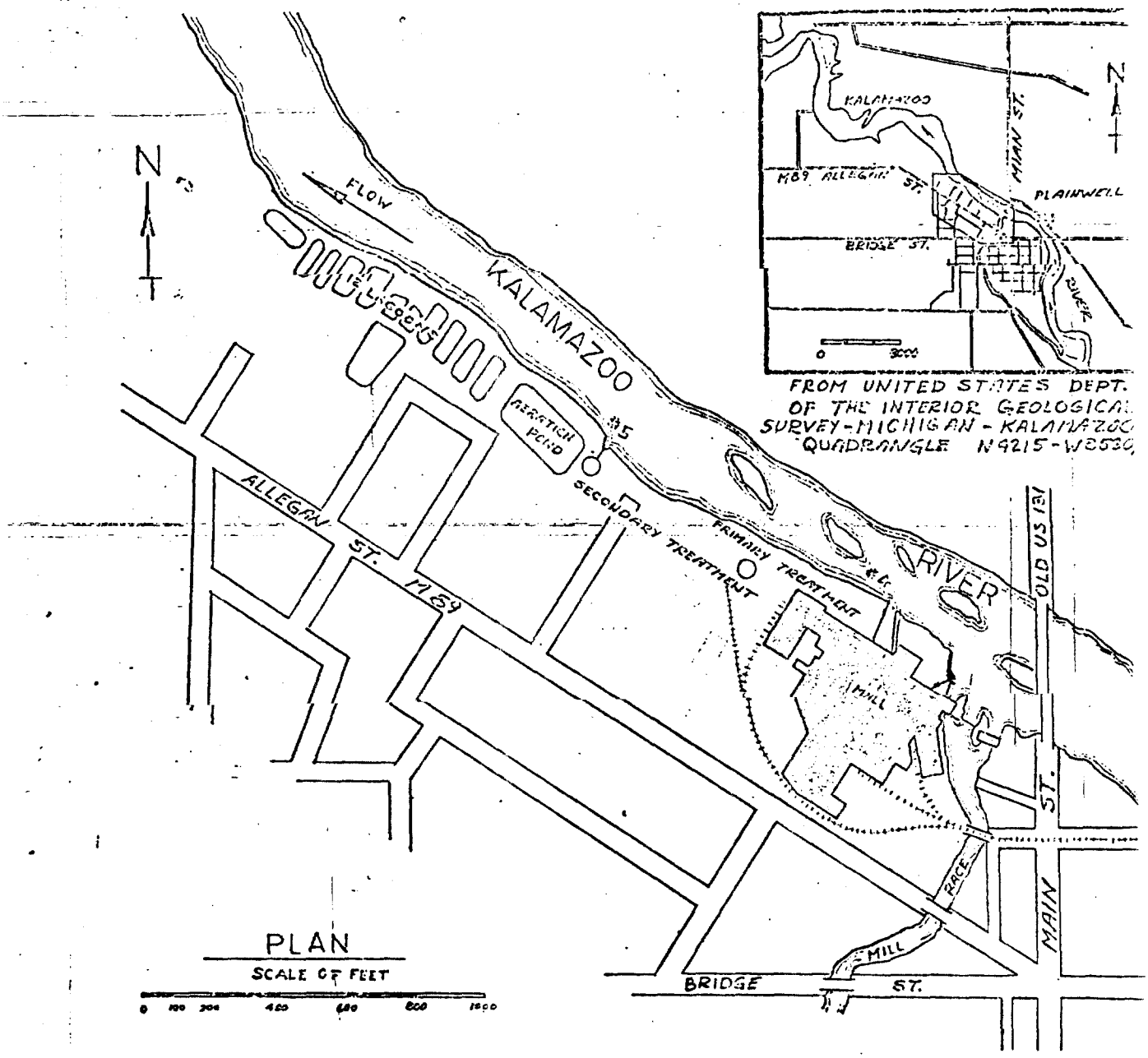
APPLICATION BY _____

SHEET 1 OF 6 DATE _____


D-2880 REV. A
PROPOSED
PROFILE #5 OUTFALL
SECONDARY WASTE TREATMENT
℄ EXISTING MH
45'
15'
6'
THIS IS VISIBLE
16" STEEL PIPE
I.E. 714.5'
EL. 713.5'
BOTTEM EL. 710.7'
EL. 711.4
I.E. 707.5'
3-8" DISCHARGE NOZZLES
REV. A REMOVED 30 DIA STEEL MANHOLE 6-14-72 RLS

5

14816



FROM UNITED STATES DEPT. OF THE INTERIOR GEOLOGICAL SURVEY - MICHIGAN - KALAMAZOO QUADRANGLE N9215-W8530

NOTE ELEVATIONS SHOWN ON THE FOLLOWING PAGES ARE TAKEN FROM U.S.G.S BENCH MARK NUMBER F 170

EXISTING OUTFALL & DISCHARGES IN THE KALAMAZOO RIVER AT THE VILLAGE OF PLAINWELL ALLEGAN COUNTY, MICHIGAN

APPLICATION BY _____

SHEET 1 OF 6 DATE _____

10/28/80

004 - 030135

Parameter	Monthly average	Monthly Maximum	Minimum	Monthly Sample Frequency	Sample Type
				1/wk	Grab
Flow - (50050)	4.4000	.124 MGD	.2	"	"
pH - (00400)		8.1 8.2	7.5	"	"
Chlorine Total - (50060)	0.0	0.1	~~[illegible]~~	"	"
Oil & Grease - (00556)	1.3	5.7 2.2	1.0	"	"

Total Vol - 16,754 54

005 - 885,382,040

Flows for last
12 months

004 & 005

+ high
+ ave.
+ total volume

oct 1
oct 1

Oct-1-79 Thru Sept-30-80

005 Flow	004 - Flow
High - 2,911,300	High - 142,770
Avg. 2,425,704	Avg. [illegible]45,903
Total Volume - 885,382,040	Total [illegible] 16,754,521

Talked to Evans old figure X 1 1/2

#4 - Prod - Off Reel - Mon & Ave -
150 T - ave -
Flow -
Emil requested to call

Carl

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated

Plainwell, Michigan 49080
Phone: 616/685-5851

November 17, 1980

Miss Marge Spruitt
Water Quality Specialist
Water Quality Division
Michigan Dept. of Natural Resources
350 Ottawa Avenue, NW
Grand Rapids, Michigan 49502

Dear Miss Spruitt:

This letter is my attempt to put "to rest" your concern over differences in BOD_5 results at Plainwell Paper Co. and your Lansing EPB lab.

We at first wish to thank John Peck, his assistants and you for allowing us to visit there and for the help given us then.

After considerable study and talking over the results of the tests taken in Lansing that day I have come to some interesting conclusions.

First of all we went through the process of checking our procedures.

We checked our water used in dilutions and have ordered a still to combine with our Reverse Osmasis Unit to make our own water. We know we have had problems with non-uniform quality distrilled water. We have and will try to be careful about our distilled water quality even though I don't feel it has been a big problem. We tried some of the Lansing seed obtained in the Laboratory during our visit. We found little or no difference in the strength of the two seeds. Your environmental manuals state that BOD's can't be compared unless procedures are exactly the same.

Page 549 of the 14th edition of "Standard Methods for the Examination of Water and Waste Water" states in item 6 " At present there is no standard against which the accuracy of the BOD test can be measured. This is also stated on page 405.1-1, Method 405.1 in the EPA manual "Methods for Chemical Analysis of Water and Wastes".

Some important differences I found were as follows:

1. The BOD_5 bottle of the Lansing facility are 60 ml in size where we use a 300 ml bottle.

HACH

2. They use the powder pillows from Hoch Company where we make up our own nutrients according to "Standard Methods".

3. The amount of seed used at Lansing is much higher than standard procedures used to recommend.

a) We use seed but not nearly the amount used in the tests we watched in Lansing.

b) They use about eight times the proposed maximum seed once recommended.

4. They homogenize samples before testing which NCASI feels should not be done. We just shake our samples.

a) Will include bulletin for NCASI manual.

5. The test results the day we observed the work in Lansing showed a depletion of .70 & .75 mg/1 of oxygen in blanks. This to me would indicate definite trouble with water and the test results all should have been discarded. Page 547, paragraph h "dilution water central" states that not more than 0.2 mg/1 and preferably not more than 0.1 mg/1 of oxygen should be depleted. There was no mention of this in the test results sent to us. This is a very definite reason why we can't match Lansing laboratory results.

In conclusion I will suggest three things which may help them get closer to other laboratories test results.

1. If they haven't already, look into why they have oxygen depletion excessively in the "blank" test water.

2. Discontinue homogenizing samples before testing.

3. Use a better dilution method for the actual test sample:

a) For example: during our visit they used two and five ml twice. This is wasteful and can be ineffective if they use for instance 2,3, 5 ml. they would have had better results and would have had a better chance of covering the necessary range. If you don't understand I'll be glad to explain over the phone.

A couple of quick comments and suggestions before I finish:

1. Any future differences between our laboratory work and yours I will request total data from your people:

a) I don't want just resultant numbers, I want complete explanation of your procedures.

b) This means dilutions for BOD's and amounts of sample for suspended solids etc.

2. The statements on the 24 hour survey report about BOD's and solids done early this year were very unprofessional.

a) Comments from the Lansing Office concerning our BOD's being different than the survey crew results and our suspended solids tests being different.

They have requested my reasons for this. According to "Standard Methods" etc. the BOD results and suspended solids results were within acceptable comparable tests results between laboratories.

You will get a copy of my answer to the Lansing DNR.

We are purchasing standard test samples for quarterly comparisions from Environmental Resource Associates Lab.

Please call if your need any clarification.

Sincerely,
PLAINWELL PAPER CO., INC.

Carl A. Gren

Carl A. Gren
Waste Water Treatment Supervisor

CG/wb

cc: George Lawton

John Peck
Lab Scientist
Environmental Laboratory
315 North Clippert St.
Lansing, Michigan 48912

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor
DEPARTMENT OF NATURAL RESOURCES
STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926
HOWARD A. TANNER, Director

May 30, 1980

3 or 4 dilutions should be
different amounts -
sample - 2 - 3 - 4 - 5 ml
& not 2-5, 2-5.

Carl A. Gren
Waste Water Treatment Superior
Plainwell Paper Co., Inc.
Plainwell, MI 49080

Dear Mr. Gren:

It was a pleasure meeting you and your associate last week and demonstrating our biochemical oxygen demand procedure. When you left, there appeared to be a couple minor changes you were going to investigate. The results of the samples set during your visit are as follows:

Sample Source	ml sample/ 60 ml bottle	Initial DO	Final DO	Calculated BOD
Plainwell Paper 030135	2	9.05	4.55	90
" "	5	9.0	1.00	79
" "	2	8.95	4.5	88
" "	5	8.85	1.05	76
Seed	2	8.85	5.7	43
"	4	8.8	5.1	34
"	6	8.65	3.9	34
"	8	8.65	2.95	33
Glucose-Glutamic Acid	.5	8.9	5.5	222
"	1.0	8.9	3.8	214
"	1.5	8.85	2.4	197
Blanks	60	8.9	8.15	.75
"	60	8.9	8.2	.7

The seed concentration was 1.5 ml per 60 ml of dilution water. When 10 and 25 ml of sample were used, over-depletion occurred. The values based on 2 ml of sample (90 and 88 mg/l) appear most valid. The 5 ml of sample bottles are marginably overdepleted.

Please call me at (517) 373-2197 if I can be of further assistance.

Very truly yours,

ENVIRONMENTAL SERVICES DIVISION

John H. Peck, Lab Scientist
Environmental Laboratory

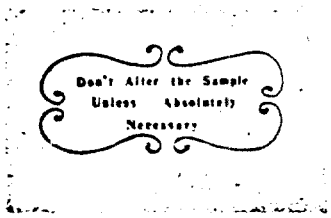
Copy: M. Genik
G. Gaston
J. Peck

JP:bm

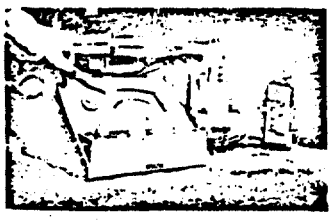
R1020 1/75

To measure the sample, a wide-tip pipette is necessary. Since pipettes generally have capillary tips which would serve to filter out suspended solids and large clumps of organic matter, it is necessary to break off the pipette tip so that the opening is wide enough to obtain representative samples.

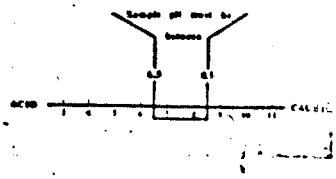
The types of pipettes to be used are Mohr type for samples smaller than 10 ml and volumetric for larger samples.



Sometimes, samples are homogenized in a blender, but this is a questionable practice since a considerable amount of energy is applied to the sample in this manner and may result in increasing or decreasing the BOD_5 due to alteration of the suspended and colloidal solids through shearing forces and energy dissipation.



The pH of all samples should be checked. If the pH is outside the 6.5-8.5 range ...



It is absolutely necessary to adjust these so that they fall within this range.

Copy: John Peck
M. Sprint
G. Fawcett

ncasi AV005-05

(1)

Copy: George Fawcett
John Peck
Lab. Scientist
Environmental Laboratory
315 North Clippert Street
Lansing, Mich 48912

Marge Sprait
Water Quality Specialist
Water Quality Division
Michigan Department of Natural Resources
350 Ottawa Avenue N.W.
Grand Rapids, Michigan 49502

Dear Miss Sprait:

This letter is my attempt to put "to rest" your concern over differences in BOD_5 results at Plainwell Paper Co. and your Lansing EPB lab.

We at first wish to thank John Peck and his assistants and you for allowing us to visit there and for the help given us there.

After considerable study and talking over the results of the tests taken in Lansing that day I have come to ~~the following~~ some interesting conclusions.

First of all we went through the process of checking our procedures.

We checked our water used in dilution and have ordered a still to combine with our Reverse Osmosis unit to make our own water. We know we have had problems with ~~the~~ non-uniform quality distilled water.

We have and will try to be careful about

Carl

CC: George Lawton

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated

Plainwell, Michigan 49080
Phone: 616/685-5851

December 10, 1980

Mr. Robert Courchaine
Chief Engineer
Water Resources Commission
Steven T Mason Building
Lansing, Michigan 48926

Dear Mr. Courchaine:

Re: Permit No: MI 0003794
Facility No. 030027

This letter is to inform you that some of the daily flows from the mill through the treatment facility had to be estimated, during the end of November and this will be true for December flows also.

This is due to changes in Piping 6 for our new primary clarifier we will be starting up soon. ~~The flow meter~~ was temporarily removed during change-over from the old pipe system to the new.

We are estimating flows from an old recorder and weir we have on our old primary clarifier.

Sincerely,
PLAINWELL PAPER CO., INC.

Carl A. Gren

Carl Gren,
Waste Water Treatment Supervisor

CG/wb

cc: Marge Spruit
Water Quality Specialist
Water Quality Division
Mich. Dept. of Natural Resources
350 Ottawa Avenue, N. W.
Grand Rapids, Michigan 49502

5 14827

Carl Green

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

January 31, 1979

Mr. Roger Przybysz
Water Quality Specialist
Water Quality Division
350 Ottawa Avenue N.W.
Grand Rapids, Michigan 49503

Dear Roger:

When I read your October 20, 1978 letter to James Farrand describing our July, 1978 "Industrial Wastewater Survey" I was more than surprised.

We in the Waste Water Treatment group put considerable thought into what could have happened in July which accounted for differences in our evaluations. We tried to come up with logical evaluations of the situation for James Farrand to answer them.

We decided to submit duplicate samples to Kar Laboratory in Kalamazoo, Michigan. We have faith in our people, but under the circumstances we felt it was a good idea to double check our work.

I wanted to find out if more grease and oil was in the effluent 005 than in our test data and if we were way off on BODs data.

We took samples 11/22/78, 11/29/78 and 12/13/78 which consisted of (2) two daily grab samples for oil and grease extraction tests and a composite and (2) two grabs for BOD_5 tests.

The composites were from our regular refrigerated sampler and the composites were taken an hour apart from our secondary clarifier effluent line (005). The composites, which were all divided, and grabs taken at the same time were iced in a cooler and taken to Kar Lab each day for duplicate testing. Our samples were kept in a refrigerator until tested. All testing was done on the same day.

The results of these duplicate tests are attached. I am personally satisfied with the results of these comparative tests. There are some variations both ways but over all the tests, both BOD's and Kar's, oil and grease average out about the same. This is what I felt would happen.

Plainwell's 80# Kashmir Matte

5 14828

All the samples taken on these occasions were well within our permit limitations. We probably will on occasion repeat this type of comparison in test data.

If you require any copies of the Kar data or have any questions on the tests, please contact me.

Very truly yours,

PLAINWELL PAPER CO., INC.

Carl A. Gren

Carl A. Gren
Waste Water Treatment
Supervisor

CAG/bjb

Enclosure

OIL AND GREASE BOD_5 TESTS

Date	Kay Laboratory	Plainwell	Kar	Plainwell
11/22/78	3.1 Mg/L	1.7 Mg/L	*46.3 Mg/L	*46.5 Mg/L
	3.3 Mg/L	1.3 Mg/L	59.5 Mg/L	47.5 Mg/L
			**73.0 Mg/L	51.5 Mg/L
11/29/78	4.3 Mg/L	7.1 Mg/L	*47.7 Mg/L	*35.0 Mg/L
	3.6 Mg/L	5.9 Mg/L	56.7 Mg/L	46.0 Mg/L
			48.7 Mg/L	44.0 Mg/L
12/13/78	1.4 Mg/L	1.5 Mg/L	*47.4 Mg/L	*57.0 Mg/L
	5.5 Mg/L	1.3 Mg/L	52.2 Mg/L	54.0 Mg/L
			59.0 Mg/L	52.0 Mg/L
Average	3.53 Mg/L	3.13 Mg/L	54.45 Mg/L	48.2 Mg/L

* 24 hour composite sample, other samples are all grab samples taken (1) one hour apart on dates composites were taken.

** This high Kar Lab reading would appear to be in error since the three samples were taken close together and no obvious change occurred during that time.

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
CARL T. JOHNSON
E.M. LAITALA
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

State Office Building
350 Ottawa N. W.
Grand Rapids, Michigan 49503
Phone: 456-6232

February 10, 1982

Mr. George Lawton
Plainwell Paper Company, Inc.
200 Allegan St.
Plainwell, MI 49080

Dear Mr. Lawton:

This letter is to confirm the meeting held in Grand Rapids on February 3, 1982. Present at the meeting were Carl Gren and George Lawton of Plainwell Paper and Roger Przybysz and Marge Spruit of the Water Quality Division of the Department of Natural Resources.

The primary topic of discussion was the BOD and TSS problems being experienced by the company. The adjustment of the treatment plant to accommodate the new primary clarifier and the sludge dewatering machine (SDM) caused effluent and odor problems. The odor problem has basically been resolved through the addition of chlorine dioxide to the sludge as it is pumped from the primary clarifier to the SDM holding tank. The sludge is being pumped at a slower constant rate in an attempt to keep it from becoming anaerobic.

The BOD and TSS exceedances are persisting. Compounding the addition of the primary clarifier and SDM was a changeover in processes in the mill. The new alkaline process produces a larger volume of wastewater which contains an elevated pH and an increased amount of solids. The TSS were increased because the amount of filler has increased; the settleability has been decreased due in part to the dispersants used in the "boil out" process. Several alternatives were discussed relative to controlling the suspended solids: 1) Reduce the frequency of the "boil outs", 2) Reduce the amount of dispersants and surfactants used during "boil outs", and 3) Contact the dispersant supplier regarding a neutralizing agent or product which will break down the dispersant.

In addition to the dispersant problem, the efficiency of the secondary clarifier as a settling mechanism was questioned. According to sample results, minimal settling is occurring in the secondary. This would indicate this clarifier is undersized and incapable of handling the wasteload it presently is receiving. Serious consideration must be given to replacing or supplementing the secondary clarifier in order to meet the NPDES discharge limits.

MICHIGAN
THE GREAT LAKE STATE
R1026-1 1/79

The elevated BOD's are responding to nutrient input. If nutrients are consistently supplied to the system the BOD should be controllable.

Due to the process changes and associated wastewater treatment problems, the company has been unable to consistently meet the NPDES limits on TSS and BOD. As long as the permit limitations continue to be exceeded, the notices of non-compliance will continue. If the non-compliance continues, the question arises whether or not an NPDES permit can be reissued for this facility. Substantial compliance of the existing terms of the permit is a requirement for reissuance.

Plainwell Paper Company is located on a water quality limited stream (the Kalamazoo River); therefore, the total waste loadings from the facility cannot be increased. The effluent limits stipulated in the permit must be met.

An outline of administrative procedures to be followed in cases of continued non-compliance was presented. Lack of progress on the part of the company to control the quality of the effluent will necessitate these steps be initiated.

Another item of discussion was the closure of the sludge pits on-site and the 12th Street "landfill". As discussed, the sludge will need to be covered with topsoil and seeded in order to prevent erosion. Any sludge that escaped the bermed area will be evaluated as to whether it will need to be cleaned up. In order that these sites may be covered in the spring of 1982, a plan should be submitted to this office for approval by March 15, 1982.

Due to the changes made in the wastewater treatment system, a line diagram showing the primary route of the wastewater and the alternatives was requested.

For NPDES permit reissuance, the company must file EPA Forms 1 and 2C. Although some priority pollutant testing was suspended, the effluent still has to be analyzed for the remaining parameters originally outlined in the Consolidated Permit Regulations. As mentioned above, reissuance of the permit would be contingent on the company's demonstration of its ability to meet present discharge limits.

Your response to this letter should be received by March 1, 1982. If you should have any questions or comments concerning the above matters feel free to contact me at this office.

Sincerely,

WATER QUALITY DIVISION

Marge Spruit

Marge Spruit
Water Quality Specialist

MS/mam

CC: Carl Gren, Plainwell Paper
WQD Files, Lansing

10/9/80

Jim,

Weren't we exempt from this act until we went to solid (or dewatered) waste generation and hauling?

Jim Harris is also concerned as whether or not it would be worth his effort to buy another truck to haul with. He doesn't dare the way things stand

Carl

Received memo on permit modification concerning dewatering plant schedule.

We should be reapplying for ANPDES permit. Do we wait for data from new machine & clarifier or reapply now?

Carl

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, the "Michigan Act"),

Plainwell Paper Co. Inc.

is authorized to discharge from a facility located at

200 Allegan St.
Plainwell, MI 49080

to receiving waters named Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, March 31, 1981. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on the company's application numbered MI 0003794 dated September 29, 1978, and shall supersede any and all Orders of Determination, Stipulation, or Final Orders of Determination previously adopted by the Michigan Water Resources Commission.

Issued this _____ day of _____, for the Michigan Water Resources Commission. Superceding NPDES Permit No. MI 0003794 expiring January 15, 1979.

PROPOSED
DATE: [illegible]
SUBJECT TO REVISION

Robert J. Courchaine
Executive Secretary

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations

During the period beginning upon the effective date of this permit and lasting until the expiration of this permit, the permittee is authorized to discharge up to a maximum of 133,000 gallons per day of noncontact cooling water from outfall 004, to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Daily Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow M^3/day (MGD)	--	--	--	--	Continuous	Total Daily Flow
Oil & Grease	--	--	--	10 mg/l	Weekly	Grab
Total Residual Chlorine*				0.024 mg/l	Weekly	Grab

* measured by the amperometric titration technique

The term noncontact cooling water shall mean water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product, or finished product.

a. The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: weekly grab.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

e. In the event the permittee shall require the use of Water Treatment additives, the permittee shall notify the Michigan Water Resources Commission in accordance with the requirements of Part II, Section A-1.

5

14834

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

November 29, 1977

Mr. Russell Blosser
Assistant Technical Director
NCASI
260 Madison Avenue
New York, New York 10016

Dear Mr. Blosser:

I believe the attached form contains the information you requested in your September 30, 1977 letter.

The exception is that the data is while only two (2) two paper machines were operating.

Also raw waste load data was taken from grab samples. Actual loading could be twice as high as given grab sample figure.

Sincerely,

PLAINWELL PAPER CO.,INC.

Carl A. Gren

Carl A. Gren
Waste Water Treatment Supervisor

CG:eh

Enclosures

Copy — Jim Farrand
10.63

14835

ncasi
NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC.
260 MADISON AVE. NEW YORK, N.Y. 10016 (212) 883-8090

September 30, 1977

Russell O. Blosser
Asst. Technical Directc
(212) 883-8084

EFFLUENT DATA FOR USE IN EPA PHASE III EFFLUENT GUIDELINES REVIEW MILL SELECTION FOR FIELD DATA COLLECTION PROGRAM

I Nominal Production During Effluent Data Generation Period

A. Pulp - List all types of pulp manufactured to include deink. If deink or other pulp production is intermittent please note.

None TPD _____ TPD
_____ TPD _____ TPD
_____ TPD of wastepaper used.

B. Paper - List average daily production of paper manufactured and a representative daily level of a grade or grades that may have unusual impact in effluent quality.

172.65 TPD (Annual Average) 270 TPD (Unusual)

II Nominal Effluent Flow for the Period

1,720,000 GPD

III BOD Load Data for July 1, 1976 through June 30, 1977, or period Secondary Treatment Operational if Startup Occurred After July 1, 1976.

A. Raw Waste - If available please provide monthly average of daily BOD load and annual average of daily load for the period. Designate if another time frame is used.

Jul 2619 Aug 3535 Sept 2328 Oct 3491 Nov 2978 Dec 5686

Jan 2548 Feb 2975 Mar 3428 Apr —— May 2577 Jun 2528

Annual Daily Average 3118/125 DAYS

B. Final Effluent - If available please provide monthly average of daily BOD load and annual average of daily load for the period. Designate if another time frame is used.

Jul 7# Aug 764# Sept 805# Oct 1060# Nov 940# Dec 779#

Jan 813# Feb 839# Mar 805# Apr 829# May 810# June 680#

Annual Daily Average 821/349 Days

Over .

5 14836

IV Suspended Solids Load Data - If readily available please provide suspended solids data for the time period covered in III.

Jul 333# Aug 660# Sept 792# Oct 951# Nov 705# Dec 963#

Jan 857# Feb 1047# Mar 1019# Apr 900# May 894# Jun 928

Annual Daily Average 844#

Please Return To:

Mr. Russell O. Blosser
Assistant Technical Director
NCASI
260 Madison Avenue
New York, N. Y. 10016

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

January 12, 1979

Mr. Roger Przybysz
Water Quality Specialist
State Office Building
350 Ottawa Avenue N.W.
Grand Rapids, Michigan 49503

Dear Mr. Przybysz:

We are sending the following information as a further clarification of information forwarded to the Department of Natural Resources on our recent application for N.P.D.E.S. permit MI 003794 for Plainwell Paper Co., Inc. As per your telephone request of 1/11/79, we submit the following information for correction.

Natural Resources Commission
Discharge Permit Application
Item 6B -

COOLING WATER DESCRIPTION

Chlorine at a rate of approximately 20#/day is added to all mill intake water. Therefore, our non-contact cooling water has chlorine added ot it. This is the only additive to this system 004.

The 20#/day chlorine is added to the total mill intake system and therefore would be less than 1 mg/L.

Chelent, Betz CL-2 is added to mill boiler feed water at a rate of 31-39# a day. This blowdown from this system discharges to our Waste Treatment process system. The only critical material claimed by the manufacturer Betz Company, is Cobalt Chloride at .24%. This is less than your required 1% reporting figure.

Polysperse 100 is used in the deaeration system in our Mill Boiler system at a rate of 65#-68# per day. This also would discharge to our mill Waste Water Treatment system. Betz reports there are no critical materials in this product listed on the Michigan Critical Materials Register.

5 14838

The sodium sulfite is also used in the boiler plant treatment system. This would also end up in the mill Waste Water Treatment system. We use approximately (15#) fifteen pounds per day of this material.

Item I.

INORGANIC CRITICAL MATERIALS

We previously used a product called Composition T in our coating preparation on the dry end of the paper machines to make up a coating formula. This accounted for about 500# per year of Zinc in our coating pigment make-up. None was used in the last year.

This product is no longer used. This product was replaced with Nalco 8652. To our knowledge this product contains no critical materials and more specifically it contains no heavy metals such as Zinc.

Only three (3) barrels (55 gals. each) were purchased in 1978 and (1) one barrel is still unused. Barrels weigh approximately 550# each and contain 33% solids.

EPA Form 7550-23 (7-73)
Item 19- Page 11-7

WATER TREATMENT ADDITIVES

219A

Percol 726 and Nopco Floc 154 are Polyacryl-amides added to our primary clarifier in our Waste Water Treatment system to improve settling of solids there.

We use approximately 20#-25# per day of these polymers. This is less than 1 mg/L.

I believe these are all the items which we discussed previously on the telephone and decided would need clarification.

If I have missed anything, I would be happy to explain further.

Very truly yours,

PLAINWELL PAPER CO., INC.

Carl A. Gren

Carl A. Gren
Waste Water Treatment Supervisor

CAG/bjb

~~(150)~~ 27,397/day

10/29/80

Vacant House = 400 gal/4 months —

Water used by Plain Paper from City of Plain in last year — ~~[illegible]~~

10,000,000 gals/year

Need Emil Ehlers est. of inlet Water Values —

Emil Warney —

2 Meters — ~~2.40~~ 3 mil/6 months

2.5 mil X 2 = 12 month 5 mil

= 5,000,000 per 7 year each X 2

Unit = 10,000,000 gals —

#3 well time — 5&6 → Steady

(*) With #4 2.6 — 3.0 M60/day —

With Unit = 1,800,000

Were — 2.0 — Now 2.5/ per a

#4 Well down —

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each discharge indicated in Section I, Item 9, that is to surface waters. This includes discharges to municipal sewerage systems in which the wastewater does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. **SEPARATE DESCRIPTIONS OF EACH DISCHARGE ARE REQUIRED EVEN IF SEVERAL DISCHARGES ORIGINATE IN THE SAME FACILITY.** All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. **Discharge Serial No. and Name**

a. **Discharge Serial No.** (see instructions)	201a	004
b. **Discharge Name** Give name of discharge, if any. (see instructions)	201b	COOLING WATER OUTFALL
c. **Previous Discharge Serial No.** If previous permit application was made for this discharge (see Item 4, Section I), provide previous discharge serial number.	201c	030135

2. **Discharge Operating Dates**

a. **Discharge Began Date** If the discharge described below is in operation, give the date (within best estimate) the discharge began.	202a	1914 (YR) — (MO)
b. **Discharge to Begin Date** If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin.	202b	YR MO
c. **Discharge to End Date** If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end.	202c	← YR MO

3. **Engineering Report Available** Check if an engineering report is available to reviewing agency upon request. (see instructions) — 203 ☐

4. **Discharge Location** Name the political boundaries within which the point of discharge is located.

				Agency Use
State	204a	MICHIGAN	204d	
County	204b	ALLEGAN	204e	
(if applicable) City or Town	204c	PLAINWELL	204f	

5. **Discharge Point Description** Discharge is into (check one): (see instructions)

Stream (includes ditches, arroyos, and other intermittent watercourses)	205a	☒ STR
Lake		☐ LKE
Ocean		☐ OCE
Municipal Sanitary Wastewater Transport System		☐ MTS
Municipal Combined Sanitary and Storm Transport System		☐ MCS

EPA Form 7550-23 (7-73)

This section contains 9 pages.

5 14841

DISCHARGE SERIAL NUMBER

030135

FOR AGENCY USE

Municipal Storm Water Transport System ☐ STS

Well (Injection) ☐ WEL

Other ☐ OTH

If 'other' is checked, specify 205b _____

6. Discharge Point — Lat/Long Give the precise location of the point of discharge to the nearest second.

Latitude 206a ____DEG ____MIN ____SEC

Longitude 206b ____DEG ____MIN ____SEC

7. Discharge Receiving Water Name Name the waterway at the point of discharge.(see instructions) 207a KALAMAZOO RIVER

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete Item 8. 207b

For Agency Use				For Agency Use
Major	Minor	Sub	207c	303e

8. Offshore Discharge

a. Discharge Distance from Shore 208a NA feet

b. Discharge Depth Below Water Surface 208b NA feet

9. Discharge Type and Occurrence

a. Type of Discharge Check whether the discharge is continuous,or intermittent. (see instructions) 209a ☒ (con) Continuous ☐ (int) Intermittent

b. Discharge Occurrence Days per Week Enter the average number of days per week (during periods of discharge) this discharge occurs. 209b 7 days per week

c. Discharge Occurrence —Months If this discharge normally operates (either intermittently, or continuously) on less than a year-around basis (excluding shutdowns for routine maintenance), check the months during the year when the discharge is operating. (see instructions) 209c ☒ JAN ☒ FEB ☒ MAR ☒ APR ☒ MAY ☒ JUN ☒ JUL ☒ AUG ☒ SEP ☒ OCT ☒ NOV ☒ DEC

Complete Items 10 and 11 if "intermittent" is checked in Item 9.a. Otherwise, proceed to Item 12.

10. Intermittent Discharge Quantity State the average volume per discharge occurrence in thousands of gallons. 210 _____thousand gallons per discharge occurrence.

11. Intermittent Discharge Duration and Frequency

a. Intermittent Discharge Duration Per Day State the average number of ho[illegible] per day the discharge is o[illegible]ing. 211a ____hours per day

b. Intermittent Discharge Frequency State the average number of discharge occurrences per day during days when discharging. 211b ____discharge occurrences per day

12. Maximum Flow Period Give the time period in which the maximum flow of this discharge occurs. 212 From ____ to ____ month month

EPA Form 7550-23 (7-73)

5 14842

DISCHARGE SERIAL NUMBER
030135

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

13. **Activity Description** Give a narrative description of activity producing this discharge.(see instructions)

213a DISCHARGE IS COOLING WATER FROM COATING PREPARATION DEPARTMENT EQUIPMENT AND MEASUREX COMPUTER EQUIPMENT. THIS RUNS UNDER AND WEST OF NUMBER(4) FOUR PAPER MACHINE THRU BUILDINGS AND ENDS UP IN THE KALAMAZOO RIVER NORTH OF THE MILL

14. **Activity Causing Discharge** For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the Instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. **Raw Materials**

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214a	(1)	(2)	(3)	(4)	(5)
	4193 D	NING			NONE

b. **Products**

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214b	(1)	(2)	(3)	(4)	(5)

EPA Form 7550-23 (7-73)

5 14843

DISCHARGE SERIAL NUMBER

030135

FOR AGENCY USE

15. Waste Abatement

a. Waste Abatement Practices Describe the waste abatement practices used on this discharge with a brief narrative. (see instructions)

215a Narrative: COOLING WATER DISCHARGE IS LOOKED AT DAILY AND FLOW MONITORED CONTINUOUSLY. A COMPOSITE SAMPLE IS TAKEN ONCE A WEEK FOR TESTING. ANY APPEARANCE CHANGE IS CHECKED INTO A holding tank is used to recycle cooling water to minimize loss.

50 items

b. Waste Abatement Codes Using the codes listed in Table II of the Instruction Booklet, describe the waste abatement processes for this discharge in the order in which they occur if possible.

215b

(1) ESEPAR,	(2) _____,	(3) _____,
(4) RECYCL,	(5) _____,	(6) _____,
(7) OMONIT,	(8) _____,	(9) _____,
(10) _____,	(11) _____,	(12) _____,
(13) _____,	(14) _____,	(15) _____,
(16) _____,	(17) _____,	(18) _____,
(19) _____,	(20) _____,	(21) _____,
(22) _____,	(23) _____,	(24) _____,
(25) _____.		

EPA Form 7550-23 (7-73)

5 14844

DISCHARGE SERIAL NUMBER
030135

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

16. Wastewater Characteristics

Check the box beside each constituent which is present in the effluent (discharge water). This determination is to be based on actual analysis or best estimate.(see instructions)

Parameter 216	Present	Parameter 216	Present
Color 00080		Copper 01042	
Ammonia 00610		Iron 01045	
Organic nitrogen 00605		Lead 01051	
Nitrate 00620		Magnesium 00927	
Nitrite 00615		Manganese 01055	
Phosphorus 00665		Mercury 71900	
Sulfate 00945		Molybdenum 01062	
Sulfide 00745		Nickel 01067	
Sulfite 00740		Selenium 01147	
Bromide 71870		Silver 01077	
Chloride 00940		Potassium 00937	
Cyanide 00720		Sodium 00929	
Fluoride 00951		Thallium 01059	
Aluminum 01105		Titanium 01152	
Antimony 01097		Tin 01102	
Arsenic 01002		Zinc 01092	
Beryllium 01012		Algicides* 74051	
Barium 01007		Chlorinated organic compounds* 74052	
Boron 01022		Pesticides* 74053	
Cadmium 01027		Oil and grease 00550	
Calcium 00916		Phenols 32730	
Cobalt 01037		Surfactants 38260	
Chromium 01034		Chlorine 50060	
Fecal coliform bacteria 74055		Radioactivity* 74[illegible]	

*Specify substances, compounds and/or elements in Item 26.

Pesticides (insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

5 14845

DISCHARGE SERIAL NUMBER

030135

004

1.6

FOR AGENCY USE

17. **Description of Intake and Discharge**

For each of the parameters listed below, enter in the appropriate box the value or code letter answer called for.(see instructions)

In addition, enter the parameter name and code and all required values for any of the following parameters if they were checked in Item 16; ammonia, cyanide, aluminum, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols, oil and grease, and chlorine (residual).

Parameter and Code 217a	Influent: Untreated Intake Water (Daily Average) (1)	Influent: In-Plant Treated Intake Water (Daily Average) (2)	Effluent: Daily Average (3)	Effluent: Minimum Value Observed or Expected During Discharge Activity (4)	Effluent: Maximum Value Observed or Expected During Discharge Activity (5)	Effluent: Frequency of Analysis (6)	Effluent: Number of Analyses (7)	Effluent: Sample Type (8)
Shift Everything Ir (1) to (2) Flow* Gallons per day ~~00056~~ 50050	~~1.08~~	~~1.78~~ 2.86	.04	.01	.37	7/7	356	DM HR
pH Units 00400	~~8.2~~	8.2		6.8	8.0	1/7	52	G
Temperature (winter) °F 74028	~~56~~	55	68	62	76	1/7	52	G
Temperature (summer) °F 74027	~~65~~	65	69	58	80	1/7	52/yr	G
Biochemical Oxygen Demand (BOD 5-day) mg/l 00310	(b) ~~<5.0~~	(b) <5.0	1.60	0.00	6.4	1/7	52	24 Hour
Chemical Oxygen Demand (COD) mg/l 00340 ~~12.8+7.8~~	8 mg/L	~~7.8~~ mg/L 10.3	90.1	79.7	97.3	3/7	3	G
Total Suspended (nonfilterable) Solids mg/l 00530	N.A.	0.0	3.0	0.5	10.0	1/7	52/yr	24
Specific Conductance micromhos/cm at 25° C 00095	N.A.	622		395	1150	3/7	3	G
Settleable Matter (residue) ml/l 00545	N.A.	0.0	0.0	0.0	0.0	0.0	5 (a)	G

*Other discharges sharing intake flow (serial numbers).(see instructions)

(b) Cooling water is <5.0 so assume well water would be less. Calf.

(a) 5 Samples taken week ending 9/17/78. Well water was same. Calfren

EPA Form 7550-23 (7-73)

II-6

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14846

DISCHARGE SERIAL NUMBER
030135

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

17. (Cont'd.)

Parameter and Code 217a	Influent: Untreated Intake Water (Daily Average) (1)	Influent: In-Plant Treated Intake Water (Daily Average) (2)	Effluent: Daily Average (3)	Effluent: Minimum Value Observed or Expected During Discharge Activity (4)	Effluent: Maximum Value Observed or Expected During Discharge Activity (5)	Effluent: Frequency of Analysis (6)	Effluent: Number of Analyses (7)	Effluent: Sample Type (8)
Oil & Grease	—	0.0	2.48	0.10	6.00	1/7	52	G

18. Plant Controls Check if the following plant controls are available for this discharge.

Alternate power source for major pumping facility. ☐ APS N.A. No Pumping Done

Alarm or emergency procedure for power or equipment failure ☐ ALM

Complete item 19 if discharge is from cooling and/or steam water generation and water treatment additives are used.

19. Water Treatment Additives If the discharge is treated with any conditioner, inhibitor, or algicide, answer the following:

a. Name of Material(s) N.A.

b. Name and address of manufacturer N.A.

c. Quantity (pounds added per million gallons of water treated).

5 14847

DISCHARGE SERIAL NUMBER 030135

FOR AGENCY USE

d. Chemical composition of these additives (see instructions). | 219d | N.A.

Complete items 20-25 if there is a thermal discharge (e.g., associated with a steam and/or power generation plant, steel mill, petroleum refinery, or any other manufacturing process) and the total discharge flow is 10 million gallons per day or more. (see instructions)

20. Thermal Discharge Source Check the appropriate item(s) indicating the source of the discharge. (see instructions) | 220 | N.A.

- Boiler Blowdown ☐ BLBD
- Boiler Chemical Cleaning ☐ BCCL
- Ash Pond Overflow ☐ APOF
- Boiler Water Treatment — Evaporator Blowdown ☐ EPBD
- Oil or Coal Fired Plants — Effluent from Air Pollution Control Devices ☐ OCFP
- Condense Cooling Water ☐ COND
- Cooling Tower Blowdown ☐ CTBD
- Manufacturing Process ☐ MFPR
- Other ☐ OTHR

21. Discharge/Receiving Water Temperature Difference

Give the maximum temperature difference between the discharge and receiving waters for summer and winter operating conditions. (see instructions)

- Summer | 221a | _____ °F.
- Winter | 221b | _____ °F.

22. Discharge Temperature, Rate of Change Per Hour | 222 | _____ °F./hour

Give the maximum possible rate of temperature change per hour of discharge under operating conditions. (see instructions)

23. Water Temperature, Percentile Report (Frequency of Occurrence)

In the table below, enter the temperature which is exceeded 10% of the year, 5% of the year, 1% of the year and not at all (maximum yearly temperature). (see instructions)

Frequency of occurrence

		10%	5%	1%	Maximum
a. Intake Water Temperature (Subject to natural changes)	223a	°F	°F	°F	°F
b. Discharge Water Temperature	223b	°F	°F	°F	°F

24. Water Intake Velocity (see instructions) | 224 | _____ feet/sec.

25. Retention Time Give the length of time, in minutes; from start of water temperature rise to discharge of cooling water. (see instructions) | 225 | _____ minutes

5 14848

FORM APPROVED
OMB No. 158—R0100

DISCHARGE SERIAL NUMBER
030135

FOR AGENCY USE

26. Additional Information

226 Item	Information
17-1	PART OF INTAKE WATER IS CHLORINATED.
14-4-b	THIS OUTFALL IS NON-CONTACT COOLING WATER AND NO PRODUCT OR RAW MATERIALS ARE INVOLVED.

5 14849

R 1052 4833-5582

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
BOX 30028
LANSING, MICHIGAN 48909

LANSING MICH OCT 21 '80 U.S. POSTAGE 1 40 PB METER 649436

14850

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CERTIFIED MAIL
RETURN
RECEIPT
REQUESTED
No. 83199

NAME
1st Notice 70/22
2nd Notice
Return

Plainwell Paper Company
Division of Phillip Morris Co.
Plainwell, MI 49080

ATTN: Carl A. Gren,
Wastewater Treatment Supervisor

Company: PLAINWELL PAPER COMPANY

Location: PLAINWELL, MI

Survey Date: July 10 & 11, 1978

Attention: CARL GREN

Return this form within two weeks to:

Department of Natural Resources
Point Source Studies Section
3005 Alpha Street
Lansing, Michigan 48910
Phone: (517) 373-2583
Attention: Marty Beck

14851

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Please analyze the split sample(s) for at least the NPDES permit parameters listed below. Please enter the analytical results on this sheet and forward it to the address given above. The results obtained by your laboratory will then be compared to the E.P.B. laboratory results and incorporated into the survey report of your plant. The company flows should correspond with the survey times.

OUTFALL(S)	030049 (005)	030135 (004)						
TIME	1745-1745	1730-1730						
PARAMETER (UNIT)								
FLOW (MGD)	3.03	.02						
BOD5 mg/l	24	<5						
Susp. Solids mg/l	42	0						
Settl. Solids mg/l	26	X						

2. Final Effluent Limitations

During the period beginning upon the effective date of this permit and lasting until the expiration of this permit, the permittee is authorized to discharge up to a maximum of 3,500,000 gallons per day of process wastewater from outfall 005 to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Daily Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow M^3/day (MGD)	--	--	--	--	Continuous Daily	Total Daily Flow Grab
Settleable Solids	--	--	--	--	Daily	24 hr. Comp.
From June 1 to October 31						
BOD_5		545(1200)	--	--	Daily	24 hr. Comp.
Total Suspended Solids		636(1400)	--	--	Daily	24 hr. Comp.
From November 1 to May 31						
BOD_5	545(1200)	818(1800)	--	--	Daily	24 hr. Comp.
Total Suspended Solids	636(1400)	955(2100)	--	--	Daily	24 hr. Comp.
Oil & Grease	--	--	--	10 mg/l	Weekly	Grab

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: weekly; grab.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

3. Special Conditions

"This permit may be modified, or, alternatively, revoked and reissued, to comply with any applicable effluent limitation issued pursuant to the order the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc. et. al. v. Russell E. Train, 8 ERC 2120 (D.D.C. 1976), if the effluent limitations so issued:

(1) is different in conditions or more stringent than any effluent limitation in the permit; or

(2) controls any pollutant not limited in the permit."

4. Special Conditions

The permittee shall install and operate sludge dewatering facilities generated by the permittee's wastewater treatment facilities in accordance with the schedule of compliance provided in Part I C. Schedule of Compliance. Said dewatered sludge shall be disposed of in accordance with Act No. 87 Public Acts of 1965, as amended.

14852

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PART I

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit monitoring reports containing results obtained during the previous month and shall be postmarked no later than the 10th day of the month following each completed report period. The first report shall be submitted within 90 days of the date of issuance of this permit.

3. Definitions

a. The daily average discharge is defined as the total discharge by weight, or concentration if specified, during a calendar month divided by the number of days in the month that the production or commercial facility was operating. When less than daily sampling is required, the daily average discharge shall be determined by the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

b. The daily maximum discharge means the total discharge by weight, or concentration if specified, during any calendar day.

c. The Regional Administrator is defined as the Region V Administrator, U.S. EPA, located at 230 South Dearborn, 13th Floor, Chicago, Illinois 60604.

d. The Michigan Water Resources Commission is located in the Stevens T. Mason Building. The mailing address is Box 30028, Lansing, Michigan 48909.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(h) of the Act, under which such procedures may be required.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. the analytical techniques or methods used; and

e. The results of all required analyses.

C. SCHEDULE OF COMPLIANCE

1. The permittee shall submit plans and specifications for sludge dewatering facilities resulting from the wastewater treatment facilities and for effluent flow measuring for outfall 005 in accordance with the following schedule.

a. Submit a preliminary engineering report and basis of design for said facilities to the Chief of the Water Quality Division and obtain his approval thereof on or before September 30, 1979.

b. Submit final plans and specifications for said facilities to the Chief of the Water Quality Division and obtain his approval thereof on or before December 31, 1979.

c. Commence construction of said facilities on or before March 31, 1980.

d. Complete construction of said facilities on or before September 30, 1980.

e. Attain operational level necessary to meet the limitations specified herein on or before October 31, 1980.

2. The permittee shall comply with the requirements of Section 10, Part II-A in accordance with the following:

a. Submit plans for approval to the Chief of the Water Quality Division necessary to comply with the primary power provision of Section 10 in Part II on or before NA.

b. The permittee shall comply with the requirements of items 10a or 10b contained in Part II on or before NA. Not withstanding the preceding sentence the permittee shall at all times halt, reduce, or otherwise control production in order to protect the waters of the State of Michigan upon the reduction or loss of the primary source of power.

3. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

14853

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PART II

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide approved facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Water Resources Commission, as required by Section 6a of the Michigan Act.

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface or groundwaters of the state by calling the Department of Natural Resources 24 hour Emergency Response telephone number (517) 373-7660; and, the permittee shall within ten (10) days of the spill or loss provide the State with a full written explanation as to the cause and discovery of the spill or loss, clean up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

6. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

7. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

8. By-passing

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Michigan Water Resources Commission and the Regional Administrator, in writing, of such diversion or by-pass.

9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters, or the entry of toxic or harmful contaminants thereof onto the groundwaters in concentrations or amounts detrimental to the groundwater resource.

10. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. Provide an alternative power source sufficient to operate facilities utilized by permittee to maintain compliance with the effluent limitations and conditions of this permit which provision shall be indicated in this permit by inclusion of a specific compliance date in each appropriate "Schedule of Compliance for Effluent Limitations",
or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Executive Secretary of the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon the presentation of the credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Michigan Water Resources Commission and the Regional Administrator.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act and Rule 2128 of the Water Resources Commission Rules, Part 21, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State Water Pollution Control Agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Sections 7 and 10 of the Michigan Act.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully, all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, A-8) and Power Failures" (Part II, A-10), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or labor disputes.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

10. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

11. Notice to Public Utilities

It is further made a condition of this permit that the applicant give notice to public utilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws, and comply with each of the requirements of that Act.

14855

PLAINWELL PAPER CO., INC.
Plainwell, Michigan
MI 070 0X5 ? 710549

The mixing zone for the purpose of evaluating compliance with the states water quality standards is defined as the right ½ of the stream a distance of 600 feet downstream from each discharge.

Carl -

I would just forget these forms for the time being - according to the backside of the form you qualify for a) & b) & therefore don't need to submit the forms (near as I can figure) -

if anyone gives you a hassle let me know & I'll see if we can get it straightened around from our office.

Talked with Tom Leep & Jim Harris' license should be arriving shortly - no groundwater permit or leasing of trucks necessary - if it's not here soon or you have any questions give me a call

According to your permit a progress report is due within 14 days of each date in the SDM schedule. May 31, 1980 was a due date so just wanted to remind you a report should be sent to Lansing Attn Scott Ross.

Any questions give me a call - I'll be back in the office Friday A.M.

Marge Sprunt

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

State Office Building
350 Ottawa N. W.
Grand Rapids, Michigan 49503
Phone: 456-6232

September 13, 1982

Mr. George Lawton
Plainwell Paper Company, Inc.
200 Allegan St.
Plainwell, MI 49080

Dear Mr. Lawton:

The proposal for the closure of the sludge lagoons and landfill, submitted August 25, 1982, has been reviewed. As is mentioned, the sites could be closed without moving any sludge off-site.

The lagoons on the western portion of the site will be filled, covered, and seeded while those nearer the primary clarifier will be excavated and retained for use as either emergency sludge holding ponds or the anticipated polishing pond.

Plans for phasing out the landfill site at 12th Street include covering the site with a loamy soil and seeding it. Any excessive sludge located outside the bermed area will need to be placed back within the confines of the berm prior to closure.

According to the proposal, Williams & Works, Inc. was to perform some preliminary studies. When the specifications have been determined, a timetable for closure should be submitted to this office. The landfill site should be decommissioned as soon as possible. Because the lagoons may be incorporated into the wastewater improvement scheme, a delay for their complete closure until the system is designed will be considered.

If you should have any questions regarding the above comments, feel free to contact me at this office.

Sincerely,

WATER QUALITY DIVISION

Marge Spruit

Marge Spruit
Water Quality Specialist

MS/mam
CC: WQD Files, Lansing
J. Racek, Williams & Works
[redacted] Plainwell Paper

R1026-1 1/80

5 14859

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

State Office Building
350 Ottawa N. W.
Grand Rapids, Michigan 49503

September 13, 1982

TO: File

FROM: Marge Spruit, District #3, Water Quality Division

SUBJECT: Meeting with Plainwell Paper

A meeting was held on August 26, 1982 in the Grand Rapids Office. Present at the meeting were Carl Gren and George Lawton of Plainwell Paper, John Racek and Lou VanLiere of Williams and Works, and Roger Przybysz and Marge Spruit of the Water Quality Division.

Williams and Works conducted a wastewater treatment plant evaluation which was completed in April, 1982. In essence the study "determined that 1) the primary clarifier and aerated stabilization basin are operating well and providing expected treatment, 2) the secondary clarifier is hydraulically overloaded and is providing little or no treatment, and 3) the sludge dewatering system is performing as could be expected with the loadings recently experienced."

As a followup to the April, 1982 study, an in-plant sampling program is scheduled to determine flow and loadings from various points within the plant. This report is due to Plainwell Paper September 13, 1982.

The company presented a time schedule for improvements to be made to the wastewater treatment plant. Corporate has verbally approved the improvements which are to include a new additional secondary clarifier. Hopefully, the new system will be completed by the end of 1983.

Interim measures to attempt to bring the company into compliance with the NPDES permit will be based in part on the results of the in-plant sampling. Once the sources are determined, the company will try to reduce the loadings through housekeeping, usage control, and possible product alternatives. The greatest problem contributing to the BOD is the starch used in the manufacturing processes. Boil outs of the various machines also affect the wastewater system, sometimes reducing the DO in the aeration basin to zero. Additional aeration was suggested to compensate for the boil outs.

Currently, the DNR has several options to follow concerning the non-compliance: 1) issue the company a schedule of compliance in the reissued permit, 2) hold the permit in abatement until the problems have been corrected, 3) develop a Consent Order which binds the company to a compliance program, and/or 4) fine the company based on the severity of the non-compliance and the profits gained by not being in compliance. Which option has not yet been determined.

Mr. Lawton said Forms 1 and 2C will be filed by August 30, 1982. He also presented a closure plan for the sludge lagoons and landfill but no time schedule was proposed. The schedule is dependent upon further improvements to be made to the wastewater system and their locations.

A meeting is to be scheduled in January to discuss the detailed engineering design for the improvements. Basically, the improvements will include: 1) an additional secondary clarifier to be operated in tandem with the original secondary, 2) changeover to activated sludge process, 3) automated nutrient feed systems, 4) a polishing pond with 6-8 hour retention time and 5) replace liner on aeration basin.

MS/mam

CC: WQD Files, Lansing
G. Lawton, Plainwell Paper
[redacted], Plainwell Paper
J. Racek, Williams & Works
B. Creal, Biology Section, Water Quality Division

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES COMMISSION

IN THE MATTER OF

NPDES PERMIT NO. MI 0003794

Plainwell Paper Co.
Division of Philip Morris Co.

WRC NO: NC-01-82-07-4170

NOTICE OF NONCOMPLIANCE

TO: Plainwell Paper Co.
Division of Philip Morris, Inc.
200 Allegan Street
Plainwell, Michigan 49080

Attn: George W. Lawton, Manager, Technical Operations

PLEASE BE ADVISED that we have sufficient information to believe that your facility has failed to comply with the terms and conditions of your National Pollutant Discharge Elimination System Permit issued on May 16, 1979.

PURSUANT to the terms of the aforementioned permit (Part I, Section A.2), any discharge from Outfall 005 of your facility is limited to the following:

Effluent Characteristics	Discharge Limitations lbs/day Daily Average	Daily Maximum
BOD-5	1200	1800
Total Suspended Solids	1400	2100

The monthly monitoring report submitted for the month of November 1981 shows that your facility exceeded its authorized discharge limits according to the following:

Date Sampled	Effluent Characteristics	Reported Value lbs/day
11-1-81	BOD-5	2,257
11-2-81	BOD-5	2,585
11-3-81	BOD-5	2,216
11-4-81	BOD-5	1,867
11-7-81	BOD-5	2,423
11-8-81	BOD-5	2,357
11-12-81	BOD-5	1,925
11-14-81	BOD-5	1,846
11-16-81	BOD-5	1,858
11-25-81	BOD-5	1,885
November Average	BOD-5	1,616
11-3-81	Total Suspended Solids	2,428
11-4-81	Total Suspended Solids	3,246
11-7-81	Total Suspended Solids	3,778
11-8-81	Total Suspended Solids	2,883
11-12-81	Total Suspended Solids	2,655
11-14-81	Total Suspended Solids	3,044
11-15-81	Total Suspended Solids	2,437
11-16-81	Total Suspended Solids	2,301
11-22-81	Total Suspended Solids	2,310
11-24-81	Total Suspended Solids	2,354
November Average	Total Suspended Solids	1,965

FURTHER, PURSUANT to the terms of the aforementioned permit (Part II, Section A.1); "All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit."

BE ADVISED that the discharges cited in this Notice of Noncompliance are violations of NPDES Permit No. MI 0003794.

FURTHER PURSUANT to the terms of the aforementioned permit (Part II, Section A.4, Noncompliance Notification): If for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

BE ADVISED that the State, to date, has not received proper and timely noncomplinace notification for the violations addressed in this Notice of Noncompliance. ?

By letter dated December 11, 1981, the Plainwell Paper Co., Inc. stated that: "We believe we have some of the solution to improve our final effluent quality . . . Some of these possible solutions recommended by consultant and in mill personnel will take time to implement."

IT IS THEREFORE DIRECTED that the Plainwell Paper Co., Inc. take whatever steps are necessary to achieve and maintain compliance with permit effluent limitations.

IT IS FURTHER DIRECTED that a written explanation be submitted to the Water Quality Division by not later than February 19, 1982 detailing the possible solutions recommended by consultant and in-plant personnel to reduce, eliminate and prevent recurrence of the noncomplying discharges. The explanation should also include a schedule for implementation of corrective measures.

IT IS FURTHER DIRECTED that Plainwell Paper Company initiate appropriate noncompliance notification as required by Part II, Section A.4 of NPDES Permit No. MI 0003794.

BE ADVISED that failure to comply with the terms and conditions of this Notice of Noncompliance may result in further administrative remedies being instituted.

WATER RESOURCES COMMISSION
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Date Issued: January 29, 1982

Robert J. Courchaine
Robert J. Courchaine
Executive Secretary

by: Scott C. Ross
Scott C. Ross, Chief
Industrial Compliance Unit

ADDRESS FOR FURTHER CORRESPONDENCE

D. D. Tummala, Water Quality Specialist
Water Quality Division
P.O. Box 30028
Lansing, Michigan 48909
Telephone: (517) 373-8448

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)

Form Approved OMB No. 158-R01

OUTFALL 004

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)												
b. Chemical Oxygen Demand (COD)												
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)												
e. Ammonia (as N)												
f. Flow	VALUE .24		VALUE .15 MGD		VALUE .085		393			VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE			°C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 7.4	MAXIMUM	MINIMUM	MAXIMUM 7.1				STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you m. column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additio details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)														
b. Chlorine Total Residual														
c. Color														
d. Fecal Coliform														
e. Fluoride (16984-48-8)														
f. Nitrate-Nitrite (as N)														

5

14864

Carl

005

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item I of Form 1)*

Form Approved OMB No. 158-R0173

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 005

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCEN-TRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	246	4599	108	2550	82	1579	375	[illegible]	[illegible]			
b. Chemical Oxygen Demand (COD)												
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)	272	5545	174	4510	109	1741	375	[illegible]	[illegible]			
e. Ammonia (as N)												
f. Flow	VALUE 3.46 MGD		VALUE [illegible]		VALUE 2.77 - MGD		375			VALUE		
g. Temperature (winter)	VALUE 84 °F		VALUE 77 °F		VALUE 72 °F		145	°C		VALUE		
h. Temperature (summer)	VALUE 88 °F		VALUE [illegible] °F		VALUE 80 °F		230	°C		VALUE		
i. pH	MINIMUM 5.9	MAXIMUM 7.9	MINIMUM 9.0	MAXIMUM 7.9			375	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)														
b. Chlorine, Total Residual						Used Nov thru April as Winter Months								
c. Color														
d. Fecal Coliform														
e. Fluoride (16984-48-8)														
f. Nitrate-Nitrite (as N)														

5

14865

Carl

005

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*

Form Approved OMB No. 158-R0173

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 005

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	240	4597	108	2550	82	1579	375	[illegible]	[illegible]			
b. Chemical Oxygen Demand (COD)												
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)	272	5545	174	4510	109	1741	375	[illegible]	[illegible]			
e. Ammonia (as N)												
f. Flow	VALUE 3.46 MGD		VALUE [illegible]		VALUE 2.77 - MGD		375			VALUE		
g. Temperature (winter)	VALUE 84 °F		VALUE 77 °F		VALUE 72 °F		145	°C		VALUE		
h. Temperature (summer)	VALUE 88 °F		VALUE 85 °F		VALUE 80 °F		230	°C		VALUE		
i. pH	MINIMUM 5.9	MAXIMUM 7.9	MINIMUM 7.0	MAXIMUM 7.9			375	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)														
b. Chlorine, Total Residual														
c. Color														
d. Fecal Coliform														
e. Fluoride (16984-48-8)														
f. Nitrate-Nitrite (as N)														

Used Northern Spring as Winter Months

N/A

5

14866

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EPA I.D. NUMBER *(copy from Item 1 of Form 1)*

004

Form Approved OMB No. 158-R01

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL 004

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)												
b. Chemical Oxygen Demand (COD)												
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)												
e. Ammonia (as N)												
f. Flow	VALUE .20		VALUE .15	.160	VALUE .085		373			VALUE		
g. Temperature (winter)	VALUE 8		VALUE 10		VALUE [illegible]		24	°C		VALUE		
h. Temperature (summer)	VALUE 8		VALUE [illegible]		VALUE [illegible]		27	°C		VALUE		
i. pH	MINIMUM 7.8	MAXIMUM 8.2	MINIMUM 8.2	MAXIMUM 9.1			52	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you ma column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for addition details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. PRESENT	b. ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)														
b. Chlorine Total Residual														
c. Color														
d. Fecal Coliform														
e. Fluoride (16984-48-8)														
f. Nitrate-Nitrite (as N)														

5

14867

1981-1982

Flow

Aug	.15	.20
Sept	.11	.15
Oct	.13	.18
Nov	.08	.12
Dec	.06	.12
Jan	.06 — ~~30~~	.08
Feb	.05	.07
March	.07	.10
April	.07	.08
May	.06	.10
June	.05	.09
July	.08	.16
Aug	— .085	.12

1.06 / 13

.81538

1982

aug 86 - 90 - 82 - 98 - 356 - 4 - 89

July - 80 - 78 88 246 - 3

June 84 84 86 88 342 - 4 = 88

May - 95 86 86 88 355 - 4

~~April~~

Oct 72 72 76 73 = 293 - 4

Sept 79 82 69 82 312 - 4

aug 76 79 78 80 313 - 4

2217 -

27

82

85 2040453

93

404648

915612 2445194

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EPA I.D. NUMBER *(copy from Item 1 of Form 1)*

Form Approved OMB No. 158-R01

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL 004

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	240	4599	108	2550	82	1579	375	PPM	Pounds			
b. Chemical Oxygen Demand (COD)												
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)	272	8545	174	4510	109	1741	375	PPM	Pounds			
e. Ammonia (as N)												
f. Flow	VALUE 3.46 MGD		VALUE 3.11 MGD		VALUE 2.77		375			VALUE		
g. Temperature (winter)	VALUE 84 °F		VALUE 77 °F		VALUE 72 °F		145	°F X		VALUE		
h. Temperature (summer)	VALUE 88 °F		VALUE 85 °F		VALUE 80 °F		230	°F X		VALUE		
i. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM			375	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you ma column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for addition details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)														
b. Chlorine, Total Residual														
c. Color														
d. Fecal Coliform														
e. Fluoride (16984-48-8)														
f. Nitrate-Nitrite (as N)														

5

14871

Nov-77	Dec-77
74	76
73	75
74	86
80	88

Jan 7 80-76 78 88 ~~80~~ 80.5

Feb 81 76 77 74

March 78 77 77

April 82 74 78 80

24 1856

77

1981-1982

1981	PH	Flow	Hi	TSS	BOD	Days	Temp
[illegible]	7.1	3.78	3.46	102	1043	31	85-88
[illegible]	6.7-7.2	2.58	2.85	43-936 3379	620 ave 1433	29	
[illegible]	6.5-7.4				105-274 3778		
[illegible]	7.1 ave	2.60	2.81	86-1524 (3654)	1616 (3585)	31	78°
[illegible]	7.6-7.8	2.65		1965 (3778)		29	
[illegible]	7.0-7.5	3.46 2.62		3971 2883	1775 (3273)	~~26~~	
1982							
Jan	6.9-7.7 7.3 ave	3.04 3.71		250-2641-4532	281-4584 57-1944	30	69-73
Feb	7.6-7.6 7.2	2.45-3.33		1205-2475-5545	146-4550 163-2550	28	73-78
March		2.59				30	
April	5.9-7.8 7.3	2.67 (3.11)		306-4244 1252-2754	1543 280 78-1721	28	72-77
May	7.3 ave	2.80				29	
June	6.2-7.9 7.3	2.94	(4.02)	(3.82) 214 736 5357 3205	96 ppm 3035 2220	30	79-82
July	7.0-7.6	2.85	(3.49	174-4570	78-2017 (3204)	23	87-85
Aug	7.3-7.8 7.5	3.11	(3.34	272-7671	165 → 3595	31	81-83
		36.85				375	
		13					

004

PH		Temp	Flow
		80°C (Maxi.-	
7.5-9.1	Sept	Sibaik 82-	.11 (.14)
7-8.6	Oct		.13 (.18)
7.0-8.0	Nov		.08 (.12)
	Dec		.06 (.13)
	Jan		
	Feb		
	March		
	April		
	May		
	June		
	July		
	Aug		

Days	Temp
29 (4)	
34 (5)	
(4)	
5 days	

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

July 1977

Mr. Carl A. Gren
334 Lakeview Lane
Plainwell, Michigan 49080

Dear Mr. Gren:

The Board of Examiners has determined from the information contained in the application form that you submitted and in our files, that you have demonstrated acceptable evidence of your qualifications and continued proficiency in these categories and, therefore, waive the necessity of reexamination at this time.

With the recommendation of the Board of Examiners and with the authority granted by the Natural Resources Commission, you are hereby granted a continuance of your certification in the treatment plant classifications listed below.

A-1b, C-1b

This certification is to be considered valid for all facilities with the same classifications as indicated and is to remain in effect until July 1, 1982, unless revoked for a just cause as set forth in the rules of the Water Resources Commission being Part 10 of the said rules.

An official certificate is enclosed. Your designated certificate number will continue to be the same, W 483, and should be included with your signature when signing and submitting all operating reports.

Sincerely,

Howard A. Tanner
Director

MICHIGAN
THE GREAT LAKES STATE

R1028 10/76

14874

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

State Office Building
350 Ottawa N. W.
Grand Rapids, Michigan 49503
Phone: 456-6231

August 9, 1982

CERTIFIED MAIL

Mr. Sam Taylor
Plainwell Paper Company
200 Allegan Street
Plainwell, MI 49080

Dear Mr. Taylor:

On June 11, 1982 Plainwell Paper Company responsed to a notice of non-compliance (WRC #NC-05-82-09-4287) issued by the Water Quality Division. The letter outlined plans for a study to be conducted by Williams & Works at the facility in an attempt to bring it into compliance with the terms of N.P.D.E.S. Permit MI 0003794. Following corporate approval of the proposal, a meeting was to be held between Plainwell Paper Company, Williams & Works, and the Grand Rapids District Water Quality staff to discuss the program and timetable. According to the letter, "I will contact the DNR staff . . . during the first week of July to set up such a meeting." The entire month of July has passed, and, to date, no such meeting has been scheduled.

Repeatedly, the DNR has requested a closure plan for both the inactivated sludge pits on-site and the landfill at 12th Street. To date, none has been submitted. It had been anticipated the project would have been completed by spring, 1982.

A response was not received from the company to the May 4, 1982 letter transmitting the wastewater survey report.

Plainwell Paper Company should undertake immediate steps to advise the District Office of the current status of the various projects being undertaken to bring about compliance at this location. As had been mentioned in previous letters, substantial compliance of the existing permit must be demonstrated prior to reissuance of the permit.

Notify this office when a meeting can be scheduled to discuss the above matters. If you should have any questions or comments concerning the above matters feel free to contact me at this office.

Sincerely,

WATER QUALITY DIVISION

Marge Spruit

Marge Spruit
Water Quality Specialist

MS/mam
CC: George Lawton, Plainwell Paper
Carl Gren, Plainwell Paper
Scott Ross, Compliance Section, Water Quality Division
WQD Files, Lansing

R1026-1 1/80

14875

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LATALA
DEAN PRIDEON
HILARY F. snell
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

May 16, 1979

CERTIFIED MAIL

Plainwell Paper Co., Inc.
200 Allegan Street
Plainwell, MI 49080

Re: MI 0003794

Gentlemen:

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate State and Federal regulations.

Your NPDES Permit contains: 1) limitations which require you to monitor your effluent in accordance with Part I, Section A and 2) a schedule of compliance which requires you to meet deadlines concerning the construction of waste control facilities in accordance with Part I, Section C.

REVIEW THE PERMIT EFFLUENT LIMITS AND PERFORMANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. All permit violations are audited by the United States Environmental Protection Agency and will appear in a published quarterly non-compliance report made available to agencies and the public.

Your monthly operating report forms will be transmitted to you in the near future. These reports are to be submitted monthly as required by your NPDES permit.

Very truly yours,

WATER QUALITY DIVISION

Karl Zollner, Jr./bl

Karl Zollner, Jr., P.E., Chief
Engineering & Technical Services Section

KJZ:bl
Enclosure: Permit
cc: A. H. Manzardo (2)
R. J. Comchaine
Data Cen
Files
T. K. Wu
C. Odin
A. Howard
F. Baldwin
C. Harvey
West Michigan Regional Planning Commission

MICHIGAN

R1026

5 14876

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, the "Michigan Act"),

Plainwell Paper Co. Inc.

is authorized to discharge from a facility located at

200 Allegan St.
Plainwell, MI 49080

to receiving waters named Kalamazoo River

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I and II hereof.

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, March 31, 1981. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on the company's application numbered MI 0003794, dated September 29, 1978, and shall supersede any and all Orders of Determination, Stipulation, or Final Orders of Determination previously adopted by the Michigan Water Resources Commission.

Issued this 16th day of May, 1979, for the Michigan Water Resources Commission. Superceding NPDES Permit No. MI 0003794 expiring January 15, 1979.

Robert J. Courchaine

Robert J. Courchaine
Executive Secretary

5 14877

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations

During the period beginning upon the effective date of this permit and lasting until the expiration of this permit, the permittee is authorized to discharge up to a maximum of two hundred thousand (200,000) gallons per day of noncontact cooling water and an undetermined amount of stormwater from outfall 004, to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Daily Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow M^3/day (MGD)	--	--	--	--	Continuous	Total Dai Flow
Oil & Grease	--	--	--	10 mg/l	Weekly	Grab
Total Residual Chlorine				0.024 mg/l	Weekly	Grab

The term noncontact cooling water shall mean water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product, or finished product.

a. The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: weekly grab.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

e. In the event the permittee will require the use of Water Treatment additives, the permittee shall notify the Michigan Water Resources Commission in accordance with the requirements of Part II, Section A-1.

2. Final Effluent Limitations

During the period beginning upon the effective date of this permit and lasting until the expiration of this permit, the permittee is authorized to discharge up to a maximum of 3,500,000 gallons per day of process wastewater from outfall 005 to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Daily Average	Daily Maximum	Monitoring Requirement Measurement Frequency	Sample Type
Flow M^3/day (MGD)	--	--	--	--	Daily	Continuous
Settleable Solids	--	--	--	--	Daily	Grab
From June 1 to October 31						
BOD_5		545(1200)	--	--	Daily	24 hr. Comp
Total Suspended Solids		636(1400)	--	--	Daily	24 hr. Comp
From November 1 to May 31						
BOD_5	545(1200)	818(1800)	--	--	Daily	24 hr. Comp
Total Suspended Solids	636(1400)	955(2100)	--	--	Daily	24 hr. Comp
Oil & Grease	--	--	--	10 mg/l	Weekly	Grab

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: weekly; grab.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

3. Special Conditions

"This permit may be modified, or, alternatively, revoked and reissued, to comply with any applicable effluent limitation issued pursuant to the order the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc. et. al. v. Russell E. Train, 8 ERC 2120 (D.D.C. 1976), if the effluent limitations so issued:

(1) is different in conditions or more stringent than any effluent limitation in the permit; or

(2) controls any pollutant not limited in the permit."

4. Special Conditions

The permittee shall install and operate sludge dewatering facilities generated by the permittee's wastewater treatment facilities in accordance with the schedule of compliance provided in Part I C. Schedule of Compliance. Said dewatered sludge shall be disposed of in accordance with Act No. 87 Public Acts of 1965, as amended.

PART I

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit monitoring reports containing results obtained during the previous month and shall be postmarked no later than the 10th day of the month following each completed report period. The first report shall be submitted within 90 days of the date of issuance of this permit.

3. Definitions

a. The daily average discharge is defined as the total discharge by weight, or concentration if specified, during a calendar month divided by the number of days in the month that the production or commercial facility was operating. When less than daily sampling is required, the daily average discharge shall be determined by the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

b. The daily maximum discharge means the total discharge by weight, or concentration if specified, during any calendar day.

c. The Regional Administrator is defined as the Region V Administrator, U.S. EPA, located at 230 South Dearborn, 13th Floor, Chicago, Illinois 60604.

d. The Michigan Water Resources Commission is located in the Stevens T. Mason Building. The mailing address is Box 30028, Lansing, Michigan 48909.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(h) of the Act, under which such procedures may be required.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. the analytical techniques or methods used; and

e. The results of all required analyses.

C. SCHEDULE OF COMPLIANCE

1. The permittee shall submit plans and specifications for sludge dewatering facilities resulting from the wastewater treatment facilities and for effluent flow measuring for outfall 005 in accordance with the following schedule.

a. Submit a preliminary engineering report and basis of design for said facilities to the Chief of the Water Quality Division and obtain his approval thereof on or before September 30, 1979.

b. Submit final plans and specifications for said facilities to the Chief of the Water Quality Division and obtain his approval thereof on or before December 31, 1979.

c. Commence construction of said facilities on or before May 31, 1980.

d. Complete construction of said facilities on or before November 31, 1980.

e. Attain operational level necessary to meet the limitations specified herein on or before December 31, 1980.

2. The permittee shall comply with the requirements of Section 10, Part II-A in accordance with the following:

a. Submit plans for approval to the Chief of the Water Quality Division necessary to comply with the primary power provision of Section 10 in Part II on or before NA.

b. The permittee shall comply with the requirements of items 10a or 10b contained in Part II on or before NA. Not withstanding the preceding sentence the permittee shall at all times halt, reduce, or otherwise control production in order to protect the waters of the State of Michigan upon the reduction or loss of the primary source of power.

3. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

PART II

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide approved facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Water Resources Commission, as required by Section 6a of the Michigan Act.

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface or groundwaters of the state by calling the Department of Natural Resources 24 hour Emergency Response telephone number (517) 373-7660; and, the permittee shall within ten (10) days of the spill or loss provide the State with a full written explanation as to the cause and discovery of the spill or loss, clean up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

6. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

7. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

8. By-passing

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Michigan Water Resources Commission and the Regional Administrator, in writing, of such diversion or by-pass.

9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters, or the entry of toxic or harmful contaminants thereof onto the groundwaters in concentrations or amounts detrimental to the groundwater resource.

10. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. Provide an alternative power source sufficient to operate facilities utilized by permittee to maintain compliance with the effluent limitations and conditions of this permit which provision shall be indicated in this permit by inclusion of a specific compliance date in each appropriate "Schedule of Compliance for Effluent Limitations",
or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Executive Secretary of the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon the presentation of the credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Michigan Water Resources Commission and the Regional Administrator.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act and Rule 2128 of the Water Resources Commission Rules, Part 21, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State Water Pollution Control Agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Sections 7 and 10 of the Michigan Act.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully, all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, A-8) and Power Failures" (Part II, A-10), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or labor disputes.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

10. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

11. Notice to Public Utilities

It is further made a condition of this permit that the applicant give notice to public utilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws, and comply with each of the requirements of that Act.

PLAINWELL PAPER CO., INC.
Plainwell, Michigan
MI 070 0X5 2 710549

The mixing zone for the purpose of evaluating compliance with the states water quality standards is defined as the left ¼ of the stream a distance of 600 feet downstream from each discharge.

Carl Green

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
CARL T. JOHNSON
E.M. LAITALA
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

State Office Building
350 Ottawa Avenue, N. W.
Grand Rapids, Michigan 49503

Received
9-25-81
GWC

September 23, 1981

Mr. George Lawton
Plainwell Paper Co., Inc.
200 Allegan Street
Plainwell, Michigan 49080

Dear Mr. Lawton:

Enclosed, you will find a copy of the Federal Resource Conservation and Recovery Act (RCRA) inspection form which was completed during our inspection at your facility on August 26, 1981.

Please be advised that any areas of noncompliance noted on the form may result in formal enforcement actions against your company from our Office of Hazardous Waste Management in Lansing or from the U. S. E. P. A.

If you should have any questions or comments regarding the completion of this form, please contact our Grand Rapids office at 456-6232.

Very truly yours,

WATER QUALITY DIVISION

Marge Spruit

Marge Spruit,
Water Quality Specialist

MS/mc
Enclosure

cc: John Bohunsky, W.Q.D.
Al Howard, O.H.W.M.
W.Q.D. Files, Lansing

MICHIGAN
THE GREAT LAKE STATE

R1026-1 1/79

5 14888

STATE IDENTIFICATION NUMBER
(If Applicable)

MID 053666228
EPA IDENTIFICATION NUMBER
262.12

RCRA INSPECTION REPORT - INTERIM STATUS STANDARDS
Form B Generator Inspection*
(40 CFR Part 262)

I. General Information:*

(A) Installation Name: Plainwell Paper Co, Inc.

(B) Street: 200 Allegan St.

(C) City: Plainwell (D) State: Michigan (E) Zip Code: 49080

(F) Phone: 616-685-5851 (G) County: Allegan

(H) Date of Inspection: August 26, 1981 Time of Inspection (From) 1:30 P (To) 2:00 P

(I) Weather Conditions: overcast

(J)

Person(s) interviewed	Title	Telephone
George Lawton	Manager-Technical Operations	616-685-5851
Carl Gren	Supervisor - Environmental	616-685-5851

(K)

Inspection Participants	Agency/Title	Telephone

(L) Preparer Information

Name	Agency/Title	Telephone
Marge Sprut	Mich. DNR - Water Quality Specialist	616-456-6232

*Do not use this form if Generator is also a treatment, storage, and/or disposal facility. Complete form "A" if the Generator is also a TSD facility.

KC Al Howard - OTMC
WQ Files - Lansing

Rev 1-97-81/1 B

5 14889

II. BRIEFLY DESCRIBE SITE ACTIVITY

Non integrated specialty paper manufacturer
The pulp is purchased and utilized to produce fine printing papers and industrial specialties.

III. MANIFEST REQUIREMENTS (Subpart B) N.A.

	Yes	No	NI*	Remarks
(A) Does the operator have copies of the manifest available for review? 262.23(a)3				
(B) Do the manifest forms reviewed contain the following information: (If possible, make copies of, or record information from, manifests that do not contain the critical elements)				
1. Manifest document number? 262.21(a)1				
2. Name, mailing address, telephone number, and EPA ID number of Generator? 262.21(a)2				
3. Name and EPA ID Number of Transporter(s)? 262.21(a)3				
4. Name, Address, and EPA ID Number of Designated permitted facility and alternate facility? 262.21(a)4				

*Not Inspected

5 14890

VIII. Remarks

REMARKS: The company applied for an EPA identification number as a contingency plan in the event one is needed in the future. Presently the company recycles it's waste oils and does not intend to accumulate more than 2 barrels. The waste oil is not a hazardous waste ① because it is being recycled and ② small quantity generator exclusion.

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
HOWARD A. TANNER, Director

September 11, 1981

Mr. Carl Gren, Wastewater Treatment Supervisor
Plainwell Paper Company, Inc.
Plainwell, Michigan 49080

Dear Mr. Gren:

I have enclosed a copy of the flow chart from your outfall 030135 (004) recorded during our survey at your facility on September 8-9, 1981. The starting time is noted on the chart as being 1610 on September 8. Please note in your letter explaining the malfunction of your flow recording device that the flow measurement from the survey crew was reported on the MOR.

Very truly yours,

ENVIRONMENTAL SERVICES DIVISION

Ralph R. Reznick

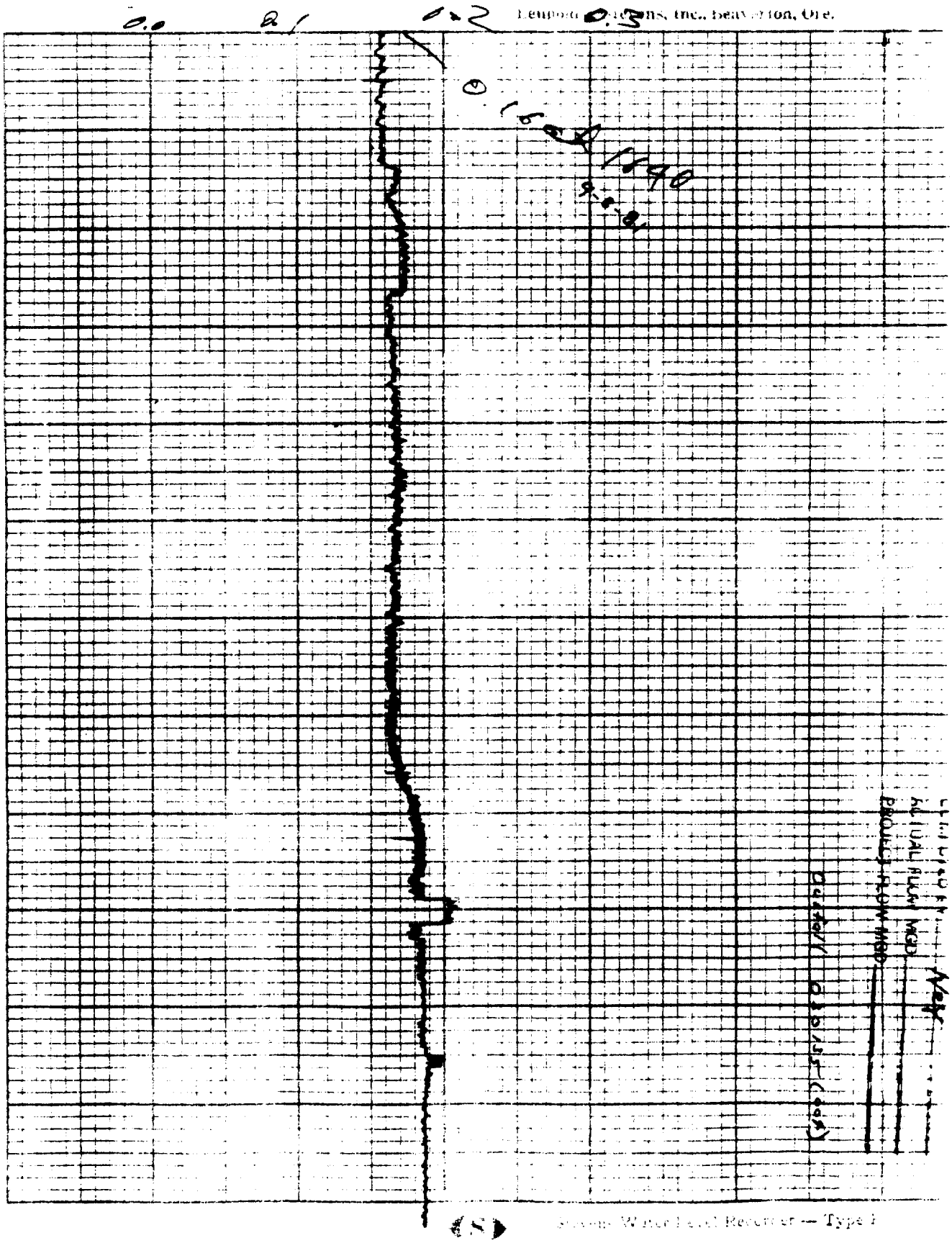
Ralph Reznick, Environmental Engineer
Point Source Studies Section

RR:mm
Enc.

R1026 1/80

5 14892

14893 5



Stevens Water Level Recorder — Type F

R 1082 4833-5692

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
BOX 30028
LANSING, MICHIGAN 48909

LANSING, MI 489
PM
14 SEP
1981

USE ZIP CODE

15¢

Mr. Carl Gren
Wastewater Treatment Supervisor
Plainwell Paper Company
Plainwell, MI 49080

5

14894

178655

INTER-OFFICE CORRESPONDENCE

cc: J. Ishmael
S. Taylor
J. Fleckenstein
File ✓

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Industrial, Incorporated

TO: George Lawton

DATE: December 21, 1981

FROM: Carl Gren

SUBJECT: Contact with Michigan D.N.R. - 12/8/81

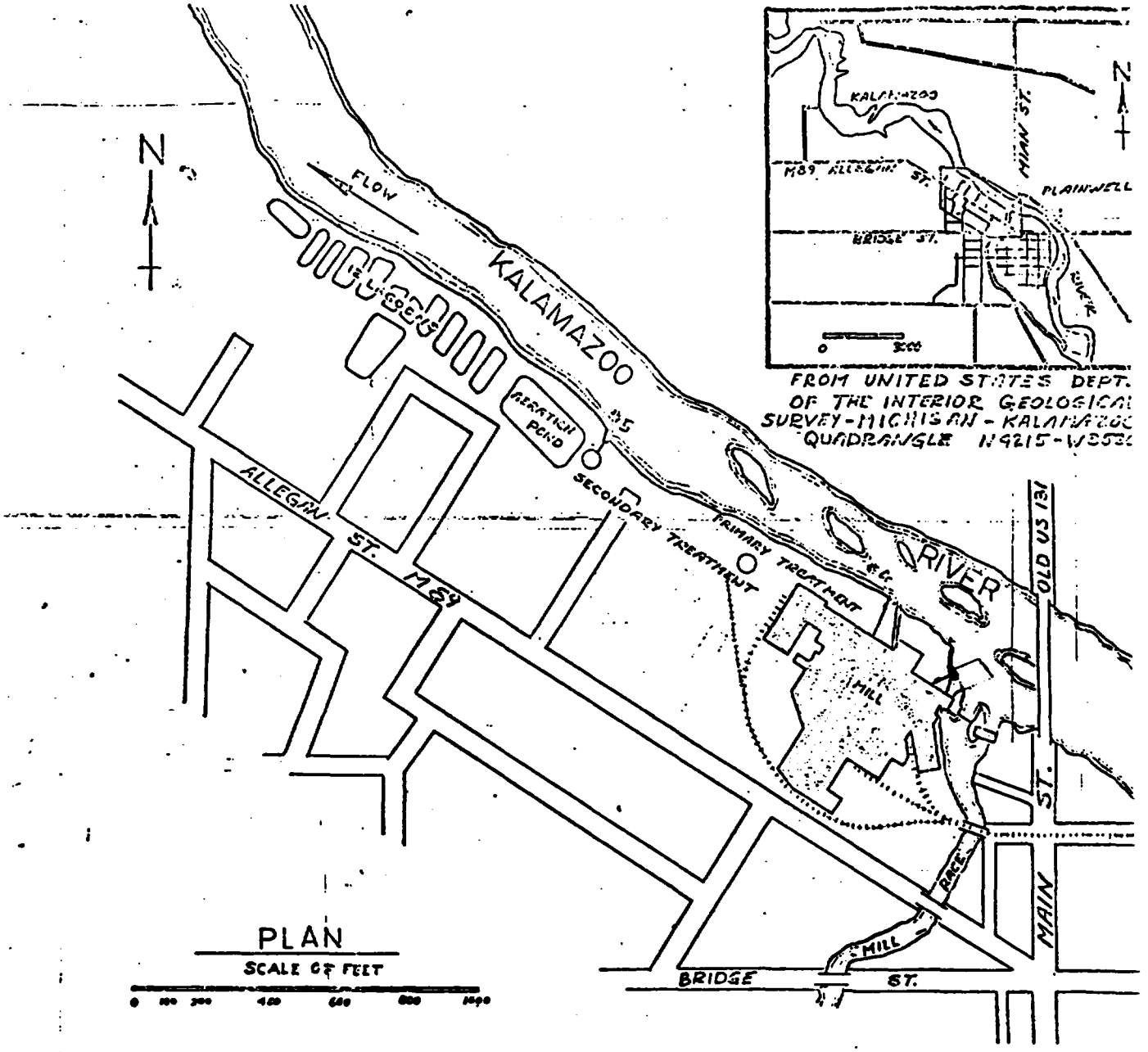
Marge Spruit called 12/8/81 and asked about our aeration base and liner bubble and other problems. I told her the base and liner situation remained the same and the manufacturers did not have any advice for us as of yet. I told her the BOD's were better but solids were getting higher. I also told her we were making progress on the odor problem.

Carl Gren

CG:cos

5

14895



NOTE ELEVATIONS SHOWN ON THE FOLLOWING PAGES ARE TAKEN FROM U.S.G.S BENCH MARK NUMBER F 170

EXISTING OUTFALL & DISCHARGES IN THE KALAMAZOO RIVER AT THE VILLAGE OF PLAINWELL ALLEGAN COUNTY, MICHIGAN

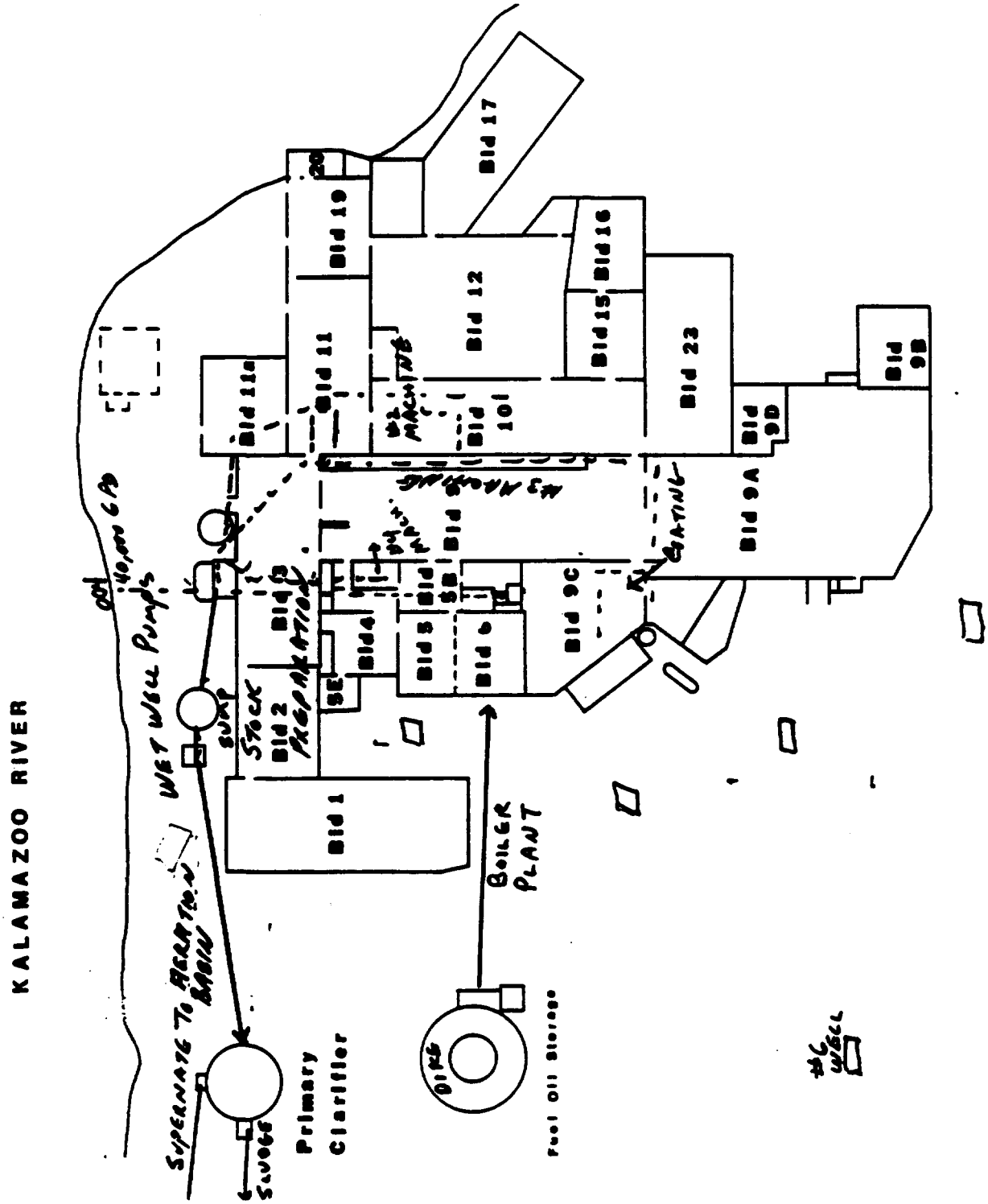
APPLICATION BY _____

SHEET 1 OF 6 DATE _____

Container No_____
Sheet 3 of 3

STORAGE CONTAINER
Location Drawing

____Floor Level



5 14897

NPDES Permit

(6b) Process Waste:

Consists of low levels of suspended cellulose fiber, clay and other pigments and biological solids. Soluble solids are primarilly starches. Appearance varies from nearly clear to cloudy white. No toxic materials in taste or odor in effluent.

(6b) List additives [illegible] water 4224

(7) Check [illegible] well. .8 Mile - Ash city [illegible] private well. [illegible] - .8 MILE - WESTONE.

(11) List six property owners plus city

Mr. Ron [illegible] - [illegible] Michigan

Eldon Van Lent -

Clark Robert E. 127 Adar - 685-5469

.7 X 5 [illegible]

[illegible]	82	78
[illegible]	57	84
[illegible]	56	85
[illegible]	53	79
[illegible]	57	79
[illegible]	78	46
[illegible]	77	72
[illegible]	76	72
[illegible]	73	70
[illegible]	76	72
[illegible]	75	75
[illegible]	53	78
[illegible]	52	79

76.8

Temp. Oct-79 to Oct-80 (004)

Avg - 74° yearly

High - 88°

Raw Waste 1979

Mo.	Total Solids ppm	Total Suspended Solids ppm	Total Suspended Solids #/Day	B.O.D. ppm	B.O.D. #/Day
Jan	3948	1850	38444	220	4549
Feb	2723	1679	35331	176	3634
Mar	2601	2205	43502	157	3116
Apr	2021	1149	23004	160	3228
May	2137	1209	24709	205	4175
June	1875	1067	22100	196	3997
July	2108	1325	27980	186	3975
Aug	2064	1123	24806	183	4079
Sept	1865	963	20391	159	3352
Oct	2145	1315	28594	201	4402
Nov	2532	1605	33177	208	4269
Dec.	1849	941	19075	187	3842
Total -	27,868	16,432	341,013	2238	46,618
2 Mo. Avg -	2322	1369	28,418	187	3885

Secondary
or Final Effluent

	Avg Flow	Total Solids ppm	Total Suspended S. ppm	-# Day	O.A.R.	B.O.D. ppm	-#/Day	O.A.R.
n	2463500	774	51	1051	97.3	39	791	82.4
b	2437421	910	59	1193	95.5	51	1047	70.7
ar	2380058	837	46	923	95.6	36	702	75.8
r	2370033	809	62	1224	93.9	34	681	80.5
ay	2464242	798	50	1001	95.0	40	828	81.2
ne	2453333	814	37	757	97.0	42	865	78.9
ly	2509200	873	44	909	94.3	43	884	77.6
ug	2641281	849	39	853	95.9	35	769	81.4
pt	2105373	816	46	973	94.7	34	713	78.5
ct	2609296	806	43	945	96.3	40	873	80.6
v	2467453	790	44	909	95.5	43	884	78.6
c	2435610	834	36	742	95.6	45	912	76.3
Tot	29336800	9910	557	11,480	1146.6	482	9959	942.5
Mo. Avg	2444735	825	46	957	95.5	40	830	78.5

bcc: D. Martin
R. Flores
G. Longworth
C. Gren—
F. Sebastian

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated

Plainwell, Michigan 49080
Phone: 616/685-5851

November 14, 1980

Mr. Robert J. Courchaine
Chief Engineer
Water Quality Division
Michigan Department of Natural Resources
Stevens T Mason Building
Lansing, Michigan 48926

Dear Mr. Courchaine:

In accordance with the terms listed in Part I C.1. "Schedule of Compliance", in NPDES Permit No. MI 0003794, the following progress report is made.

1. On July 1, 1980, Dr. James Farrand, then Director -Research and Development, Plainwell Paper Co., Inc. wrote Miss Marge Spruit, at the Grand Rapids office, proposing a revised time table for the Sludge Dewatering Project. Then, on August 18, 1980, Dr. Farrand wrote your office, outlining the same proposal and formally requesting permit modification for this project.

2. On October 6, 1980, Mr. Karl Zollnar Jr. notified Plainwell Paper Co., Inc. that this request had been received and had been assigned to the Acting District Engineer for review.

3. On November 1, 1980, Dr. Farrand left the employ of Plainwell Paper Co., Inc. and his duties, as far as this specific matter is concerned, were delegated to myself by Mr. Donald V. Martin, Vice President and General Manager. My title is Manager of Technical Operations.

4. The project status report, as requested by

Part IC.1 follows:

a) All engineering has been completed.
b) All major equipment has been purchased and most of it is on site.
c) Requests for bids were sent to selected general contractors on October 23, 1980.
d) Bids were returned on November 4, 1980 and a decision to award the contract to Miller-Davis of Kalamazoo was made on November 7, 1980.

14902

e) Miller-Davis Co. began site preparation work on November 10, 1980.
f) A dispute involving the validity of a zoning (set back) variance arose on November 10. This resulted in an informal hearing before the Plainwell City Commission that same evening. As a result, the City Commission ordered the Planning Commission to hold a formal hearing on Friday, November 19 at 7:30 P.M. to resolve the issue.
g) The Contractor ceased all activities which might be affected by the hearing.
h) Plainwell Paper Co., Inc. anticipates that the variance will be upheld on November 14 and that the Contractor will resume work on November 17, 1980. The Contractor feels certain that the June 1, 1980 job completion date will be unaffected by this delay.

The above report places us firmly on the revised schedule proposed by Dr. Farrand. I assume it meets the requirements of Part IC.1.d of the Permit as they now apply to Plainwell Paper.

Please feel free to contact me on this at any time.

Very truly yours,
PLAINWELL PAPER CO., INC.

George W Lawton Jr

George W. Lawton, Jr.
Manager of Technical Operations

GW/wb

Plainwell Paper
Plainwell
9/8/81 - 9/9/81
Carl Gren

Return this form within two weeks to:

Department of Natural Resources
Point Source Studies Section
3005 Alpha Street
Lansing, Michigan 48910
Phone: (517) 373-2508
Attention: Ralph Reznick

...ters listed below. Please enter the
...ve. The results obtained by your
...corporated into the survey report of

				DATE ANALYZED
030049 (00)				
2.45				9/9/81
BOD5 (mg/l) .72				
Sett. Solids 42				
Susp. Solids 94 mg/l				

5

14904

Carl Gem

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

December 6, 1977

Mr. Roger Przybysz
Water Quality Specialist
Water Quality Division
350 Ottawa Avenue, N.W.
Grand Rapids, Michigan 49503

Dear Roger:

I am writing in response to your letter of October 20, in which you stated three concerns with our current waste treatment plant. Our response, as discussed with Chet Harvey a few weeks ago in your absence, is as follows:

1) Effluent Flow Measurement.

This has been a point of discussion for some time, the fact that we measure flow going to the treatment plant and not the actual flow entering the river. As you know, there is no easy way to install a flow measuring device as the outfall is currently constructed. Any metering system will require a major change in the outfall and, of course, much money.

We are planning on studying the situation in detail this spring (as early as possible) and then will make a recommendation for your approval on corrective measures to be taken.

Concerning the existing flow meter, we realize it is not always accurate and have had the Taylor repairman out time after time with limited success. We are still attempting to resolve this problem but in the meantime are using the old weir level as much as possible to confirm the flow.

2) Composite Sampler.

We understand the need for a refrigerated 24-hour composite sampler and are planning on purchasing one for installation in the spring.

3) Sludge Handling.

Since we have a safe and inexpensive landfill available for sludge disposal, we have not been eager to invest in a costly sludge

dewatering plant. However, to meet your requirements, we plan on beginning a study of sludge dewatering systems in the summer of 1978, order the chosen system in the summer of 1979 and have it installed by Fall, 1980. Our current landfill should easily last us until that time.

I trust this answers your concerns in a satisfactory way. Let me know if you have any questions.

Sincerely,

PLAINWELL PAPER CO., INC.

Jim Farrand

James C. Farrand
Director - Research & Development

JCF/lm

cc: Mr. Chester Harvey - Water Quality Division
Mr. Donald V. Martin - Plainwell Paper Co., Inc.
Mr. Carl Gren - Plainwell Paper Co., Inc.

1 - Additional Clarifier
(a) Cone. system for dewatering

2 - Increase poly. system size

3 - Coating waste concentrator or holding tank -

4 - Monitoring System

5 - Additional Bio System
(a) Probably need one more aerator for back up.
(b) maybe use a floater for portability —

6 - Back up holding pond for dewatering system failure with aeration.

7 - added equipment for oil skimmer to remove better -

8 - Possible reuse of water from clarifiers —

9 - Dewatering unit -

14907

Carl Gren

1/27/77

Water Pollution Control Capital Spending
& Administration

	Capital	Adm
1974		$51,000
1975	33 000	54,000
1976	333 000	114,000
	366 000	219 000
1977	117 000	
	483 000	

I hope this is the data required. I filled it in on the form.

Joe

1/27/77

Form 878

Rick Schaut,

Rick Could you add input as to capital costs (item No. 1) to the attached form required by the D.N.R. Return as soon as possible.

Our permit is dated 1/21/77

Thanks,

Carl Green

14909

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926
HOWARD A. TANNER, Director

January 14, 1977

Gentlemen:

The State of Michigan has issued your company a N.P.D.E.S. permit to discharge wastewater to the State's waters. Most of the permits issued set final effluent limitations to be effective sometime in 1977. We hope to summarize the statewide costs to both industries and municipalities of meeting these permit requirements.

Please complete the enclosed questionnaire. The information on this questionnaire will be summarized in the State's report on the status of water quality and pollution control programs in Michigan. We submit this report annually to Congress and the Environmental Protection Agency.

If the cost figures in question one are not readily available, please use a reasonable estimate.

Please mail your completed questionnaire by March 1, 1977 to:

Michigan Department of Natural Resources
Environmental Services Division
P.O. Box 30028
Lansing, Michigan 48909

If you have any questions about the questionnaire call me at (517) 373-2867. And, at your request, we will send the final summary of statewide costs when completed.

Very truly yours,

ENVIRONMENTAL SERVICES DIVISION

John T. Kraft

John T. Kraft
Water Quality Investigator

JTK/cs
Enclosure

MICHIGAN

R1020 1/75

5 14910

Company Name PLAINWELL PAPER CO. INC. Your Name CARL GREN

Division PHILIP MORRIS INC. Title WASTE WATER TREATMENT SUP

Phone No. 685-5551 (area code)

1/21/74 Issued

1.) How much will your plant spend to meet your permit requirements? Include amounts spent on waste treatment facilities since your permit was issued, as well as other related items such as monitoring, lab work, safety equipment, personnel, etc.

a. Capital Costs $ 483,000
b. Interest on loans $ ____
c. Operation & Maintenance (Includes personnel) $ 219,000
d. Other (Specify) ____ $ ____

2.) Have you hired, or expect to hire additional personnel for water pollution control since you received your permit?

a. yes ✓ How Many? 1
b. no ____

3.) Will your water pollution control program result in any benefits to your company (such as more efficient use of materials, recycling waste, less energy usage, less water usage, sales of waste products, etc)?

a. yes ✓ (Specify) LESS WATER USED - DECREASE ~~ENERGY~~ ENERGY USE,
b. no ____

4.) Will meeting your permit requirements result in adverse effects to other environmental areas?

a. no ____
b. yes ✓
(1) ✓ increased energy consumption Buy Electrical Power ELECTRIC
(2) ✓ increased solid waste disposal problems From Effluent Bar Screen Cleans
(3) ____ increased air pollution problems
(4) ____ other (specify) ____

5.) Indicate any and all changes you expect your plant to make as a result of your permit requirements.

____ a. Stop production permanently
____ b. Stop production temporarily
____ c. Decrease production employment
____ d. Increase production employment
____ e. Decrease production output
____ f. Increase production output
____ g. Start producing different products
____ h. Abandon current production facilities
✓ i. Modify current production facilities
____ j. Construct new production facilities
✓ k. Increase price of products
____ l. Lower price of products
____ m. Alter capital investment plans
____ n. Decrease product quality control
____ o. Abandon current treatment facilities
✓ p. Modify current treatment facilities
____ q. Construct new treatment facilities
✓ r. Begin recirculating or recycling wastewater
✓ s. Increase recirculating or recycling wastewater
____ t. Begin to discharge to sanitary sewer
____ u. Increase discharge to sanitary sewer
____ v. Have wastewater hauled away
____ w. other (specify) ____

Screens Showers

6.) Compared to companies whose product directly competes with yours, do you feel meeting these requirements will:

____ a.) have no significant effect on your comparative trade advantage
____ b.) increase your comparative trade advantage
✓ c.) decrease your comparative trade advantage

Thank you for your cooperation.

Michigan D.N.R.

14911

Company Name _____ Your Name _____

Division _____ Title _____

_____ Phone No. _____
(area code)

1.) How much will your plant spend to meet your permit requirements? Include amounts spent on waste treatment facilities since your permit was issued, as well as other related items such as monitoring, lab work, safety equipment, personnel, etc.

a. Capital Costs $ _____
b. Interest on loans $ _____
c. Operation & Maintenance $ _____
(Includes personnel)
d. Other _____ $ _____
(Specify)

2.) Have you hired, or expect to hire additional personnel for water pollution control since you received your permit?

a. yes_____ How Many? _____
b. no _____

3.) Will your water pollution control program result in any benefits to your company (such as more efficient use of materials, recycling waste, less energy usage, less water usage, sales of waste products, etc)?

a. yes_____ (Specify) _____
_____
b. no _____

4.) Will meeting your permit requirements result in adverse effects to other environmental areas?

a. no _____
b. yes_____ (1) _____ increased energy consumption
(2) _____ increased solid waste disposal problems
(3) _____ increased air pollution problems
(4) _____ other (specify) _____

5.) Indicate any and all changes you expect your plant to make as a result of your permit requirements.

_____a. Stop production permanently
_____b. Stop production temporarily
_____c. Decrease production employment
_____d. Increase production employment
_____e. Decrease production output
_____f. Increase production output
_____g. Start producing different products
_____h. Abandon current production facilities
_____i. Modify current production facilities
_____j. Construct new production facilities
_____k. Increase price of products
_____l. Lower price of products
_____m. Alter capital investment plans
_____n. Decrease product quality control
_____o. Abandon current treatment facilities
_____p. Modify current treatment facilities
_____q. Construct new treatment facilities
_____r. Begin recirculating or recycling wastewater
_____s. Increase recirculating or recycling wastewater
_____t. Begin to discharge to sanitary sewer
_____u. Increase discharge to sanitary sewer
_____v. Have wastewater hauled away
_____w. other (specify) _____

6.) Compared to companies whose product directly competes with yours, do you feel meeting these requirements will:

_____ a.) have no significant effect on your comparative trade advantage
_____ b.) increase your comparative trade advantage
_____ c.) decrease your comparative trade advantage

Thank you for your cooperation.

Michigan D.N.R.

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDDLEIN
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926
HOWARD A. TANNER, Director

January 14, 1977

Gentlemen:

The State of Michigan has issued your company a N.P.D.E.S. permit to discharge wastewater to the State's waters. Most of the permits issued set final effluent limitations to be effective sometime in 1977. We hope to summarize the statewide costs to both industries and municipalities of meeting these permit requirements.

Please complete the enclosed questionnaire. The information on this questionnaire will be summarized in the State's report on the status of water quality and pollution control programs in Michigan. We submit this report annually to Congress and the Environmental Protection Agency.

If the cost figures in question one are not readily available, please use a reasonable estimate.

Please mail your completed questionnaire by March 1, 1977 to:

Michigan Department of Natural Resources
Environmental Services Division
P.O. Box 30028
Lansing, Michigan 48909

If you have any questions about the questionnaire call me at (517) 373-2867. And, at your request, we will send the final summary of statewide costs when completed.

Very truly yours,

ENVIRONMENTAL SERVICES DIVISION

John T. Kraft

John T. Kraft
Water Quality Investigator

JTK/ch
Enclosure

MICHIGAN
THE GREAT LAKES STATE

14913

permit no. changed

FORM APPROVED
OMB NO. 49-R 0468

DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

APPLICATION FOR PERMIT TO DISCHARGE OR WORK IN NAVIGABLE WATERS AND THEIR TRIBUTARIES

SECTION I. GENERAL INFORMATION

1. State	Application Number (to be assigned by Corps of Engineers)			
M I	Div.	Dist.	Type	Sequence No.

2. Name of applicant and title of signing official: PLAINWELL PAPER CO INC - DIVISION OF NICOLET PAPER CO. VICE-PRESIDENT, RESIDENT MANAGER

3. Mailing address of applicant:
200 [illegible] ST.
PLAINWELL MICHIGAN 49080

4. Name, address, telephone number and title of applicant's authorized agent for permit application coordination and correspondence.
JAMES M [illegible]
MANAGER [illegible] DEVELOPMENT & TECHNICAL SERVICES
NICOLET [illegible] CO.
PLAINWELL MICHIGAN 49080
(616) - 685 - [illegible]

NOTE TO APPLICANT: Refer to the pamphlet entitled "Permits for Work and Structures in and for Discharges or Deposits into Navigable Waters" before attempting to complete this form.

Required Information

a. All information contained in this application will, upon request, be made available to the public for inspection and copying. A separate sheet entitled "Confidential Answers" must be used to set out information which is considered by the applicant to constitute trade secrets or commercial or financial information of a confidential nature. The information must clearly indicate the item number to which it applies. Confidential treatment can be considered only for that information for which a specific written request of confidentiality has been made on the attached sheet. However, in no event will identification of the contents and frequency of a discharge be recognized as confidential or privileged information.

b. The applicant shall furnish such supplementary information as is required by the District Engineer in order to evaluate fully an application.

c. If additional space is needed for a complete response to any item on this form, attach a sheet entitled "Additional Information." Indicate on that sheet the item numbers to which answers apply.

d. Drawings required by items 20 and 21 should be attached to this application. Other papers which must be attached to this application include, if applicable, copies of a water quality certification or [illegible] communication which describes water quality impact (see Item 22 and Item 10 of Section II below), the additional information sheet in "c" above, and the confidential information sheet described in "a" above.

Fees

e. If any discharge or deposit is involved, an application fee of $100 must be submitted with this application. An additional $50 is required for each additional point of discharge or deposit.

Signature

a. If a discharge is involved, an application submitted by a corporation must be signed by the principal executive officer of that corporation or by an official of the rank of corporate vice president or above who reports directly to such principal executive officer and who has been designated by the principal executive officer to make such applications on behalf of the corporation. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor. Other signature requirements are discussed in the pamphlet.

b. If no discharge is involved, an application may be signed by the applicant or his authorized agent.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate.

Signature of Applicant

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

FOR CORPS OF ENGINEERS USE ONLY

Acronym name of applicant

Date received, form not complete — — — — — —
Date received, form complete but without certificate — — — — — —
Date received, form complete — — — — — —
Date of Cert./Ltr. — — — — — —
day mo yr

Are dist. structures
Major? ☐ Minor? ☐ N/A? ☐

Date sent to EPA, form not complete — — — — — —
Date sent to EPA, NOAA, D/I, AEC, FPC in complete form — — — — — —
day mo yr

ENG FORM 4346 MAY 71

need only I [illegible]

5 14914

5. Date JUN 30 71 (mo day yr)

(Office use only)

6. Check type of application: a. Original ☒ b. Revision ☐

7. Number of original application

8. Name of facility where discharge or construction will occur.
NICOLET PAPER CO., PLAINWELL, DIVISION
PLAINWELL ~~PAPER~~ CO INC.
DIV. OF NICOLET PAPER CO.

9. Full mailing address of facility named in item 8 above.
PLAINWELL PAPER CO INC
DIVISION OF NICOLET PAPER CO
~~NICOLET PAPER CORPORATION PLAINWELL DIVISION~~
200 ALLEGAN STREET, PLAINWELL MICHIGAN

10. Names and mailing addresses of all adjoining property owners whose property also adjoins the waterway.
CITY OF PLAINWELL - ~~[illegible]~~ ?
~~141~~ NORTH MAIN PLAINWELL, MICHIGAN 49080

11. Check to indicate the nature of the proposed activity:
a. Dredging ☐ b. Construction ☐ c. Construction with Discharge ☐ d. Discharge only ☒

12. If activity is temporary in nature, estimate its duration in months.

If application is for a discharge:

13. List intake sources

INFORM: ~~FROM MAC DUFF~~ FILES

Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	.04
Surface water body	3.35 ~~3.30~~
Ground water	
Other	

14. Describe water usage within the plant

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	1.48
Boiler Feed water	.09
Process water	1.59
Sanitary system*	.04
Other	

15. List volume of discharges or losses other than into navigable waters.

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	
Surface containment	
Underground disposal	
Waste Acceptance firms	
Evaporation	.21
Consumption	

* Indicate number employees served per day 245

Copy

5 14915

If structures exist, or dredging, filling or other construction will occur, the precise location of the activity must be described.

(Office use only)

a. Name the corporate boundaries within which the structures exist or the activity will occur.

16. State MICHIGAN 17. County ALLEGAN 18. City or Town PLAINWELL

b. Name of waterway at the location of the activity

19. KALAMAZOO RIVER

20. Maps and sketches which show the location and character of each structure or activity, including any and all outfall devices, dispersive devices, and non-structural points of discharge, must be attached to this application.

21. For construction or work in navigable waters for which a separate permit is sought under 33 U.S.C. 403, the character of each structure must be fully shown on detailed plans to be submitted with this application. Note on the drawings those structures for which separate discharge information (Section II of this form) has been submitted.

22. List all approvals or denials granted by Federal, interstate, State or local agencies for any structures, construction, discharges or deposits described in this application.

Type of document	Id. No.	Date	Issuing Agency
ORDER OF DETERMINATION	1455	JAN. 21, 1971	WATER RESOURCES COMMISSION STATE OF MICHIGAN

23. Check if facility existed or was lawfully under construction prior to April 3, 1970. ☒

24. If dredging or filling will occur:

State the type of materials involved, their volume in cubic yards, and the proposed method of measurement.

X

25. Describe the proposed method of instrumentation which will be used to measure the volume of any solids which may be deposited and to determine its effect upon the waterway.

26. State rates and periods of deposition described in Item 25. TREATED MILL EFFLUENT AVERAGES 1,643,000 GALS./DAY PER OPERATING DAY.

FURTHER INFORMATION IN PART A OF SECTION II ~~CONTROL WATER EFFLUENT NOS. 003, 002, 001, AVG. 1,480,000 GALS/DAY.~~ FORM 4345 MAY 71

ENG FORM 4345
MAY 71

5 14916

ATURAL RESOURCES COMMISSION
CARL T JOHNSON
E M LAITALA
DEAN PRIDDLEIN
HILARY F SNELL
HARRY H WHITELEY
JOAN L WOLFE
CHARLES O YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926
HOWARD A. TANNER, Director

January 14, 1977

Gentlemen:

The State of Michigan has issued your company a N.P.D.E.S. permit to discharge wastewater to the State's waters. Most of the permits issued set final effluent limitations to be effective sometime in 1977. We hope to summarize the statewide costs to both industries and municipalities of meeting these permit requirements.

Please complete the enclosed questionnaire. The information on this questionnaire will be summarized in the State's report on the status of water quality and pollution control programs in Michigan. We submit this report annually to Congress and the Environmental Protection Agency.

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Please mail your completed questionnaire by March 1, 1977 to:

Michigan Department of Natural Resources
Environmental Services Division
P.O. Box 30028
Lansing, Michigan 48909

If you have any questions about the questionnaire call me at (517) 373-2867. And, at your request, we will send the final summary of statewide costs when completed.

Very truly yours,

ENVIRONMENTAL SERVICES DIVISION

John T. Kraft

John T. Kraft
Water Quality Investigator

JTK/cs
Enclosure

MICHIGAN
THE GREAT LAKES STATE

R1026 1/75

5 14917

applyfes

Groundwate

Forms

fast NPDES

Discussed with
Marge Spruitt 6/10/80

14918

'L RESOURCES COMMISSION
IL T JOHNSON
4 LAITALA
N PRIDGEON
RY F SNELL
RY H WHITELEY
N L WOLFE
RLES G YOUNGLOVE

STATE OF

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING BOX 30028 LANSING MICHIGAN 48909

HOWARD A TANNER Director

October 17, 1978

Plainwell Paper Company, Inc.
200 Allegan Street
Plainwell, MI 49080

Gentlemen:

Receipt of the application for reissuance of your NPDES permit to discharge to the waters of the state is acknowledged. It has been assigned to Mr. Chester Harvey, our District Engineer, for processing. Any restrictions upon this use found to be necessary will be written into a proposed permit to discharge in accordance with the requirements of Section 8(b) Act 245, Public Acts of 1929, as amended, and the Commission's Part 21 Rules.

A copy of the proposed permit will be forwarded to you. Prior to issuance, you will have a period of not less than 30 days to review the proposed permit and comment on it. Should you wish to make further inquiry during the processing of your application, please contact Mr. Karl Zollner, Jr., Engineering & Technical Services Section, Water Quality Division at (517) 373-8088 or write him at Box 30028, Lansing, Michigan, 48909.

Very truly yours,

WATER QUALITY DIVISION

Robert J. Courchaine
Division Chief

Karl Zollner, Jr.

by: Karl Zollner, Jr., P.E., Chief
Engineering & Technical Services
Section

RJC/KZ:clp
cc: Allegan County Health Department
City of Plainwell
C. Harvey, File R
Quality Products Sales & Services
B. Patterson
R. Filmore
J. VanLent

6 10/76

5 14919

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION BUREAU
POINT SOURCE STUDIES SECTION

Report of an
Industrial Wastewater Survey
Conducted at
PLAINWELL PAPER COMPANY
All Outfalls No. 030027
Allegan County
Plainwell, Michigan
July 10-11, 1978

Survey Summary

Wastewater monitoring was performed during one twenty-four hour survey period starting Monday, July 10, 1978.

The results of this survey did not meet the final limitations in the facility's National Pollutant Discharge Elimination System (NPDES) Permit, No. MI0003794.

The BOD_5 daily loading from outfall 030049 (005) of 1100 kg/day exceeded the NPDES permit daily maximum limitation of 545 kg/day. One grab sample showed an oil and grease concentration of 14 mg/l on the same outfall exceeding the 10 mg/l daily maximum (Table 3).

A comparison of survey results to those reported by the plant on their monthly operating report shows BOD_5 higher and settleable solids lower than those reported for outfall 030049 (005). Survey reported flow was nearly four times as large as flow reported on the monthly operating report for outfall 030135 (004) (Table 3).

The concentration of BOD_5 reported by the company on the split composite sample was much lower than that reported by the Environmental Protection Bureau Laboratory (Table 4).

A comparison of the results from this survey to those obtained on the previous survey, August 9 & 10, 1976, shows flow, BOD_5, COD, dissolved solids, and sulfates higher on outfall 030049 (005). Dissolved solids and chlorides were lower than the previous survey for outfall 030135 (004).

Purpose of Survey

The purpose of the survey was to determine the quality and quantity of wastewater being discharged by Plainwell Paper Company, to the Kalamazoo River and to check for compliance with NPDES Permit No. MI0003794.

Plant Processes

Plainwell Paper Company manufactures a variety of specialty papers for books, release backings, and electrographic uses. The mill operates 24 hours a day, 7 days per week employing about 320 people. Production during the survey was considered down about 30% at 177.3 tons per day.

Sulfite and sulfate pulp are the principle raw materials utilized in the plant. The pulp is combined with slurry clay (containing trace amounts of zinc and copper), titanium dioxide, alum and dyeing agents in the blending chest. The blended stock flows through a beater chest and refiners to the machine chest. Three paper machines form the product applying various coatings, brighteners, and seizing compounds throughout their operation. The finished stock is either warehoused or cut to customer specifications and shipped.

Water Supply, Wastewater & Treatment

Plainwell Paper Company obtains its cooling and process water supplies from five company wells. An ion exchange unit softens water for use in the paper coatings. The domestic water supply is obtained from the city.

Cooling water is utilized within the mill for cooling bearings and vacuum pumps on the paper machines, to cool condensers, air cool compressors, jacket cooling water in the starch cookers, and for Measurex computer cooling water. Compressor cooling water, non-contact cooling water, and some surface runoff are discharged directly to the Kalamazoo River via outfall 30135 (004). NO!

Process wastewater is derived from the paper machines. Each paper machine discharges its white water from its couch pit to a disc type save-all. Solids from the save-all are introduced back to the machine chest while the water, depending on the paper's grade, is recycled back to the regulators and blend chest for pulp make-up. Excess wastewater from the save-alls is discharged to the wastewater treatment system along with water softener backwash, boiler blowdown, compressor cooling water, any oily wastes, and some floor drainage.

The treatment system receives the wastewater from a sump in the plant. Wastewater is pumped from the sump to the primary clarifier, where a flocculating agent is added. After primary treatment, the process wastewater enters the oxidizing aeration lagoon shown in Figure 1 and then the final clarifier. The final clarifier discharges directly to the Kalamazoo River through outfall 030049 (005).

Sludge derived from the primary clarifier along with a portion from the final clarifier is pumped to the sludge lagoons shown on Figure 1. The remaining sludge from the final clarifier is returned to the aeration lagoon as a mixed liquor.

14920

Survey Procedure

The flows and samples were obtained as follows:

Outfalls	030049 (005)	030135 (004)
Flow Measurement		
Weir Type & Size	36" rectangular weir, company installed. Water level recorder.	12" rectangular weir, company installed. Water level recorder.
Sampling	Submergible. Individual grab.	Automatic air act. Individual grab.

A water level recorder provides a continuous account of the liquid level of head above the crest of a weir or through a flume. A head versus time graph is obtained for the duration of the survey period. The total volume of wastewater over the weir or through the flume during the survey period is computed from the graph.

An automatic sampler composites samples at timed intervals. Samples may be proportional to the instantaneous flow over the weir or through the flume.

A submergible sampler obtains samples at a continuous rate.

A grab composite consists of a series of individual grabs composited into one sample.

The following formula was used to compute the kilograms per day of various wastewater constituents discharged: kg/day = flow (M^3/d) x conc. (mg/l) x 0.001.

Samples were analyzed by the Environmental Protection Bureau Laboratories located in Lansing.

Samples were preserved according to Table 6. The results of the physical and chemical analyses are presented in Tables 1 and 2.

Plainwell Paper Company - Plainwell

Table 1 Analyses of composite samples.

Outfalls	030049 (005)		030135 (004)	
Survey Period From	7-10-78 - 1745		7-10-78 - 1730	
To	7-11-78 - 1745		7-11-78 - 1730	
Computed flow rate* (M^3/day)	11,600 - 3.062		280	
Highest flow rate (M^3/day) 4.54	17,200 - 7-11-78 @ 1043		1,290 - 7-10-78 @ 2317	
Lowest flow rate (M^3/day) 1.98	7,500 - 7-11-78 @ 0826		240 - 7-11-78 @ 0024	
	mg/l	kg/day	mg/l	kg/day
5-day BOD	96	1,100	2.8	0.78
COD	260	3,000	18	5.0
Suspended solids	52	600	1	0.3
Dissolved solids	670	7,800	580	160
Nitrite & nitrate nitrogen-N	< 0.01	--	1.2	0.34
Ammonia nitrogen-N	< 0.01	--	0.05	0.01
Organic nitrogen-N	3.1	36	0.54	0.15
Total phosphorus-P	0.24	2.8	0.24	0.07
Chlorides (Cl)	82	950	148	41
Sulfide (S)	< 0.05	--	--	--
Sulfates (SO_4)	200	2,000	51	14
Cyanides (CN)	0.01	0.12	--	--
Phenols	0.01	0.12	--	--
Total cadmium (Cd)	< 0.01	--	--	--
Total chromium (Cr)	< 0.01	--	--	--
Total lead (Pb)	< 0.05	--	--	--
Total zinc (Zn)	0.08	0.93	--	--
Total arsenic (As)	< 0.001	--	--	--
Magnesium (Mg)	25	290	--	--
	ug/l		ug/l	
PCB 1242	< 0.1	--	< 0.1	--
PCB 1254	0.1	--	0.1	--
PCB 1260	< 0.1	--	< 0.1	--

* Flow rates used in the computation of kg/day.
To obtain MGD multiply M^3/day by 0.000264
To obtain lbs/day multiply kg/day by 2.2046

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Plainwell Paper Company - Plainwell

Table 2 Analyses of grab samples.

Date	Time	Temp.[1] °C	pH[1] S.U.	Oil & Grease mg/l	BOD5 mg/l	Susp. solids mg/l	Settle. solids mg/l	Diss. solids mg/l	Nitrite & nitrate nitrogen mg/l	Ammonia nitrogen mg/l	Organic nitrogen mg/l	Total phosphor mg/l
030049 (005)												
7-11-78	0020	21	7.7	14	110	58	14	680	< 0.01	< 0.01	3.3	0.26
7-11-78	0820	21	7.8	5	120	48	2	710	< 0.01	< 0.01	3.3	0.22
030135 (004)												
7-11-78	0040	25	8.8	2	2.1	2	--	570	1.2	0.04	0.58	0.36
7-11-78	0830	18	8.9	< 1	1.1	< 1	--	500	1.2	0.04	0.44	0.21

	Chlorides mg/l	Sulfates mg/l	Magnesium mg/l	Cadmium mg/l	Chromium mg/l	Lead mg/l	Zinc mg/l	Arsenic mg/l
030049 (005)								
7-11-78 0020	82	220	25	< 0.01	< 0.01	< 0.05	0.09	< 0.001
7-11-78 0820	93	195	25	< 0.01	< 0.01	< 0.05	0.06	< 0.001
030135 (004)								
7-11-78 0040	157	49	--	--	--	--	--	--
7-11-78 0830	152	51	--	--	--	--	--	--

1 - Values determined in the field at time of sampling.

Plainwell Paper Company - Plainwell

Table 3 Comparison of survey results with the facility's NPDES Permit and Monthly Operating Report.

Parameter (Unit)	NPDES Permit Final Limitations		July Monthly Operating Report				Survey Results		
	Daily Average	Daily Maximum	Monthly Average	Monthly Maximum	7-10-78	7-11-78	Composite	Grabs 1st	Grabs 2nd
030049 (005)									
Flow (M^3/day)	--	--	11,000	13,100	11,400	11,900	11,600	--	--
Settleable sol. (mg/l)	--	--	31	68	26	30	12	14	2
BOD_5 (kg/day)	--	545	381	489	261	308	1,100	--	--
Suspended sol. (kg/day)	--	636	317	672	166	632	600	--	--
Oil & Grease (mg/l)	--	10	2	3.3	--	--	--	14	5
pH (S.U.)	not <6.5 nor >9.5		6.8 min.	7.2	7.0	7.0	--	7.7	7.1
030135 (004)									
Flow (M^3/day)	--	--	76	450	76	76	280	--	--
BOD_5 (mg/l)	--	20	2.1	2.9	--	--	2.8	2.1	1.
BOD_5 (kg/day)	--	20	0.5	0.5	--	--	0.78	--	--
Suspended sol. (mg/l)	--	20	1.1	1.5	--	--	1	2	< 1
Suspended sol. (kg/day)	--	20	0.5	0.5	--	--	0.3	--	--
Oil & Grease (mg/l)	--	10	2.5	4.5	--	--	--	2	< 1
pH (S.U.)	not <6.5 nor >9.5		7.2 min.	8.0	--	--	--	8.8	8.

To obtain MGD multiply M^3/day by 0.000264
To obtain lbs/day multiply kg/day by 2.2046

Table 4 Comparison of the laboratory analytical results obtained by Plainwell Paper Company and the Environmental Protection Bureau from the split composite samples.

Outfalls	030049 (005)		030135 (004)	
	E.P.B.	Plainwell Paper	E.P.B.	Plainwell Paper
* Flow (M^3/day)	11,600	11,500	280	76
	mg/l	mg/l	mg/l	mg/l
5-day BOD	96	24	2.8	< 5
Suspended solids	52	42	1	0
Settleable solids	12	26	--	--

* Flow obtained from company totalizer.

Table 5 Comparison of the previous survey results with the results obtained in this survey.

Outfalls	030049 (005)		030135 (004)	
Survey Date From	8-9-76	7-10-78	8-9-76	7-10-78
To	8-10-76	7-11-78	8-10-76	7-11-78
Flow Rate (M^3/day)	9,200	11,600	303	280
	mg/l	mg/l	mg/l	mg/l
5-day BOD	50	96	< 5	2.8
COD	120	260	11	18
Suspended solids	56	52	6	1
Dissolved solids	564	670	1,540	580
Settleable solids	4	12	--	--
Nitrite & nitrate nitrogen-N	0.02	< 0.01	0.70	1.2
Ammonia nitrogen-N	< 0.01	< 0.01	< 0.01	0.05
Organic nitrogen-N	2.6	3.1	0.58	0.54
Total phosphorus-P	0.48	0.24	0.17	0.24
Chlorides (Cl)	88	82	650	148
Sulfates (SO_4)	100	200	40	51
Total lead (Pb)	< 0.05	< 0.05	--	--

Table 6 Sample Preservation

Parameter	Preservative
COD	10 drops conc. H_2SO_4/250 ml (to pH <2).
Cyanide & Phenolics	Dechlorinate with ascorbic acid (if needed). 10 drops 10 N NaOH (to pH 12)/250 ml.
Total Metals	2 ml 1:1 HNO_3/250 ml (to pH <2).
Oil & Grease	10 drops conc. H_2SO_4/250 ml (to pH <2).
Sulfides	10 drops 1M ZnAc/250 ml.

All samples cooled to 4°C upon collection and chain of custody maintained.

Survey by: Martin Rock, Sanitary Engineer
William Long, Water Quality Investigator
Joseph Hey, Water Quality Investigator

Contact with Management: Carl A. Gren, Certified Operator

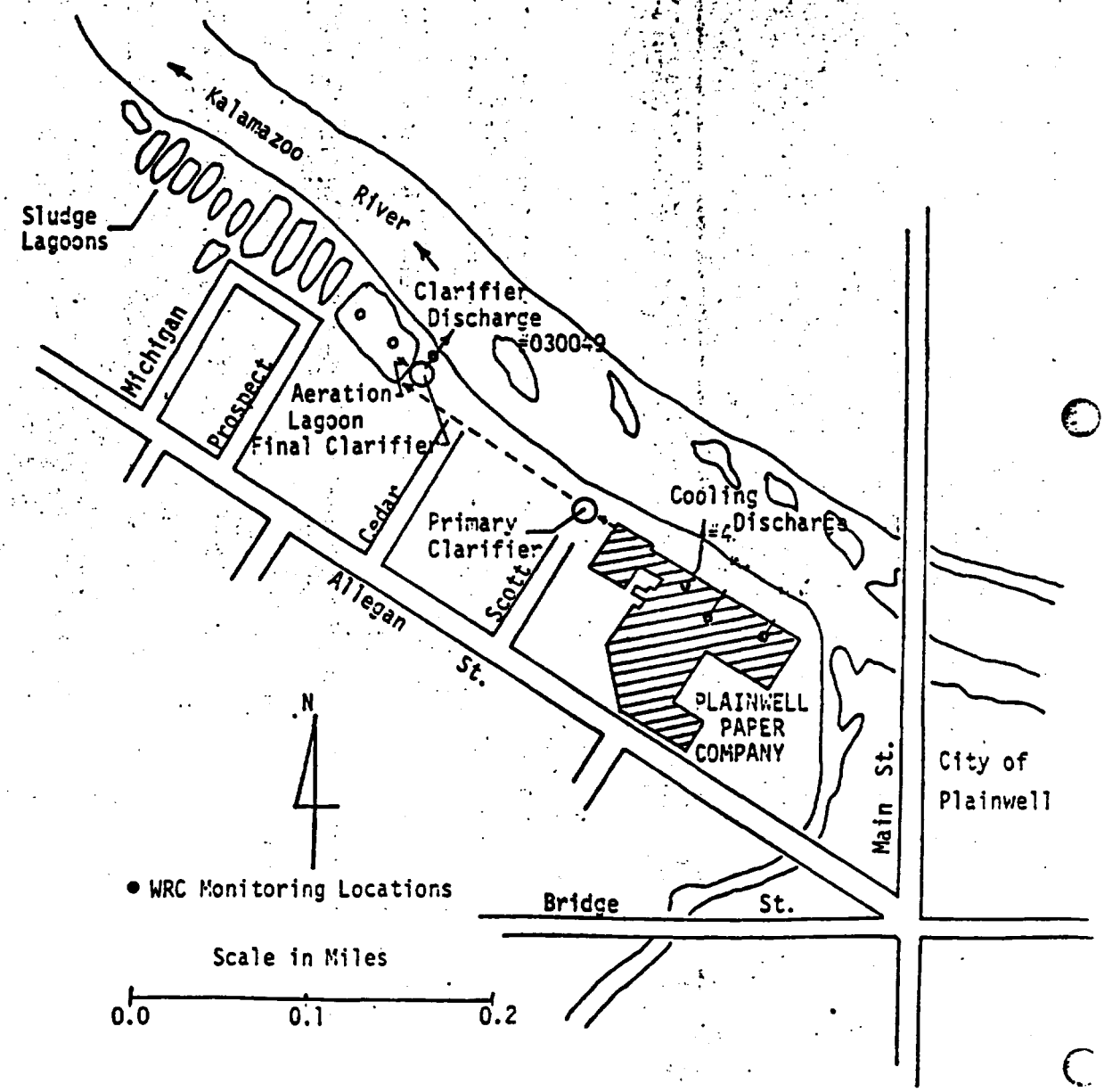
Hydrocarbon Analyses by: Environmental Protection Bureau Laboratory

Physical & Chemical Analyses by: Environmental Protection Bureau Laboratory

Report by: Martin Rock
William Long
Point Source Studies Section
Environmental Services Division
Environmental Protection Bureau
Michigan Department of Natural Resources

Distribution "A"
MM

Figure 1 Plainwell Paper Company - Plainwell



Survey Procedure

The flows and samples were obtained as follows:

Outfalls	030049 (005)	030135 (004)
Flow Measurement		
Weir Type & Size	36" rectangular weir, company installed. Water level recorder.	12" rectangular weir, company installed. Water level recorder.
Sampling	Submergible. Individual grab.	Automatic air act. Individual grab.

A water level recorder provides a continuous account of the liquid level of head above the crest of a weir or through a flume. A head versus time graph is obtained for the duration of the survey period. The total volume of wastewater over the weir or through the flume during the survey period is computed from the graph.

An automatic sampler composites samples at timed intervals. Samples may be proportional to the instantaneous flow over the weir or through the flume.

A submergible sampler obtains samples at a continuous rate.

A grab composite consists of a series of individual grabs composited into one sample.

The following formula was used to compute the kilograms per day of various wastewater constituents discharged: kg/day = flow (M^3/d) x conc. (mg/l) x 0.001.

Samples were analyzed by the Environmental Protection Bureau Laboratories located in Lansing.

Samples were preserved according to Table 6. The results of the physical and chemical analyses are presented in Tables 1 and 2.

Plainwell Paper Company - Plainwell

Table 1 Analyses of composite samples.

Outfalls	030049 (005)		030135 (004)	
Survey Period From	7-10-78 - 1745		7-10-78 - 1730	
To	7-11-78 - 1745		7-11-78 - 1730	
Computed flow rate* (M^3/day)	11,600 - 3.062		280	
Highest flow rate (M^3/day) 4.54	17,200 - 7-11-78 @ 1043		1,290 - 7-10-78 @ 2317	
Lowest flow rate (M^3/day) 1.98	7,500 - 7-11-78 @ 0826		240 - 7-11-78 @ 0024	
	mg/l	kg/day	mg/l	kg/day
5-day BOD	96	1,100	2.8	0.78
COD	260	3,000	18	5.0
Suspended solids	52	600	1	0.3
Dissolved solids	670	7,800	580	160
Nitrite & nitrate nitrogen-N	< 0.01	--	1.2	0.34
Ammonia nitrogen-N	< 0.01	--	0.05	0.01
Organic nitrogen-N	3.1	36	0.54	0.15
Total phosphorus-P	0.24	2.8	0.24	0.07
Chlorides (Cl)	82	950	148	41
Sulfide (S)	< 0.05	--	--	--
Sulfates (SO_4)	200	2,000	51	14
Cyanides (CN)	0.01	0.12	--	--
Phenols	0.01	0.12	--	--
Total cadmium (Cd)	< 0.01	--	--	--
Total chromium (Cr)	< 0.01	--	--	--
Total lead (Pb)	< 0.05	--	--	--
Total zinc (Zn)	0.08	0.93	--	--
Total arsenic (As)	< 0.001	--	--	--
Magnesium (Mg)	25	290	--	--
	ug/l		ug/l	
PCB 1242	< 0.1	--	< 0.1	--
PCB 1254	0.1	--	0.1	--
PCB 1260	< 0.1	--	< 0.1	--

* Flow rates used in the computation of kg/day.
To obtain MGD multiply M^3/day by 0.000264
To obtain lbs/day multiply kg/day by 2.2046

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14925

Plainwell Paper Company - Plainwell

Table 2 Analyses of grab samples.

Date	Time	Temp.[1] °C	pH[1] S.U.	Oil & Grease mg/l	BOD_5 mg/l	Susp. solids mg/l	Settle. solids mg/l	Diss. solids mg/l	Nitrite & nitrate nitrogen mg/l	Ammonia nitrogen mg/l	Organic nitrogen mg/l	Total phosphor mg/l
030049 (005)												
7-11-78	0020	21	7.7	14	110	58	14	680	< 0.01	< 0.01	3.3	0.26
7-11-78	0820	21	7.8	5	120	48	2	710	< 0.01	< 0.01	3.3	0.22
030135 (004)												
7-11-78	0040	25	8.8	2	2.1	2	--	570	1.2	0.04	0.58	0.36
7-11-78	0830	18	8.9	< 1	1.1	< 1	--	500	1.2	0.04	0.44	0.21

	Chlorides mg/l	Sulfates mg/l	Magnesium mg/l	Cadmium mg/l	Chromium mg/l	Lead mg/l	Zinc mg/l	Arsenic mg/l
030049 (005)								
7-11-78 0020	82	220	25	< 0.01	< 0.01	< 0.05	0.09	< 0.001
7-11-78 0820	93	195	25	< 0.01	< 0.01	< 0.05	0.06	< 0.001
030135 (004)								
7-11-78 0040	157	49	--	--	--	--	--	--
7-11-78 0830	152	51	--	--	--	--	--	--

1 - Values determined in the field at time of sampling.

Plainwell Paper Company - Plainwell

Table 3 Comparison of survey results with the facility's NPDES Permit and Monthly Operating Report.

Parameter (Unit)	NPDES Permit Final Limitations: Daily Average	NPDES Permit Final Limitations: Daily Maximum	July Monthly Operating Report: Monthly Average	July Monthly Operating Report: Monthly Maximum	July Monthly Operating Report: 7-10-78	July Monthly Operating Report: 7-11-78	Survey Results: Composite	Survey Results: Grabs 1st	Survey Results: Grabs 2nd
030049 (005)									
Flow (M^3/day)	--	--	11,000	13,100	11,400	11,900	11,600	--	--
Settleable sol. (mg/l)	--	--	31	68	26	30	12	14	2
BOD_5 (kg/day)	--	545	381	489	261	308	1,100	--	--
Suspended sol. (kg/day)	--	636	317	672	166	632	600	--	--
Oil & Grease (mg/l)	--	10	2	3.3	--	--	--	14	5
pH (S.U.)	not <6.5 nor >9.5		6.8 min.	7.2	7.0	7.0	--	7.7	7.8
030135 (004)									
Flow (M^3/day)	--	--	76	450	76	76	280	--	--
BOD_5 (mg/l)	--	20	2.1	2.9	--	--	2.8	2.1	1.1
BOD_5 (kg/day)	--	20	0.5	0.5	--	--	0.78	--	--
Suspended sol. (mg/l)	--	20	1.1	1.5	--	--	1	2	< 1
Suspended sol. (kg/day)	--	20	0.5	0.5	--	--	0.3	--	--
Oil & Grease (mg/l)	--	10	2.5	4.5	--	--	--	2	< 1
pH (S.U.)	not <6.5 nor >9.5		7.2 min.	8.0	--	--	--	8.8	8.9

To obtain MGD multiply M^3/day by 0.000264
To obtain lbs/day multiply kg/day by 2.2046

Table 4 Comparison of the laboratory analytical results obtained by Plainwell Paper Company and the Environmental Protection Bureau from the split composite samples.

Outfalls	030049 (005)		030135 (004)	
	E.P.B.	Plainwell Paper	E.P.B.	Plainwell Paper
* Flow (M^3/day)	11,600	11,500	280	76
	mg/l	mg/l	mg/l	mg/l
5-day BOD	96	24	2.8	< 5
Suspended solids	52	42	1	0
Settleable solids	12	26	--	--

* Flow obtained from company totalizer.

Table 5 Comparison of the previous survey results with the results obtained in this survey.

Outfalls	030049 (005)		030135 (004)	
Survey Date From	8-9-76	7-10-78	8-9-76	7-10-78
To	8-10-76	7-11-78	8-10-76	7-11-78
Flow Rate (M^3/day)	9,200	11,600	303	280
	mg/l	mg/l	mg/l	mg/l
5-day BOD	50	96	< 5	2.8
COD	120	280	11	18
Suspended solids	56	52	6	1
Dissolved solids	564	670	1,540	580
Settleable solids	4	12	--	--
Nitrite & nitrate nitrogen-N	0.02	< 0.01	0.70	1.2
Ammonia nitrogen-N	< 0.01	< 0.01	< 0.01	0.05
Organic nitrogen-N	2.6	3.1	0.58	0.54
Total phosphorus-P	0.48	0.24	0.17	0.24
Chlorides (Cl)	88	82	650	148
Sulfates (SO_4)	100	200	40	51
Total lead (Pb)	< 0.05	< 0.05	--	--

Table 6 Sample Preservation

Parameter	Preservative
COD	10 drops conc. H_2SO_4/250 ml (to pH <2).
Cyanide & Phenolics	Dechlorinate with ascorbic acid (if needed). 10 drops 10 N NaOH (to pH 12)/250 ml.
Total Metals	2 ml 1:1 HNO_3/250 ml (to pH <2).
Oil & Grease	10 drops conc. H_2SO_4/250 ml (to pH <2).
Sulfides	10 drops 1N ZnAc/250 ml.

All samples cooled to 4°C upon collection and chain of custody maintained.

Survey by: Martin Rock, Sanitary Engineer
William Long, Water Quality Investigator
Joseph Hey, Water Quality Investigator

Contact with Management: Carl A. Gren, Certified Operator

Hydrocarbon Analyses by: Environmental Protection Bureau Laboratory

Physical & Chemical Analyses by: Environmental Protection Bureau Laboratory

Report by: Martin Rock
William Long
Point Source Studies Section
Environmental Services Division
Environmental Protection Bureau
Michigan Department of Natural Resources

Distribution "A"
MM

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LAND RESOURCE PROGRAMS DIVISION

PERMIT

ISSUED TO

Plainwell Paper Company
200 Allegan Street
Plainwell, Michigan 49080

Permit No. 80-12-106
Date Issued August 8, 1980
Extension
Expiration June 30, 1981
Revised: December 15, 1980

MODIFIED

This permit is granted under provisions of:

- [x] The Inland Lakes and Streams Act, 1972 P.A. 346.
- [ ] The Great Lakes Submerged Lands Act, 1955 P.A. 247, as amended.

Permitted Activity

Construct a 16-inch effluent pipeline 800 feet in length adjacent to the Kalamazoo River, and place a 16-inch O.D. radius elbow with approximately 5 cubic yards of clean pea gravel at effluent outfall.

Water Course Affected	County	Town	Range	Sect.	Sub. and Lot Number
Kalamazoo River	Allegan	1N	11W	30	

Authority granted by this permit is subject to the following limitations:

A. Initiation of any work on the permitted project confirms the permittees acceptance and agreement to comply with all terms and conditions of this permit.
B. The permittee in exercising the authority granted by the permit shall not cause unlawful pollution as defined by Act No. 245 of the Public Acts of 1929, as amended.
C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
D. All work shall be completed in accordance with the plans and specifications submitted with the application and/or plans and specifications attached hereto.
E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein.
F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with Act 53 of the Public Acts of 1974, and comply with each of the requirements of that act.
G. This permit does not convey property rights in either Real Estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits or complying with other state statutes.
H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
I. Permittee shall notify the Department of Natural Resources within one week after the completion of the activity authorized by this permit, by completing and forwarding the attached preaddressed post card to the office addressed thereon.
J. This permit shall not be assigned or transferred without the written approval of the Land Resource Programs Division, Department of Natural Resources.
K. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

Project shall be completed as per attached drawing.

All fill shall consist of non-biodegradable material free from pollutants.

Authority granted by this permit does not waive permit requirements under the Soil Erosion and Sedimentation Control Act, 1972 Public Act 347, or the need to acquire applicable permits from the County Drain Commission.

Authority granted by this permit does not waive any jurisdiction of the U.S. Corps of Engineers and the need for a federal permit.

HOWARD A. TANNER
Director, Department of Natural Resources

By Merle D. Raber

Merle D. Raber

cc: LRPD, Plainwell
Dist. 12 Law
USCOE
Allegan CEA (L. Fleming)
Floodplains (8003 318)
SB

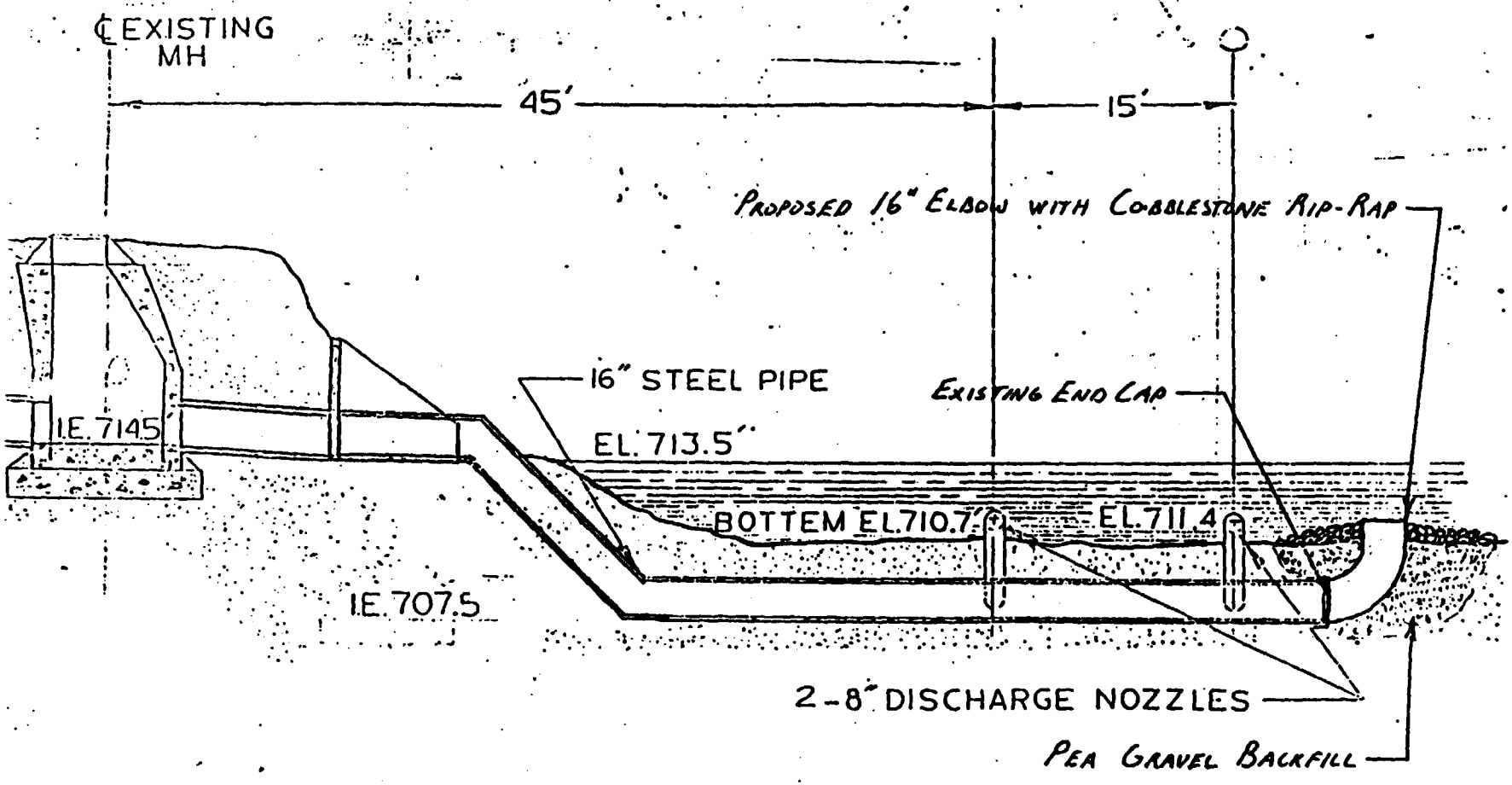
MDR:ECB:jah

R2708
Rev. 9/79

5 14928

D-2880

PROPOSED
PROFILE #5 OUTFALL
SECONDARY WASTE TREATMENT



80-12-106m

14929

First 10,000 gallons	semi-annual-minimum charge	$20.00
Next 40,000 gallons (10,001 to 50,000)	per thousand gallons	.45¢
Next 50,000 gallons (50,001 to 100,000)	per thousand gallons	.35¢
Over 100,000 gallons	per thousand gallons	.25¢

Burroughs

ESTIMATED WA .6406
SW .6406

Qty Confirmed
Extension O.K.
A/C U.S. FEB 2 1978
O.K. PLAINWELL PAPER CO., INC.
ACCOUNTING DEPARTMENT

RECEIVED

PRE-SORTED MAIL

PLAINWELL PAPER CO.
200 ALLEGAN ST.
PLAINWELL, MI.
49080

PLEASE RETURN THIS STUB WITH PAYMENT

SERVICE TO: 02 01 78

ACCOUNT NO.	DUE DATE	NET	ACCOUNT NO.	DUE DATE	NET
1 007	02 15 78	12812	1 007	02 15 78	12812

FEE OF 25¢ FOR SEWER AND 25¢ FOR WATER ADDED AFTER DUE DATE

METER ADDRESS: 200 ALLEGAN

CITY OF PLAINWELL
141 N. MAIN ST.
PLAINWELL, MICH. 49080

FIRST CLASS MAIL
U.S. POSTAGE
PAID 1 OZ.
PLAINWELL, MICH.
PERMIT NO. 50
ZIP CODE 49080

SERVICE TO: 02 01 78

Burroughs

ESTIMATED WA .7688
SW .7688

Qty Confirmed
Extension
A/C Distribution
O.K.'d

RECEIVED
FEB. 2 1978
PLAINWELL PAPER CO., INC.

PRE-SORTED MAIL

PLAINWELL PAPER CO.
200 ALLEGAN ST.
PLAINWELL, MI.
49080

PLEASE RETURN THIS STUB WITH PAYMENT

SERVICE TO: 02 01 78

ACCOUNT NO.	DUE DATE	NET	ACCOUNT NO.	DUE DATE	NET
1 006	02 15 78	15376	1 006	02 15 78	15376

FEE OF 25¢ FOR SEWER AND 25¢ FOR WATER ADDED AFTER DUE DATE

METER ADDRESS: 200 ALLEGAN ST.

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

January 26, 1978

CERTIFIED MAIL

Plainwell Paper Co., Inc.
Plainwell, MI 49080

RE: Expiration of NPDES Permit MI 0003794

Gentlemen:

The above referenced National Pollutant Discharge Elimination System (NDPES) permit will expire on January 15, 1979. As stated in the permit, in order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.. To date, this office has not received an application for renewal of the permit for this facility.

We would ask that you complete the enclosed Application for Permit to Discharge Wastewater - Standard Form C and the State of Michigan Discharge Permit Application.

Your immediate attention to this matter is required to avoid possible enforcement action. If you have any questions, or wish further information, please contact me at (517) 373-8088.

Very truly yours,

WATER QUALITY DIVISION

Karl Zollner, Jr

Karl Zollner, Jr., P.E., Chief
Engineering & Technical Services
Section

KZ:sk
cc: A. N. Manzardo, U.S. EPA
J. Bohunsky
C. Harvey

MICHIGAN

M028 10/76

14931

1- Flow rate Comments

004 - Weir turnout for some time & est only

005 - Can't get more than 3.3 MGD thru system your 4.52 MGD -

Tech. error added 24 hours on the flow chart -

We reached & got 2.12 MGD ave

HI - 2.91

LO - 1.88

We still did not measure for same 24 hour period -

* you measured from 5 PM to 5 PM

We from 5 AM to 5 AM

STATE OF MICHIGAN

DEPARTMENT OF NATURAL RESOURCES

WATER RESOURCES COMMISSION

IN THE MATTER OF

Plainwell Paper Company
ivision of Phillip Morris Company

NPDES PERMIT NO. MI 0003794

WRC No.: NC-10-78-03-2863

NOTICE OF NONCOMPLIANCE AND ORDER TO COMPLY

TO: Plainwell Paper Company, Inc.
Division of Phillip Morris Company
Plainwell, Michigan 49080

PLEASE BE ADVISED that we have sufficient information to believe that your facility has failed to comply with the terms and conditions of your National Pollutant Discharge Elimination System Permit issued on January 21, 1974, and revised on December 7, 1976.

PURSUANT to the terms of the aforementioned permit (Part I, Section A.2), any discharge from your facility is limited to the following for outfall 005:

	Discharge Limitations			
	lbs/day		mg/l	
Effluent Characteristics	Daily Average	Daily Maximum	Daily Average	Daily Maximum
BOD_5 May 15 - October 15	-	1200	-	-

The monthly monitoring report submitted for the month of August, 1978 shows that your facility exceeded its authorized discharge limits according to the following:

Date Sampled	Effluent Characteristics	Reported Value
8/2/78	BOD_5	1375 lbs/day
8/4/78	BOD_5	1224 lbs/day
8/12/78	BOD_5	1431 lbs/day
8/16/78	BOD_5	1375 lbs/day
8/17/78	BOD_5	1343 lbs/day
8/18/78	BOD_5	162[illegible] lbs/day
8/19/78	BOD_5	1457 lbs/day
8/22/78	BOD_5	1243 lbs/day
8/26/78	BOD_5	1468 lbs/day
8/27/78	BOD_5	1244 lbs/day

Pursuant to a letter dated September 8, 1978, the Plainwell Paper Company has offered a written explanation for these unauthorized and excessive discharges.

5 14933

IT IS THEREFORE ORDERED that the Plainwell Paper Company take whatever steps are necessary to achieve and maintain compliance with permit effluent limitations. You are hereby put on notice that the reported excursions are a violation of your NPDES permit. Further administrative remedies will be instituted for continued failure to comply.

WATER RESOURCES COMMISSION
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Date Issued: October 26, 1978

Robert J. Churchaine
Executive Secretary

by: F. Baldwin
Frank Baldwin, Chief
NPDES Compliance Section

ADDRESS FOR FURTHER CORRESPONDENCE

Frank Baldwin, Water Quality Administrator
Michigan Water Resources Commission
Water Quality Division/NPDES Compliance Section
P. O. Box 30028
Lansing, Michigan 48909
Telephone: (517) 373-1947

14934

Send completed application to: Engineering and Technical Services Section
10-20-80 Water Quality Division - DNR
Box 30028
Lansing, Michigan
48909

Carl Gren

Pls. have this roughed-in (pencil) by next Monday (10-27-80).
Jim

STATE OF MICHIGAN

ps: include new ~~dy~~ in all data where appropriate.

DEPARTMENT OF NATURAL RESOURCES

WATER RESOURCES COMMISSION

APPLICATION FOR PERMIT TO DISCHARGE

GENERAL INSTRUCTIONS

5 14935

APPLICATION INSTRUCTIONS

TABLE OF CONTENTS

GENERAL INSTRUCTIONS

INSTRUCTIONS FOR INDIVIDUAL ITEMS

SECTION I - APPLICANT AND FACILITY DESCRIPTION

SECTION II - BASIC DISCHARGE DESCRIPTION

TABLE I - CRITICAL MATERIALS LIST

TABLE II - S.I.C. CODES

* * * * * * * * * * * * * * *

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES COMMISSION

APPLICATION FOR PERMIT TO DISCHARGE

GENERAL INSTRUCTIONS

This permit application is required by the Michigan Water Resources Commission Act, Act 245, Public Acts of 1929, as amended. A completed application must be submitted at least 180 days prior to initiation of a new or increased use of waters of the state for waste disposal purposes or for renewal of an existing permit.

Who Must Apply - The owner and operator of any activity or wastewater system, public or privately owned, which discharges wastewaters from one or more point sources into the waters of the state, must obtain a permit for such discharge(s). Where the system is owned by one person but leased to another person for operation, it is the responsibility of the operator to obtain the permit. A separate application is to be submitted for each facility discharging separately which is owned and/or operated by the applicant. Discharges into publicly owned treatment works are not subject to permit requirements. However, discharges to publicly owned collection systems not connected to a treatment works are subject to these requirements.

Application Form - The application form is divided into two sections. Section I requires information on the applicant and the facility from which the discharge(s) are occurring; Section II is to be completed for each individual discharge originating from the facility.

Signature on Application - The person who signs the application form will often be the applicant himself; when another person signs on behalf of the applicant, his title or relationship to the applicant should be shown in the space provided. In all cases, the person signing the form should be authorized to do so by the applicant. An application must be signed by a principal executive officer or his duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge(s) described in the form originate. In the case of a partnership, the application must be signed by both parties. In the case of a municipal, state, federal or other public facility, the application must be signed by either a principal executive officer, high ranking elected official or other duly authorized employee.

Attachments and Supplemental Information - Some items in this form may require a narrative explanation; for this purpose, attach a separate sheet entitled, "Additional Information." Where a separate sheet is used, be sure it is identified by the name of the applicant, the activity, and the discharge number to which it applies. Also, identify each separate remark by the item number and section of the form to which it refers.

Use of Information - Except as specified below, all information contained in this application will, upon request, be made available to the public for inspection and copying. A separate sheet entitled, "Confidential Answers" must be used to designate information which the applicant believes if disclosed to the general public would divulge methods and processes entitled to protection as trade secrets. The information must clearly indicate the item number to which it applies. Confidential treatment can be considered only for information for which a specific written request for confidential treatment has been made on the attached sheet. However, in no event will identification of the contents, volume, and frequency of a discharge be recognized as confidential or privileged information.

Completion of Forms - unless otherwise specified in the instructions, each item in the forms must be answered. To indicate that each items has been considered, enter "NA" for "not applicable", where a particular item does not fit the circumstances or characteristics of your operation or activity.

Assistance and advice regarding requirements for filing permit applications can be obtained through contact with the Lansing office or any district office listed below:

Lansing Office	1-517-373-8088
District #1 - Pte. Mouillee State game area	1-313-379-9692
District #2 - Lansing Secondary Complex	1-517-322-1687
District #3 - Grand Rapids	1-616-456-6231
District #4 - Roscommon Cadillac	1-517-275-5151 1-616-775-9728
District #5 - Escanaba	1-906-786-9327

INSTRUCTIONS FOR INDIVIDUAL ITEMS

Section I. Applicant and Facility Description

1. Legal Name of Applicant - Enter the name of the applicant as it is officially or legally listed. Do not use colloquial names.

2. Mailing Address of Applicant - Use the complete mailing address of the applicant's main office.

3. Applicant's Authorized Agent - Give the name of the person who is thoroughly familiar with the facts reported on the forms and who can be contacted regarding the permit application during processing and review. Give the mailing address and telephone number where the agent can be reached.

4. Discharge Facility/Activity - Give the specific name and location of the facility for which application has been filed.

5. Nature of Business - Provide a narrative description of the present or proposed enterprise for which application is being made.

6. Facility Water Supply - List all water supplies used. The volume may be estimated from water supply meter readings or from billing statements from a water supply utility. If water is not metered, estimate from pump capacity.

7. Facility Water Usage - List amounts of water to be used for various purposes as indicated:

   Process Water - Water that comes in contact with any raw material, intermediate material or end product.

   Noncontact Cooling Water - Water used for temperature control which does not come in contact with any raw material, intermediate or end product.

Sanitary water - Water used for domestic purposes; e.g., toilets, sinks, showers.

If water is first used for one purpose and the same water is subsequently used for one or more other purposes, indicate the volume per day of the last designated use before treatment and/or discharge. For example, if water is initially used as noncontact cooling water and then as process water, the quantity of water given should be indicated as process water.

The total of item 7 should equal the total of item 6. Any difference in these totals should be explained under "Additional Information."

8. Facility Discharges, number and volume - List the number and volume of discharge types specified under this item. The total volume per day of discharges should equal the total water supply volume per day. Any difference in the sum of 6 and 8 should be explained under "Additional Information."

Surface water - Lakes, ponds, rivers, drains, etc. and any other open water course used to convey water.

Municipal sanitary sewer - Facilities owned and operated by a governmental unit used to convey the waste to a treatment facility.

Municipal storm sewer - Facilities owned and operated by a governmental unit used to collect and convey water runoff caused by precipitation.

Groundwater - Underground water within the zone of saturation:

Land application - A system whereby wastewaters are directly applied to surface of the ground; e.g., spray irrigation, soil injection, etc.

Percolation system - Wastewater which is induced below the surface of the ground; e.g., tile field, seepage pond, etc.

Well injection - Refers to the disposal of wastewater by means of a deep injection well system installed in accordance with the Mineral Wells Act 315, P. A. of 1969.

9. Discharge Locations - Attach as part of the application, a map or scale drawing of the facility showing each discharge point listed in item 8. All discharge points should be identified with the discharge serial number used in Section II of this application. Titles are to be located in the lower right-hand corner. Titles must include applicant's name, facility location, date of drawing and designation of number of sheets as "page____of____." In addition, provide the discharge name if any of the discharge point which distinguishes it from all other discharge points ; e.g., Main Street Outfall or Mill Creek Pipe, etc.

10. Pollution Incident Prevention Plan - Indicate whether this facility has submitted a Pollution Incident Prevention Plan as required under the Michigan Water Resources Commission Part 5 Rules for the "Spillage of Oil and Polluting Materials."

11. Critical Materials - Organic and inorganic substances, elements or compounds which are listed in a register compiled by the Water Resources Commission which are or may be considered hazardous to the environment.

Section II Basic Discharge Description

1. (a) Discharge Serial Number - Assign a three-digit number beginning with 001 for the point of discharge covered by the first description. Discharge serial numbers must be consecutive for each additional discharge described; hence, the second serial number should be 002, the third, 003, etc. Enter this number at the top of each page of Section II in the space provided. If application for a discharge permit was made previously for this discharge, supply the serial number assigned for this discharge.

   (b) Discharge Type - Identify the type of wastewater being discharged; e.g., process, boiler blowdown, water softener backwash, noncontact cooling water, etc.

   (c) Volume Discharged - Indicate the average and maximum discharge volume per day for each outfall described.

2. Discharge Location - Identify the specific location of each discharge.

3. Discharge Point Description - Use the name of the waterway by which it is usually designated on published maps of the area. When the discharge is to an unnamed tributary, please so state and give the name of the first body of water fed by that tributary which is named on the map.

4. Activity Description - Provide a description of the activity producing the discharge for each described discharge point. Indicate whether the discharge may be over an 8, 16 or 24-hour period, or whether the discharge is seasonal, periodic or batch-type discharge.

5. Activity Causing Discharge - Report the standard industrial classification (SIC) code(s) which identifies the activity actually causing the discharge. These may differ from the SIC code describing the overall activity of the facility. For each SIC number listed, specify either the principal product or the principal raw material and the average and maximum quantity per day produced or consumed during a month of production which is representative of the expected level of activity contributing to this discharge. Levels of production may be obtained from actual operating records or expected production levels based on market projections.

   Figures are to be reported in the units of measurement given in Table II for the particular SIC categories that are listed. Enter the letter-number code for the "Code" column in Table II for the units selected in the appropriate "Units" box of item 5. Other SIC categories should use the units of measurement normally used by that industry.

6. Waste Abatement Practices - Provide a narrative description of the waste abatement practices currently in use which affect this discharge. Describe the wastewater treatment equipment and other techniques employed that result in waste abatement for this discharge.

   a. Distance private and municipal wells are from present or proposed waste treatment facility.

   b. Distance surface watercourse from proposed waste treatment facilities if subsurface disposal, land application or oxidation ponds are utilized.

c. If waste disposal is by deep well injection, include on application and/or approved permit in accordance with the provisions of Act 315, Public Acts of 1969. Any above-ground treatment needed prior to injections also should be described.

d. List name and addresses of property owners adjacent to the present or proposed enterprise.

7. Wastewater Characteristics - List the expected characteristics of the discharge after treatment for any proposed discharge. For previously permitted discharges, list all parameters and unit of measurement reported on the current monthly operating reports, and compute monthly average, maximum and minimum for the past twelve months in which the discharge has occurred.

Analyses performed under this item must be in accordance with the procedures set forth in the specified references. The accepted references are as follows:

a. Standard Methods for the Examination of Water and Wastewater, Current Edition, American Public Health Association New York, N. Y. 10019

b. A.S.T.M. Standards, Part 23, Water: Atmospheric Analysis Current Edition, American Society for Testing and Materials Philadelphia, PA 19103

c. Methods for Chemical Analysis of Water and Wastes, Current Edition Environmental Protection Agency, Water Quality Office Analytical Quality Control Laboratory 1014 Broadway, Cincinnati, OH 45202

8. Critical Materials Discharged - List those critical materials (Table I) not reported in item 7 which may be present in the discharge. Specify the concentrations and unit measurement (mg/l or ug/l).

Analyses for these parameters must be performed in accordance with the specified references cited in item 7.

9. Plant Controls - For this item, indicate by "yes" or "no" whether the waste treatment facilities have a backup source of power or whether emergency procedures have been developed in case of a power outage to the waste treatment facility. If the waste treatment facility is not dependent on a source of power, indicate "NA" in the space provided.

10. Residuals and Residues - These materials are the final waste substances remaining for disposal after wastewater treatment or production process activity involving liquids or any critical material. Residuals and residues receive no further processing or treatment by the applicant and must be disposed of or stored for eventual disposal (e.g., sludges, waste oils, still residues, etc).

Under this item indicate whether these materials are generated by any existing or proposed waste treatment operation for the described discharge. If the answer is "yes" to item 10, complete items 10-a through 10-h. This item applies to each discharge described.

11. Water Treatment Additives - If the discharge is treated with any conditioner, inhibitor, algicide, identify the name of the material, name and address of manufacturer(s), quantity and chemical composition.

NOTE: Complete Items 12-14 if there is a thermal discharge; e.g., associated with a steam and/or power generation plant, steel mill, petroleum refinery or any other manufacturing process present in the described discharge.

12. Thermal Discharge Source - If several of the sources listed are present in an installation and result in discharges from more than one point, a separate copy of Section II must be completed for each discharge point. If several discharge sources are combined to result in a discharge from one point, only one copy of Section II need be completed.

13. Discharge Temperature - Specify the average and maximum summer temperature and average and maximum winter temperature in °F. of the present or proposed discharge.

14. Intake Temperature - Specify the average summer and winter temperature in °F. of the intake water source.

TABLE I

Michigan Water Resources Commission
CRITICAL MATERIALS REGISTER
Published October 1, 1978

With the exception of critical material classes (where all compounds of the material are to be reported) the parameter number assigned each Critical Material is from the Chemical Abstract Service "Registry Handbook". Additional information concerning the Critical Materials Program and the individual materials may be obtained by writing:

Critical Materials Program
Office of Toxic Materials Control
Environmental Services Division
Michigan DNR
P. O. Box 30028
Lansing, Michigan 48909

I. Inorganic Materials

A. The following inorganic materials and *all their compounds* are to be reported

	Parameter Number
antimony	Class-01-0
arsenic	Class-01-1
beryllium	Class-01-2
cadmium	Class-01-3
chromium	Class-01-5
cobalt	Class-01-6
copper	Class-01-7
cyanides	Class-01-8
hypochlorite	Class-01-4
lead	Class-01-9
lithium	Class-02-0
mercury	Class-02-1
nickel	Class-02-2
selenium	Class-02-3
silver	Class-02-4
thallium	Class-02-5
zinc	Class-02-7

B. The following specific inorganic materials are to be reported (do not report compounds)

	Parameter Number
chlorine	07782-50-5
hydrogen sulfide	07783-06-4

II. Organic Materials

	Parameter Number
acetone cyanohydrin	00075-86-5
*2-acetylaminofluorene	00053-96-3
acrolein	00107-02-8
*acrylamide	00079-06-1
*acrylic acid	00079-10-7
acrylonitrile	00107-13-1
aminoazobenzene	00060-09-3
4-aminobiphenyl	00092-67-1
amitrole	00061-82-5
aniline	00062-53-3
benzene	00071-43-2
benzidene	00092-87-5
benzo(a)pyrene	00050-32-8
brucine	00357-57-3
1,4 butane sultone	01633-83-6
carbon disulfide	00075-15-0
carbon tetrachloride	00056-23-5
*chloramines	Class-08-6
chlorinated dibenzofurans	Class-05-3
chlorinated dioxins	Class-05-4
1-chloro-2,3-epoxypropane	00106-89-8
2-chloroethanol	00107-07-3
*chloroform	00067-66-3
bis(2-chloroethyl)ether	00111-44-4
bis(2-chloromethyl)ether	00542-88-1
2,3 and 4-chlorophenol	Class-07-1
1-(4-chlorophenyl) -3,3-dimethyl triazene	07203-90-9
chloroprene	00126-99-8
di-n-butyl phthalate	00084-74-2
cresols	Class-08-5
dichlorobenzenes	Class-05-6
3,3'-dichlorobenzidine	00091-94-1
dichlorophenols	Class-07-3
dichloropropanes	Class-05-7
*1,2:3,4 diepoxybutane	00298-18-0
4-dimethylaminoazobenzene	00060-11-7
dimethylhydrazines	Class-06-2
3,3-dimethyl-1-phenyl triazene	07227-91-0
dimethyl sulfate	00077-78-1
2,3-epoxy-1-propanal	00765-34-4
ethylene dibromide	00106-93-4
ethyleneimine	00151-56-4
ethylene oxide	00075-21-8
formaldehyde	00050-00-0
hexachlorobenzene (HCB)	00118-74-1
hexachlorobutadiene (HCBD)	00087-68-3
hexachlorocyclohexane (lindane)	00608-73-1

*indicates new critical material

5 14943

Organic Materials (continued)

hexachlorocyclopentadiene	00077-47-4
hydrazine	00302-01-2
hydrazobenzene	00122-66-7
hydroquinone	00123-31-9
n-(2-hydroxyethyl)ethyleneimine	01072-52-2
lactonitrile	00078-97-7
methyl(chloromethyl)ether	00107-30-2
methylene(bis)-2-chloroaniline	00101-14-4
*1,2(methylenedioxy)-4-propenyl benzene	00120-58-1
*methyl hydrazine	00060-34-4
naphthalene	00091-20-3
1-naphthylamine	00134-32-7
2-naphthylamine	00091-59-8
*4-nitrobiphenyl	00092-93-3
2,3 and 4-nitrophenol	Class-07-4
n-nitroso-diethylamine	00055-18-5
n-nitroso-dimethylamine	00062-75-9
n-nitroso-dimethylaniline	00138-89-6
pentachloroethane	00076-01-7
*pentachloronitrobenzene	00082-68-8
pentachlorophenol	00087-86-5
peroxyacetic acid	00079-21-0
phenol	00108-95-2
polybrominated biphenyls (PBB)	Class-07-8
polychlorinated biphenyls (PCB)	Class-07-9
1,3-propane sultone	01120-71-4
β-propiolactone	00057-57-8
propyleneimine	00075-55-8
semicarbazide	00057-56-7
styrene	00100-42-5
tetrachloroethanes	Class-08-2
*tetrachloroethylene	00127-18-4
thiourea	00062-56-6
triaryl phosphate esters	Class-08-4
*trichloroethylene	00079-01-6
trichlorophenols	Class-07-6
tris(dibromopropyl)phosphate	00126-72-7
vinyl chloride	00075-01-4
xylenols	Class-07-7

III Pesticides (To be reported only by manufacturers and formulators)

	Parameter Number
aldicarb	00116-06-3
aldrin	00309-00-2
4-aminopyridine	00504-24-5
antimycin A	01397-94-0
*azinphos-ethyl	02642-71-9
azinphos-methyl	00086-50-0
barban	00101-27-9
*bendiocarb	22781-23-3
*benomyl	17804-35-2
captan	00133-06-2
carbaryl	00063-25-2
carbofuran	01563-66-2
carbophenothion	00786-19-6
chlordane	00057-74-9
chlordecone	00143-50-0
chlorfenvinphos	00470-90-6
chlorpyrifos	02921-88-2
clonitralid	01420-04-8
coumaphos	00056-72-4
crotoxyphos	07700-17-6
cycloheximide	00066-81-9
DDT	00050-29-3
demeton	08065-48-3
diallate	02303-16-4
diazinon	00333-41-5
dibromochloropropane (DBCP)	00096-12-8
dichlone	00117-80-6
dichlorophenoxyacetic acid (2,4-D)	00094-75-7
dichlorvos	00062-73-7
dichrotophos	00141-66-2
dieldrin	00060-57-1
dimethoate	00060-51-5
dinocap	39300-45-3
dinoseb	00088-85-7
dioxathion	00078-34-2
diquat	00085-00-7
disulfoton	00298-04-4
endosulfan	00115-29-7
endrin	00072-20-8
EPN	02104-64-5
ethion	00563-12-2
fensulfothion	00115-90-2
fenthion	00055-38-9
fonofos	00944-22-9
*fluchloralin	33245-39-5
heptachlor	00076-44-8
leptophos	21609-90-5
malathion	00121-75-5
*maleic hydrazide	00123-33-1
methomyl	16752-77-5
methoxychlor	00072-43-5
methyl mercaptan	00074-93-1
methyl parathion	00298-00-0
mevinphos	07786-34-7
mexacarbate	00315-18-4
mirex	02385-85-5
monocrotophos	06923-22-4
naled	00300-76-5
nicotine	00054-11-5
oxydemeton-methyl	00301-12-2
paraquat	01910-42-5
parathion	00056-38-2
phorate	00298-02-2
phosazetim	04104-14-7
phosmet	00732-11-6
phosphamidon	13171-21-6
rotenone	00083-79-4
silvex, propylene glycolbutyl ether ester	02317-24-0
simazine	00122-34-9
sodium fluoroacetate	00062-74-8
strychnine	00057-24-9
sulfotepp	03689-24-5
TDE	00072-54-8
TEPP	00107-49-3
terbufos	13071-79-9
thiram	00137-26-8
*torak	10311-84-9
toxaphene	08001-35-2
trichlorfon	00052-68-6
*trichloronate	00327-98-0
trichlorophenoxyacetic acid (2,4,5-T)	00093-76-5
trifluralin	01582-09-8
triphenyltin hydroxide	00076-87-9
ziram	00137-30-4

*indicates new critical material

TABLE II

– Units of Measurement by SIC Code (Industry)

SIC Code(s)	Code	Units of measurement	Industry
201; 2077	A-1	Pound live weight killed (meatpacking in slaughterhouse or packinghouse; poultry processing).	Meat products.
	A-2	Pound product (slaughtering & rendering; processing).	
	A-3	Pound raw material (rendering in offsite plant).	
202; 5143	B-1	1,000 lb milk equivalent	Dairy products.
2033; 2034; 2037; 2038.	C-1	Ton raw material	Canned and preserved fruits and vegetables.
204	D-1	1,000 bu processed	Grain mill products.
2061	E-1	Ton sugar cane processed	Raw cane sugar.
2062	E-2	Ton raw sugar processed	Cane sugar refining.
2063	E-3	Ton beets sliced	Beet sugar.
2077		See SIC 201	
2084	F-1	Ton grapes pressed	Wines, brandy, and brandy spirits.
	F-2	1,000 gal wine (table wine, for process season only).	
2085	F-3	1,000 bu grain processed	Distilled liquor, except brandy.
2086	F-4	1,000 standard cases	Bottled and canned soft drinks.
2091; 2092	G-1	Ton raw material	Seafoods.
22	H-1	1,000 lb raw material	Textile mill products.
	H-2	*or* 1,000 lb product	
2421	I-1	1,000 fbm	Sawmills and planing mills.
2435; 2436	I-2	1,000 ft^2 on three-eighths inch basis	Veneer and plywood.
2491	I-3	1,000 ft^3 treated	Wood preserving.
2492	I-4	1,000 ft^2 on a three-fourths inch basis	Particle board.
26	J-1	Ton product	Paper and allied products.
2812; 2816; 2819	K-1	Ton product	Inorganic chemicals.
2821; 2823; 2824; 2891; 3079.	L-1	1,000 lb product	Plastic materials and synthetics industry.
2822	M-1	1,000 lb rubber produced	Synthetic rubber (vulcanizable elastomers).
283	N-1	1,000 lb raw material	Drugs and pharmaceuticals.
2841	O-1	1,000 lb product	Soap and detergents.
	O-2	*or* 1,000 gal product	
2865; 2869	P-1	1,000 lb product	Organic chemicals.
2873; 2874; 2875	Q-1	1,000 ton product	Fertilizer industry.
2879	R-1	1,000 lb product	Agricultural chemicals and pesticides.
2891		See SIC 2821	
2911	S-1	1,000 bbl crude or partially refined feed stock (stream day).	Petroleum refining.
3011; 3021; 3031; 3041; 3069.	T-1	1,000 lb raw material	Rubber products.
3111	U-1	1,000 lb green salted hides or pickled skins.	Leather tanning and finishing.
3211; 3231	V-1	1,000 ton product	Flat glass and glass products made from purchased glass.
	V-2	*or* 1,000 ft^2 mirrored surface (for mirrored glass only).	
3241	V-3	1,000 bbl product	Hydraulic cement.
327	V-4	1,000 ton product	Concrete, gypsum, and plaster products.

- Units of Measurement by SIC Code (Industry)

TABLE II

(Continued)

SIC Code(s)	Code	Units of measurement	Industry
3292	V-5	1,000 ton asbestos used	Asbestos products.
331	W-1	Ton dry coal	Coke making.
	W-2	Ton hot metal	Blast furnaces.
	W-3	Ton liquid steel	Steelworks.
	W-4	Ton hot formed steel	Hot forming.
	W-5	Ton processed steel	Rolling and finishing mills.
332	W-6	Ton metal cast	Iron and steel foundries.
333	X-1	1,000 lb metal product	Primary smelting and refining of nonferrous metals.
334	X-2	1,000 lb metal product	Secondary smelting and refining of nonferrous metals.
335	X-3	1,000 lb metal processed	Rolling, drawing, and extruding of nonferrous metals.
336	X-4	1,000 lb metal cast	Nonferrous foundries.
3465, 3711; 3714	Y-1	Unit production	Automobile manufacturing.
	Y-2	*or* square feet	
4911; 4931	Z-1	1,000 MWd generated	Electric power services.
4961	Z-2	1 million lb steam produced	Steam supply.

Permit No. M10003794

State of Michigan
Department of Natural Resources
Water Resources Commission

DISCHARGE PERMIT APPLICATION

(Please print or type all information)

Section 1. Applicant and Facility Description — unless otherwise specified on this form, all items are to be completed. If an item is not applicable, indicate "NA."

1. **Legal Name of Applicant:**

   PLAINWELL PAPER CO., INC.

2. **Mailing Address of Applicant:**

   number & street 300 ALLEGAN ST.

   city PLAINWELL state MICHIGAN zip code 49080 phone 616 (area code) 685-5851 (number)

3. **Applicant's Authorized Agent for further correspondence:**

   name & title _____

   number & street _____

   city _____ state _____ zip code _____

   telephone: area code _____ number _____

4. **Facility/Activity:** give name, ownership and physical location of the plant or other operating facility where discharge(s) does or will occur.

   name _____

   ownership: ____ sole owner; ____ corporation; ____ state in which incorporation filed;

   ____ partnership; ____ governmental unit; ____ nonprofit organization.

   location:

   street & number 300 ALLEGAN STREET

   city PLAINWELL township _____

   county ALLEGAN ; town _____ range _____ section _____

I certify that I am familiar with the information contained in this application, and to the best of my knowledge and belief, such information is true, complete and accurate. Submitted in accordance with Section 8 (b), Act 245, Public Acts of 1929, as amended.

Signature of Applicant	Date	If Partnership: Signature of Co-Owner	Date

Print or Type Applicant's Name & Title	Print or Type Co-Owner's Name

R4088

5 14947

Permit No. MI 0003794

NOTE: If sanitary sewage is to be discharged from housing developments, apartment buildings, shopping centers, or other commercial developments, into a system other than an approved municipal sanitary waste collection system, the following should be completed and signed by an authorized municipal official or township officer.

It is the policy of the Commission that applications involving the disposal of sewage of human origin from any entity other than local government include the local government as a co-signer of the statement, and that all proceedings and hearings against said entity will include the local unit of government as a party by appropriate notice, and all permits issued as a result of such hearings and proceedings will be jointly against the said unit and entity.

Signature of Authorized Local Government Representative _____ Mailing Address of Local Government Representative _____

Print or Type Name of Local Government Representative _____

5. **Nature of Business:** describe the nature of the business or manufacturing process conducted at the plant or operating facility.

NON-INTEGRATED SPECIALTY PAPER - PRODUCING UP TO APPROXIMATELY ? 270 TONS PER DAY OF FINE PRINTING PAPERS AND INDUSTRIAL SPECIALTIES. AVERAGE PREVIOUS 12 MONTHS PRODUCTION WAS TONS PER DAY FROM THREE (3) FOURDRINIER PAPER MACHINES AND AN ON-MACHINE TRAILING BLADE COATER.

6. **Source of Water Supply:** indicate average water intake volume per day by sources

municipal — name PLAINWELL	~~35,000~~ 27,400 ±	gallons per day 10,000,000 1 yr
surface water intake — name	0	gallons per day
√ private-well	2.6 - 3.0 MGD	gallons per day
other (specify)	0	gallons per day

7. **Facility Water Usage:** average volume in gallons per day for the following types of water usage at the facility.

process water (including contact cooling water)	2.46 MGD	gallons per day
noncontact cooling water	43000	gallons per day
sanitary water (number of people served) 530 (10000,000/yr	27,400	gallons per day
other (specify)	0	gallons per day
total		gallons per day

5 14948

Permit No. M1000 3794

8. **Facility Discharges:** specify number of discharge points and the volume of water discharged or used from the facility according to the categories below.

Total Flow

	number of discharge points	total volume used or discharged — gal/day
surface water	2	2.5 MGD
municipal sanitary sewer	1	27,400
municipal storm sewer	—	
groundwater —	—	
a. land application	—	
b. percolation system	—	
well injection	—	
other (specify)	—	
total		

9. **Discharge Locations:** provide a drawing or map of the facility showing each point of discharge listed in item 8. Label each discharge with the appropriate three digit serial number assigned in Section II, 1 (a).

10. **Pollution Incident Prevention Plan:** has your facility submitted a Pollution Incident Prevention Plan?

yes ✓ no ___ date submitted ___ date fully implemented ___

11. **Critical Materials**

a. **usage:** This application contains a list of critical materials. Please indicate the amount of these materials used in, produced in, or are incidental to your operation.

name	amount lbs/yr.	name	amount lbs/yr.
Styrene	400		
Aqua Ammonia	375,000		
Chlorine	4000		

Permit No. 0003794 Discharge Serial No. ___ ___ ___ Page 4 of [redacted]

Section II Basic Discharge Description
(Please print or type all information)

Complete this section for each discharge indicated in Section 1, Item 8, except those discharges which enter a municipal sanitary sewer. Separate descriptions of each discharge are required even if several discharges originate in the same facility. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

1. **Discharge Serial No. and Name** 005 ✓
   a. discharge serial number 0 0 4 (three digit code, 001, 002, etc.)
   b. type of waste water being discharged (Process, noncontact cooling, etc.) 004 = NON-CONTACT COOLING) 005 - PROCESS
   c. volume discharged 2,400,000 average gals/day 3,31 maximum gals/day
   004 = 43,000 141,000
2. **Discharge Location** ATTACHED MAPS -
   town PLAINWELL range _____ section _____
   county ALLEGAN city or town PLAINWELL
3. **Discharge Point Description** (If the discharge is to a county drain or storm sewer, indicate the receiving waters; e.g., Clear Lake via Mud Drain)

___ lake	
✓ river or stream	KALAMAZOO RIVER
___ municipal storm sewer	
___ county drain	
___ groundwater	
___ well injection	
___ other (specify)	

4. **Activity Description**

give a narrative description of activity producing this discharge:

(005) THE DISCHARGE IS CREATED FROM THE MANUFACTURE OF PAPER FROM (3) THREE FOURDRINIER PAPER MACHINES; ONE ON THE MACHINE COATER, AND VARIOUS FINISHING PROCESSES AND ASSOCIATED EQUIPMENT

(004) THIS DISCHARGE IS COOLING WATER FROM COATING PREPARATION DEPARTMENT EQUIPMENT AND MEASURER COMPUTER EQUIPMENT. THIS RUNS UNDER AND WEST OF NUMBER (4) FOUR PAPER MACHINE THRU BUILDINGS AND ENDS UP IN THE KALAMAZOO RIVER NORTH OF THE MILL.

5 14958

No. MI 0003794 Discharge Serial No. ___ ___ ___ Page 5 of 9

5. **Activity Causing Discharge:** For each S.I.C. Code which describes the activity causing this discharge, supply the type and average and maximum amount of *either* the raw materials consumed (Item 5a) or the product produced (Item 5b).

a. raw materials:

	S.I.C. Code	name	average amt/day	maximum amt/day	unit (see Table II)	discharge(s) serial No. (s)
~~004~~	~~4430~~	~~None~~				004
005						

b. products:

	S.I.C. Code	name	average amt/day	maximum amt/day	unit (see Table II)	discharge(s) serial No.(s)
004	~~2621~~	Paper	—	—	—	—
005	2621	PAPER			Ton	

6. **Waste Abatement Practices:** Briefly describe the waste treatment practices applied to this discharge. (attach a waste flow diagram)

narrative: Each Paper machine has fiber and water recycle and a recovery system. Fiber and water is collected after screening in large tanks. Water is reused on each machine. Unused water flows to a collector well and is pumped to a primary clarifier, aerated lagoon and finally to a secondary clarifier. Sludge is pumped to holding pond surface water removed and remaining sludge hauled to landfill.

a. distance of treatment facility and/or disposal area from nearest well:

private well 2400 feet; municipal well 4424 feet.

* Do we mention dewatering?

Permit No. MI 0003794 Discharge Serial No. ___ ___ ___ Page 6 of ___

b. if subsurface disposal, land application, or oxidation pond is proposed, nearest distance to a surface watercourse: _____ feet.

c. if discharge is to underground by injection well, include an application and/or approved permit in accordance with the provisions of Act 315, Public Acts of 1969.

d. names and addresses of property owners adjacent to the facility:

name	address
QUALITY PRODUCTS SALES & SERVICE -	422 ALLEGAN, PLAINWELL STREET
CITY OF PLAINWELL	

7. **Wastewater Characteristics:** If you presently have a discharge permit, list all parameters reported on the current monthly operating report and compute monthly averages, maximum and minimum from the past twelve months. For the proposed discharge, describe the expected characteristics of the discharge after treatment.

005

Parameter	Monthly Average	Monthly Maximum (ave.)	Monthly Minimum	Sample Frequency	Sample Type
FLOW (50050)	2.46 MGD	2.61 (3.3)	2.13 (0.72)	DAILY	CONTINUOUS
BOD5 (85001)	943	1190 (1732)	702 (404)	DAILY	
SOLIDS - SETTLEABLE (00546)	3.8 mg/L	47 (134)	16 (2)	DAILY	SINGLE GR
SUSPENDED SOLIDS (85002)	861	1177 (2906)	498 (177)	DAILY	
pH (00400)	7.4	8.7	6.8	DAILY	(1) ONE GRAB
OIL & GREASE FREON (00556)	2.2	3.8 (5.8)	1.5 (0.5)	DAILY	GRAB

8. **Critical Materials Discharged:** List those critical materials not reported in Item 7 which may be present in the discharge.

Parameter	Concentration	Units

Get

5 14952

Permit No. MI 0003744 Discharge Serial No. ___ ___ ___ Page 1 of ___

9. **Plant Controls:** Check if the following plant controls are available for this discharge:

___ alternate power source ✓ alarm or emergency procedure for power or equipment failure.

10. **Residuals and Residues:** Are there any sludges, residues, or critical materials removed from or resulting from treatment o control of wastewaters produced by this discharge?

✓ yes; ___ no; if *no* is checked, continue to Item 11.

a. the physical state of the residue:

___ liquid; ___ heavy sludge; ✓ wet solids; ___ dry solids.

After June 1, 1981

b. the liquid portion of the residue is primarily:

✓ water; ___ oil; ___ chemical solvent.

c. the residue results from:

✓ process wastewater; ___ sanitary sewage; ___ chemical production;

___ food processing; ___ machining; ___ dust collection;

___ paint booths; ___ water treatment; ___ other (specify).

12 → 16/.4

40 wet tons + 350 + 220

d. estimate the total annual volume or weight of the material:

___ gallons; (pounds); cubic yards (circle one)

e. if you dispose of the material yourself, indicate the type of disposal site:

___ public landfill; ___ private landfill; ✓ own land; ?

___ shipped out of state; ___ incinerated; ___ other (specify).

f. if a public or private landfill(s) is used, give name(s) and address(es):

g. if you have the material removed by commercial waste or refuse hauler(s), give name(s) and address(es):

JAMES HARRIS — P.O. BOX 6 1831 M-40 NORTH
ALLEGAN, MICHIGAN 49010

Permit No. MI 0003794 Discharge Serial No. 005 Page 8 of

h. indicate how the material is stored before disposal or removal:

_____ metal drums; _____ fiber drums; ✓ aboveground tank;

_____ underground tank; _____ stockpiled on ground;

✓ holding pond/lagoon; _____ other (specify) _____

11. **Water Treatment Additives:** if the discharge is treated with any conditioner, inhibitor, algicide, answer the following:

a. name of material(s) PERCOL 726 - POLYACRYLAMIDES
NOPCO FLOC 154 - " " "

b. name and address of manufacturer(s)
PERCOL 726 - ALLIED COLLOIDS INC. ONE ROBINSON LANE, RIDGEWOOD, N. J. 07450
NOPCO FLOC 154 - DIAMOND SHAMROCK - P.O. BOX 2386R MORRISTOWN, NEW JERSEY 07960

c. quantity (pounds added per million gallons of water treated) 8.34 - 25.0#

d. chemical composition of these additives:
POLYACRYLAMIDES.

NOTE: Complete items 12-14 if there is a thermal discharge; e.g., associated with a steam and/or power generation plant, steel mill, petroleum refinery or any other manufacturing process.

12. **Thermal Discharge Source:** Check appropriate item(s) indicating the source of this discharge.

	gallons/day
boiler blowdown	
boiler chemical cleaning	
ash pond overflow	
boiler water treatment — evaporation blowdown	
oil or coal fired plants — effluent from air pollution control devices	

14954

Permit No. MI0003794 Discharge Serial No. ___ ___ ___ Page 7

12. (continued)

condenser cooling water

cooling tower blowdown

manufacturing process

other (specify)

13. Discharge Temperature:

	004	005		004	005
maximum summer	84 °F		maximum winter	88 °F	
average summer	75 °F		average winter	79 °F	

14. Intake Temperature:

average summer ___ °F average winter ___ °F

Check

14955

STATE OF MICHIGAN

DEPARTMENT OF NATURAL RESOURCES

WATER RESOURCES COMMISSION

IN THE MATTER OF

Plainwell Paper Company
Division of Phillip Morris Company

NPDES PERMIT NO. MI 0003794

WRC No.: NC-10-78-03-2863

NOTICE OF NONCOMPLIANCE AND ORDER TO COMPLY

TO: Plainwell Paper Company, Inc.
Division of Phillip Morris Company
Plainwell, Michigan 49080

PLEASE BE ADVISED that we have sufficient information to believe that your facility has failed to comply with the terms and conditions of your National Pollutant Discharge Elimination System Permit issued on January 21, 1974, and revised on December 7, 1976.

PURSUANT to the terms of the aforementioned permit (Part I, Section A.2), any discharge from your facility is limited to the following for outfall 005:

	Discharge Limitations			
	lbs/day		mg/l	
Effluent Characteristics	Daily Average	Daily Maximum	Daily Average	Daily Maximum
BOD_5 May 15 - October 15	-	1200	-	-

The monthly monitoring report submitted for the month of August, 1978 shows that your facility exceeded its authorized discharge limits according to the following:

Date Sampled	Effluent Characteristics	Reported Value
8/2/78	BOD_5	1375 lbs/day
8/4/78	BOD_5	1224 lbs/day
8/12/78	BOD_5	1431 lbs/day
8/16/78	BOD_5	1375 lbs/day
8/17/78	BOD_5	1347 lbs/day
8/18/78	BOD_5	1628 lbs/day
8/19/78	BOD_5	1457 lbs/day
8/22/78	BOD_5	1243 lbs/day
8/26/78	BOD_5	1468 lbs/day
8/27/78	BOD_5	1244 lbs/day

Pursuant to a letter dated September 8, 1978, the Plainwell Paper Company has offered a written explanation for these unauthorized and excessive discharges.

IT IS THEREFORE ORDERED that the Plainwell Paper Company take whatever steps are necessary to achieve and maintain compliance with permit effluent limitations. You are hereby put on notice that the reported excursions are a violation of your NPDES permit. Further administrative remedies will be instituted for continued failure to comply.

WATER RESOURCES COMMISSION
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Date Issued: October 26, 1978

Robert J. Churchaine
Executive Secretary

by: Frank Baldwin, Chief
NPDES Compliance Section

ADDRESS FOR FURTHER CORRESPONDENCE

Frank Baldwin, Water Quality Administrator
Michigan Water Resources Commission
Water Quality Division/NPDES Compliance Section
P. O. Box 30028
Lansing, Michigan 48909
Telephone: (517) 373-1947

INSTRUCTIONS FOR FORM II

Note that information is to be reported separately for each outfall. Two outfalls can be reported on Form II. An outfall, for purposes of this report, is considered to be any point at which wastewater enters the waters of the State (including groundwaters) or a sewer system. Complete a copy of Form II for each wastewater discharge (multiple municipal sanitary sewer connections may be summarized as one outfall). If more than two outfalls are to be reported, Form II may be duplicated or additional copies will be supplied on request (use order blank page 2).

Begin the report copying the code number from the mailing label in the spaces provided.

ITEM A — Identify the outfall by providing the outfall number as you normally refer to it. If you have no special designations for outfalls, number them 001, 002 etc. If you submit monthly operating reports (MOR's) enter the appropriate outfall number in the spaces so marked.

ITEM B — Circle the number corresponding to the type of discharge. For surface water discharges list the name of the receiving water. A DISCHARGE TO A STORM SEWER which directly enters a watercourse is a SURFACE WATER DISCHARGE and must be reported as such. Lagoons with an outlet to surface waters must be reported as surface water discharges. Discharges to combined storm-sanitary sewer systems may be reported as municipal sanitary sewer discharges. For discharges to a sanitary sewer system list the name of the municipality operating the system.

ITEM C — Flow figures (Average and Maximum) are to be reported in the appropriate spaces in units of million gallons per day (MGD). For example:

500 gallons per day	=	0.0005 MGD
5,000 gallons per day	=	0.005 MGD
50,000 gallons per day	=	0.05 MGD
500,000 gallons per day	=	.5 MGD
5,000,000 gallons per day	=	5 MGD
5,555,000 gallons per day	=	5.555 MGD

Note that decimal points are coded as digits. Round off flow figures as necessary to fit in the space provided. The average daily flow figure should be based on the number of days during the year on which the outfall discharged.

$$\text{Average Daily Flow} = \frac{\text{total outfall discharge volume for the year}}{\text{number of days discharge took place}}$$

Note: If you purchase all of your water from a utility you can determine wastewater volume be referencing billings for the past year. Water utilities frequently meter consumption in units of cubic feet or hundreds of cubic feet. Convert cubic feet to gallons by multiplying by 7.5. Hundreds of cubic feet is converted by multiplying by 750.

Indicate whether flow figures reported were measured or estimated by placing a check in the correct box.

ITEM D — Indicate the type of wastewater discharged by the outfall in relative percentages adding up to 100 percent. For purposes of this report, sanitary wastewater includes human sewage only, and cooling and condenser wastewater includes only uncontaminated water resulting from these practices. All other forms of wastewater are considered process wastewater.

ITEM E — Briefly describe the nature and source of the wastewater from this outfall, a description of the outfall and the geographical location of the outfall. A marked and scaled map may be enclosed to satisfy the location requirement. Outfall description and location is not required if the discharge is to a municipal sanitary sewer.

70# Cl ~ / day
March 25th
less than
1 ppm

5 14958

STANDARD INDUSTRIAL CLASSIFICATION CODES

Note: This is an edited list. Any facility which cannot be categorized with one of the following listings should leave the box on page 3, question 2, blank.

Code	Title
	AGRICULTURE
0100	AGRICULTURAL PRODUCTION—CROPS
0200	AGRICULTURAL PRODUCTION—LIVESTOCK
0211	Beef Cattle Feedlots
0241	Dairy farms
0700	AGRICULTURAL SERVICES
	MINING
1000	METAL MINING
1011	Iron Ores
1021	Copper ores
1081	Metal mining services
1300	OIL AND GAS EXTRACTION
1380	Oil and Gas Field Services
1400	NONMETALIC MINERALS
1422	Crushed and broken limestone
1440	Sand and Gravel
1450	Clay and Related Minerals
1470	Chemical and Fertilizer Minerals
1492	Gypsum
	CONSTRUCTION
1500	GENERAL BUILDING CONTRACTORS
1600	HEAVY CONSTRUCTION CONTRACTORS
	MANUFACTURING
2000	FOOD AND KINDRED PRODUCTS
2010	Meat Products
2011	Meat packing plants and slaughter houses
2020	Dairy Products
2030	Preserved Fruits & Vegetables
2033	Canned fruits and vegetables
2035	Pickles, sauces, and salad dressings
2037	Frozen fruits and vegetables
2040	Grain Mill Products
2043	Cereal breakfast foods
2047	Dog, cat, and other pet food
2050	Bakery Products
2060	Sugar and Confectionery Products
2063	Beet sugar
2070	Fats and Oils
2076	Vegetable oil mills
2077	Animal and marine fats & oils
2080	Beverages
2082	Malt beverages
2084	Wines, brandy, and brandy spirits
2085	Distilled liquor, except brandy
2086	Bottled and canned soft drinks
2087	Flavoring extracts and syrups, nec.
2090	Misc. Foods and Kindred Products
2091	Canned and cured seafoods
2092	Fresh or frozen packaged fish
2200	TEXTILE MILL PRODUCTS
2300	APPAREL AND OTHER TEXTILE PRODUCTS
2400	LUMBER AND WOOD PRODUCTS
2420	Sawmills and Planing Mills
2430	Millwork, Plywood & Structural Members
2440	Wood Containers
2448	Wood pallets and skids
2450	Wood Buildings and Mobile Homes
2490	Miscellaneous Wood Products
2491	Wood preserving
2492	Particleboard
2500	FURNITURE AND FIXTURES
2600	PAPER AND ALLIED PRODUCTS
2611	Pulp mills
2621	Paper mills, except building paper
2631	Paperboard mills
2640	Misc. Converted Paper Products
2650	Paperboard Containers and Boxes
2661	Building paper and board mills
2700	PRINTING AND PUBLISHING
2710	Newspapers
2750	Commercial Printing
2790	Printing Trade Services
	Manufacturing-cont'd
2800	CHEMICALS AND ALLIED PRODUCTS
2810	Industrial Inorganic Chemicals
2820	Plastics Materials and Synthetics
2830	Drugs
2840	Soap, Cleaners, and Toilet Goods
2850	Paints and Allied Products
2860	Industrial Organic Chemicals
2870	Agricultural Chemicals
2890	Miscellaneous Chemical Products
2891	Adhesives and sealants
2892	Explosives
2893	Printing inks
2899	Salt (by evaporation)
2900	PETROLEUM AND COAL PRODUCTS
2911	Petroleum refining
2950	Paving and Roofing Materials
3000	RUBBER AND MISC. PLASTIC PRODUCTS
3011	Tires and inner tubes
3069	Fabricated rubber products
3079	Miscellaneous plastic products
3100	LEATHER AND LEATHER PRODUCTS
3111	Leather tanning and finishing
3200	STONE, CLAY, AND GLASS PRODUCTS
3220	Glass and Glassware, Pressed or Blown
3241	Cement
3250	Structural Clay Products
3260	Pottery and Related Products
3270	Concrete, Gypsum, and Plaster Products
3271	Concrete block and brick
3273	Ready-mixed concrete
3274	Lime
3275	Gypsum products
3290	Misc. Nonmetallic Mineral Products.
3291	Abrasive products
3292	Asbestos products
3295	Minerals, ground or treated
3297	Nonclay refractories
3300	PRIMARY METAL INDUSTRIES
3310	Blast Furnaces and Basic Steel Products
3312	Blast furnaces and steel mills
3313	Electrometallurgical products
3315	Steel wire and related products
3316	Cold finishing of steel shapes
3317	Steel pipe and tubes
3320	Iron and Steel Foundries
3321	Gray iron foundries
3322	Malleable iron foundries
3330	Primary Nonferrous Metals
3331	Primary copper
3332	Primary lead
3333	Primary zinc
3334	Primary aluminum
3340	Secondary Nonferrous Metals
3360	Die Casting
3361	Aluminum foundries
3362	Brass, bronze, and copper foundries
3390	Miscellaneous Primary Metal Products
3399	Metal heat treating
3400	FABRICATED METAL PRODUCTS
3410	Metal Cans and Shipping Containers
3420	Cutlery, Hand Tools, and Hardware
3430	Plumbing and Heating, Except Electric
3440	Fabricated Structural Metal Products
3442	Metal doors, sash, and trim
3443	Fabricated plate work (boiler shops)
3444	Sheet metal work
3450	Screw Machine Products, Bolts, etc.
3460	Metal Forgings and Stampings
3462	Iron and steel forgings
3463	Nonferrous forgings
3465	Automotive stampings
3470	Metal Services
3471	Plating and polishing
3479	Metal coating and allied services
3480	Ordnance and Accessories
3490	Misc. Fabricated Metal Products
3500	MACHINERY, EXCEPT ELECTRICAL
3510	Engines and Turbines
3520	Farm and Garden Machinery
3530	Construction and Related Machinery
3540	Metalworking Machinery
3550	Special Industry Machinery
3560	General Industrial Machinery
3570	Office and Computing Machines
3580	Refrigeration and Service Machinery
3590	Misc. Machinery, Except Electrical
3600	ELECTRIC AND ELECTRONIC EQUIPMENT
3610	Electric Distributing Equipment
3620	Electrical Industrial Apparatus
3630	Household Appliances
3640	Electric Lighting and Wiring Equipment
3650	Radio and TV Receiving Equipment
3660	Communication Equipment
3670	Electronic Components and Accessories
3690	Misc. Electrical Equipment & Supplies
	Manufacturing-cont'd
3700	TRANSPORTATION EQUIPMENT
3710	Motor Vehicles and Equipment
3711	Motor vehicles and car bodies
3714	Motor vehicle parts and accessories
3715	Truck trailers
3720	Aircraft and Parts
3730	Ship and Boat Building and Repairing
3740	Railroad Equipment
3750	Motorcycles, Bicycles, and Parts
3760	Guided Missiles, Space Vehicles, Parts
3790	Miscellaneous Transportation Equipment
3792	Travel Trailers and campers
3795	Tanks and Tank Components
3800	INSTRUMENTS AND RELATED PRODUCTS
3810	Engineering and Scientific Instruments
3820	Measuring and Controlling Devices
3830	Optical Instruments and Lenses
3840	Medical Instruments and Supplies
3860	Photographic Equipment and Supplies
3900	MISCELLANEOUS MANUFACTURING INDUSTRIES
3910	Jewelry, Silverware, and Plated Ware
3930	Musical Instruments
3940	Toys and Sporting Goods
3950	Pens, Pencils, Office and Art Supplies
3990	Miscellaneous Manufactures
	TRANSPORTATION
4010	RAILROADS
4200	TRUCKING AND WAREHOUSING
4210	Trucking, Local and Long Distance
4214	Hauling Liquid Wastes
4221	Farm product warehousing and storage
4222	Refrigerated Warehousing
4230	Trucking Terminal Facilities
4400	WATER TRANSPORTATION
4430	Great Lakes Transportation
4440	Transportation on Rivers and Canals
4452	Ferries
4454	Towing and tugboat service
4460	Water Transportation Services
4463	Marine cargo handling
	SERVICES
4900	ELECTRIC, GAS, AND SANITARY SERVICES
4911	Electric services
4925	Gas production and/or distribution
4953	Refuse systems
5810	EATING AND DRINKING PLACES
6512	OFFICE BUILDINGS
7000	HOTELS AND OTHER LODGING PLACES
7011	Hotels, motels, and tourist courts
7030	Camps and Trailering Parks
7032	Sporting and recreational camps
7210	Laundry, Cleaning & Garment Services
7215	Coin-operated laundries
7391	Laboratories — Testing and Research
7399	Water Softener Service
7500	AUTO REPAIR, SERVICES, AND GARAGES
7530	Automotive Repair Shops
7542	Car washes
7900	AMUSEMENT & RECREATION SERVICES
7933	Bowling alleys
7940	Commercial Sports
7941	Sports clubs and promoters
7948	Racing, including track operation
7992	Public golf courses
7996	Amusement parks
7997	Membership sports & recreation clubs
8000	HEALTH SERVICES
8050	Nursing and Personal Care Facilities
8060	Hospitals
8070	Medical and Dental Laboratories
8080	Outpatient Care Facilities

5 14959

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STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

October 17, 1978

Plainwell Paper Company, Inc.
200 Allegan Street
Plainwell, MI 49080

Gentlemen:

Receipt of the application for reissuance of your NPDES permit to discharge to the waters of the state is acknowledged. It has been assigned to Mr. Chester Harvey, our District Engineer, for processing. Any restrictions upon this use found to be necessary will be written into a proposed permit to discharge in accordance with the requirements of Section 8(b) Act 245, Public Acts of 1929, as amended, and the Commission's Part 21 Rules.

A copy of the proposed permit will be forwarded to you. Prior to issuance, you will have a period of not less than 30 days to review the proposed permit and comment on it. Should you wish to make further inquiry during the processing of your application, please contact Mr. Karl Zollner, Jr., Engineering & Technical Services Section, Water Quality Division at (517) 373-8088 or write him at Box 30028, Lansing, Michigan, 48909.

Very truly yours,

WATER QUALITY DIVISION

Robert J. Courchaine
Division Chief

Karl Zollner, Jr. eg

by: Karl Zollner, Jr., P.E., Chief
Engineering & Technical Services
Section

RJC/KZ:clp
cc: Allegan County Health Department
City of Plainwell
C. Harvey, File R
Quality Products Sales & Services
B. Patterson
R. Filmore
J. VanLent

MICHIGAN

R1026 10/75

5 14960

Copy: Vic Ferguson

To: Jim Fanomd

Subject: Chlorine Tests - 004 Cooling Water

From: Carl Gren

Attempts to test for residual Chlorine with a Hach test kit and spectrophotometer have been somewhat inconclusive.

We found most all tests show 0.0 mg/l.

We found two tests that did show a trace of residual Chlorine 0.08 mg/l and one <0.05 mg/l. We were using crude methods to make up standard Chlorine samples. Part of the Hach kit which would allow us to make up standard Chlorine solutions with good repeatability has not arrived yet. We called them a half dozen times on this & should have within a week to 10 days.

We also used a test kit with the DPD method and a color disc for a couple weeks. This has shown by my eye that we have no residual chlorine chlorine.

Our new permit doesn't specify ~~[illegible]~~ specifically as it did in our first permit.

We therefore have more flexibility in method but still have a ridiculous .024 mg/l spec. This has to be a mistake!

We will go back to testing with the Spectrophotometer using our own crude dilution methods until Hach comes then with the rest of the kit they owe us.

I personally don't have all the faith in the world in our present spectrophotometer.

PLAINWELL PAPER CO., INC.
Plainwell, Michigan
MI 070 0X5 2 710549

The mixing zone for the purpose of evaluating compliance with the states water quality standards is defined as the right ¼ of the stream a distance of 600 feet downstream from discharge 005.

[illegible]	PH	[illegible]
.07) .28 [illegible]	[illegible] (7.8)	[illegible] (1.9
.03) .18 [illegible]	8.1 (7.9)	1.5 (2.5
.03 (.14 [illegible]	7.7 (7.5	1.0 (1.9)
.04 (.07 [illegible]	9.1 (7.5	2.2 (3.7
.03 (.12 [illegible]	8.5 (7.8) (8.2) [illegible]	1.0 (1.2
.03-.07 [illegible]	8.8 (7.6)	[illegible] (1.0 (1.4
.03 (.10 [illegible]	[illegible] (7.9)	[illegible] 1.0 (1.3)
.03 (.17 [illegible]	8.8 (7.6)	2.3 (5.7)
.03 (.3 [illegible]	8.8 (8.0)	.09 ([illegible])
.05-.3	7.8 (8.[illegible]	(1.8) [illegible]
.05 (.27)	8.4 (7.6 [illegible]	1.6 ([illegible]
.04) .13 Sept	8.4 ([illegible]	1.5 (2.0

[illegible]
.03
.52 [illegible] = 43,000/gal

365

15.9
.9
16.8 [illegible] =
12 1.4
mg/L

9.46 X 365

005

[illegible] 1979 - 2.61) 3.17	873 (1295	[illegible]	942 (1443	2.2 (3.9	5.7 3.3
[illegible] - 2.47 (3.24	884) 1180	43 (86	[illegible] (504	3.8 (5.1)	7.5 7.6
[illegible] 2.45 (3.31	912 (1310	26 (84	742 1781	2.1 (2.7	7.5 6.7
[illegible] 2.56 - 3.24	855 1057	37 (80	982 1613	3.1 - 5.6	7.5
[illegible] 2.48 (3.24	[illegible]	40 (74	1114 (1687	2.6 - 3.7	7.1
[illegible] 2.4 (3.17)	1057 (1732	38 (78	[illegible] (1813	1.4 (1.5	7.4 6.8
[illegible] 2.53 (3.17	[illegible] (1231	44 (73	959 ([illegible])	1.8 (2.9	7.5 6.8
[illegible] 2.58 (3.31	980 (1396	40 (100	[illegible] 896	2.8 (4.1	7.8 7.1
[illegible] 2.48 (3.02	1023 ([illegible]	39 (100	1134 [illegible]	1.5 (2.0)	7.7 6.9
[illegible] 2.44) 3.17 [illegible]	1190) 88[illegible]	34 - 110	[illegible] 45	1.8) 2.4 max	7.6
[illegible] - 2.42 (3.02	702 (10[illegible]	[illegible] (106)	[illegible]	1.6 (2.6)	7.4 (6.9
[illegible] 2.13 (2.88	832 (12[illegible]	[illegible] (34	[illegible]	1.8 (2.6	7.5 - 6.9
[illegible]					
[illegible]					
Dec -					
27.07	10289	411	9194	25.	
2.48	1023	39	1134	26.5 ÷	
29.55 ÷	11312 ÷	450 ÷	10328	2.2	
2.46	943	38	861		

NATURAL RESOURCES COMMISSION
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MWRC

DEPARTMENT OF NATURAL RESOURCES
Howard A. Tanner, Director

WATER RESOURCES COMMISSION
4050 Plainfield Avenue, N. E.
Grand Rapids, Michigan 49505

September 17, 1975

Plainwell Paper Company, Inc.
Division of Nicolet Paper Co.
Plainwell, Michigan 49080

Attention: Mr. James C. Farrand, Director
Research and Development

Dear Mr. Farrand:

Enclosed are two copies of an industrial wastewater survey report completed in May 1975 at the Plainwell mill.

The suspended solids in 002 are high, and based on the flow volume would not be attributed to storm water. Therefore, the concentration resulted from floor losses. I assume there has been progress in this area to control the quality in 002.

The fecal coliform from samples reported in table #3 are of concern and efforts should be made in this area to assure that all human sewage is directed to the Plainwell sanitary sewer.

Very truly yours,

WATER RESOURCES COMMISSION

Chester Harvey

Chester Harvey,
Basin Engineer

CH/mc
Enclosures
cc: Karl Zollner

MICHIGAN
THE GREAT LAKE STATE
4/74

14966

August 6, 1975

MICHIGAN WATER RESOURCES COMMISSION
BUREAU OF WATER MANAGEMENT
ENVIRONMENTAL PROTECTION BRANCH
DEPARTMENT OF NATURAL RESOURCES

Report of an
Industrial Wastewater Survey
Conducted at
PLAINWELL PAPER-DIVISION OF NICOLET PAPER CO.
All Outfalls No. 030027
Allegan County
Plainwell, Michigan
May 13-14, 1975

Survey Summary

Wastewater monitoring was performed during one twenty-four hour survey period starting Monday, May 13, 1975.

The results of this survey met the initial limitations in the facility's National Pollutant Discharge Elimination System Permit (NPDES), No. MI 0003794, (Table 5).

A comparison of survey results with the data reported on the monthly operating report can be seen in table 5. Staff obtained higher suspended solids and settleable solids loadings for outfall 005. The company reported higher oil & grease concentrations than found by staff at all the outfalls. Staff's flow for outfall 003 was higher than the company's.

No significant concentrations of PCB's or phthalates were found at outfall 005 (Table 1).

Comparison of the company's results with the WRC lab results on the split sample provided by staff can be seen in table 6. Staff found higher suspended solids concentration for outfalls 005 & 002 while finding lower concentrations for outfall 004. Staff found higher volatile solids for outfall 004, 003 & 002.

Comparison of this survey's results to that collected on the May 1974 survey, can be seen in table 7. Higher suspended solids concentrations were found on this survey in outfalls 005, 004 & 003. Phosphorus concentrations in 002 & 004 are higher.

Purpose of Survey

The purpose of the survey was to determine the quality and quantity of wastewater being discharged by Plainwell Paper Company, a principle discharger, to the Kalamazoo River.

Plant Processes

Plainwell Paper Company manufactures a variety of specialty papers for books, release backings and electrophotographic uses. The mill's operation was a normal 24-hour a day, 5 days per week employing 200 people. Production during the surveys was considered average at 150 total tons per day.

Sulfite and sulfate pulp are the principle raw materials utilized in the plant. The pulp is combined with slurry clay, titanium dioxide, alum and dyeing agents in the hydropulpers. The blended stock flows through a header drop chest and refiners to the machine chest. Three paper machines form the product applying various coatings, brighteners and seizing compounds throughout their operation. The finished stock is either warehoused or cut to customer specifications and shipped.

The coatings, brighteners and siezing compounds contain trace amounts of critical materials such as antimony, cadmium, chromium, nickel, selenium, silver, sulfides, phenols, thallium, phthalates and cyanide. Trace amounts of arsenic, cadmium, copper, lead, mercury and polychlorinated biphenyls are also found in the hardwood pulp used for the paper. These materials were sampled for during the May 1974 surve, and no significant concentrations were found.

Water Supply, Wastewater and Treatment

Plainwell Paper Company obtains its cooling and process water supplies from three company wells. An ion exchange unit softens water for use in the paper coatings. The domestic water supply is obtained from the city.

Cooling water is utilized within the mill for cooling bearings and vacuum pumps on the paper machines and also to cool condensers and air compressors. Cooling water from No. 2 paper machine is normally discharged through Outfall 030052(002), however this machine was shut down at the time of the survey. Machines No. 3 and No. 4 discharge cooling water through Outfall 030136(003). Both Outfalls 030052(002) and 030136(003) receive floor and roof drainage. Outfall 030136(004) discharges condenser cooling water and boiler condensate along with floor drainage. Air compressor cooling water is contained in a recirculating system.

Process wastewater is derived from the paper machines. Each paper machine discharg its white water from its couch pit to a disc type save-all. Solids from the save-a are introduced back to the machine chest while the water, depending on the paper's grade, is recycled back to the regulators and blend chest for pulp make-up. Excess wastewater from the save-alls is discharged to the wastewater treatment system along with water softener backwash, boiler blowdown and some floor drainage.

The treatment system receives the wastewater from a sump in the plant. Wastewater is pumped from the sump to the primary clarifier, where a floculating agent is adde After primary treatment, the process wastewater enters the oxidizing aeration lagoon shown on Figure 1 and then the final clarifier. The final clarifier dischar directly to the Kalamazoo River through Outfall 030049 (005).

Sludge derived from the primary clarifier along with a portion from the final clarifier is pumped to the sludge lagoons shown on Figure 1. The remaining sludge from the final clarifier is returned to the aeration lagoon as mixed liquor.

14967

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Supernatant from the sludge lagoons is pumped to the aeration lagoon while the solids are dredged out and disposed of in a landfill two miles west of the plant site.

All domestic wastes derived within the mill are disposed to the city sanitary system.

Survey Procedure

A 6 inch rectangular weir with end contractions was installed at Outfall 030052(002). The existing 3 foot rectangular weir on Outfall 030049(005), the 17 inch rectangular weir on Outfall 030135(004), and the 12 inch rectangular weir on Outfall 030136(003), all with end contractions were utilized for flow measurement during the survey period.

Each weir was equipped with a water level recorder and an automatic sampler. The water level recorder provided a continuous account of the liquid level or head above the crest of each weir on a head versus time graph for the duration of the survey period. The total volume of wastewater over the weir during the survey period was computed from the graph. The automatic samplers obtained samples proportional to the instantaneous flow over each weir at 12, 15, 4 and 6 minute intervals respectively. These individual samples were deposited in a clean container to make up a composite sample representative of the total flow over each weir during the survey period.

A 24-hour composite sample for PCB's and phthalates was obtained from Outfall 030049 (005) by depositing one liter grab samples obtained at three intervals during the survey into a glass container.

Individual grab samples were collected from all outfalls for selected physical, chemical and bacteriological analyses.

All samples collected were preserved according to Table 8.

The composite and grab samples were transported to the Bureau of Water Management laboratory located in Lansing for selected quantitative physical and chemical analyses. The following formula was used to compute the pounds per day of various wastewater constituents discharged:
lbs/day = flow (mgd) x conc. (mg/l) x unit weight of water (8.34 lbs/gal).

The bacteria samples were transported to the Michigan Department of Public Health, Bureau of Laboratories located in Lansing for selected quantitative bacteriological analyses.

The results of the physical, chemical and bacteriological analyses are presented in Tables 1-4.

Table 1 Quantitative analyses of the one/24-hour composite samples collected from Plainwell Paper Company, Inc. discharge, #030049, #030135, to Kalamazoo River to determine the concentration of the wastewater constituents present in the samples, plus the computed pounds per day (lbs/day) of these constituents being discharged. Also noted are the highest and lowest flow rates recorded during the respective survey periods.

Survey Period	030049(005)		030135(004)	
From	12:00 Noon, 5/13/75		1:00pm, 5/13/75	
To	11:45pm, 5/14/75		2:00pm, 5/14/75	
Total flow monitored (gal)	1,560,000		110,800	
Computed flow rate (mgd)*	1.57		0.111	
Highest flow rate (mgd)	2.53 @11:34pm		0.212 @3:17am	
Lowest flow rate (mgd)	1.05 @ 4:21am		0.026 @2:43am	
pH	7.2		8.8	
	mg/l	lbs/day	mg/l	lbs/day
5-day BOD	67	820	12	11
COD	240	3140	77	71
Total solids	696	9090	2260	2090
Total volatile solids	304	3970	408	377
Suspended solids	122	1590	29	27
Suspended volatile solids	70	910	-	-
Dissolved solids	596	7750	2230	2050
Dissolved volatile solids	180	2350	-	-
Settleable solids	22	290	-	-
Soluble orthophosphate-P	0.01	0.13	0.34	0.31
Total phosphorus-P	0.35	4.6	0.44	0.41
Nitrate nitrogen-N	0.01	0.13	0.75	0.69
Ammonia nitrogen-N	0.09	1.2	0.04	0.04
Organic nitrogen-N	5.3	69.0	2.1	1.9
Phenols	0.05	0.65	-	-
	ug/l	lbs/day		
PCB's	<.01	-	-	-
DBP	5.6	0.07	-	-
BBP	<3.0	-	-	-
DEHP	3.3	0.04	-	-

* Flow rates used in the computation of lbs/day.

Table 2 Quantitative analyses of the one/24-hour composite samples collected from Plainwell Paper Company, Inc. discharge, #030135, #030052, to Kalamazoo River to determine the concentration of the wastewater constituents present in the samples, plus the computed pounds per day (lbs/day) of these constituents being discharged. Also noted are the highest and lowest flow rates recorded during the respective survey periods.

Survey Period	030135(003)		030052(002)	
From	2:30pm, 5/13/75		2:35pm, 5/13/75	
To	2:15pm, 5/14/75		2:35pm, 5/14/75	
Total flow monitored (gal)	244,000		33,000	
Computed flow rate (mgd)*	0.244		0.033	
Highest flow rate (mgd)	0.280 @3:51am		0.037 @5:46pm	
Lowest flow rate (mgd)	0.193 @0:13am		0.031 @5:51pm	
pH	7.8		6.9	
	mg/l	lbs/day	mg/l	lbs/day
5-day BOD	<5	-	<5	-
COD	14	28	85	24.0
Total solids	412	837	608	169
Total volatile solids	116	236	188	52
Suspended solids	4	8	92	26
Dissolved solids	400	813	488	136
Soluble orthophosphate-P	< 0.01	-	< 0.01	-
Total phosphorus-P	0.03	.06	0.40	0.11
Nitrate nitrogen-N	0.59	1.20	0.65	0.18
Ammonia nitrogen-N	0.04	.08	0.03	0.01
Organic nitrogen-N	0.23	.47	0.27	0.08

Table 3 Quantitative analyses of grab samples collected from Plainwell Paper, Plainwell discharges, #030049(005), 030135(004), 030136(003), 030052(002) to determine concentrations of the bacteriological constituents present in the wastewater.

Outfall	Time	Date	Temp.	Total Coliform cts/100 ml	Fecal Coliform cts/100 ml
030049(005)	4:15am	5/13/75	21	6,800,000	78,000
030049(005)	9:20pm	5/13/75	20	7,000,000	72,000
030049(005)	7:50am	5/14/75	20	2,800,000	24,000
030049(005)	11:45am	5/14/75	24	1,900,000	9,000
030135(004)	4:35pm	5/13/75	30	160,000	1,600
030135(004)	8:10am	5/14/75	28	57,000	10
030135(004)	2:00pm	5/14/75	30	16,000	40
030136(003)	4:37pm	5/13/75	14	780,000	3,800
030136(003)	8:15am	5/14/75	12.5	22,000	460
030136(003)	2:07pm	5/14/75	14	14,000	330
030052(002)	4:40pm	5/13/75	23	1,000	<10
030052(002)	8:30am	5/14/75	21	2,000	<10
030052(002)	2:10pm	5/14/75	22	1,000	<10

Table 4 Quantitative analyses of grab samples collected from Plainwell Paper, Plainwell discharges, #030049(005), #030135(004), #030136(003), #030052(002), to the Kalamazoo River to determine concentrations of select physical and chemical constituents present in the wastewater.

Outfall	Time	Date	Temp.	pH	BOD5	Oil mg/l
030049(005)	4:15pm	5/13/75	21	7.1	-	4
030049(005)	11:45am	5/14/75	24	7.0	-	2
030135(004)	4:35pm	5/13/75	30	9.4	-	<1
030135(004)	8:10am	5/14/75	28	9.4	-	<1
030136(003)	4:37pm	5/13/75	14	7.9	<5	3
030136(003)	8:15am	5/14/75	12.5	7.5	<5	2
030052(002)	4:40pm	5/13/75	23	6.9	<5	<1
030052(002)	8:30am	5/14/75	21	6.4	<5	1

Source	Parameter (Unit)	Limitations Average	Limitations Maximum	Monthly Operating Report 5/13/75	5/13/75	Monthly Avg.	Grab Sample Results	Composite Sample
030049(005)	pH	6.5 -	9.5	7.2	7.4	7.5	7.1-7.0	7.2
	Flow (mgd)			1.37	1.73	1.45	-	1.57
	BOD_5 (lbs/day)	1675	2260	641	852	943	-	880
	Total Suspended Solids (lbs/day)	1525	2500	450	173	1007	-	1590
	Settleable Solids (lbs/day)	-	-	0	0	5	430-260	290
	Oil & Grease (mg/l)	-	-	13.0	-	9.5	2-4 mg/l	-
030135(004)	pH (Range) (Su)	6.5 -	9.5	8.5	-	8.2	9.4-9.4	8.8
	Flow (mgd)	-	-	-	0.11	0.10	-	0.11
	BOD_5 (lbs/day)	-	160	9	-	7	-	11
	Total Suspended Solids (lbs/day)	-	45	76	-	4	-	27
	Oil & Grease (mg/l)	-	-	14.1	-	11.8	<1 mg/l	-
		Mon. Avg.	Mon. Max.					
030136(003)	Flow (mgd)	-	-	-	0.11	0.15	-	0.24
	BOD_5 (mg/l)	-	-	4	-	4	<5-<5	<5
	Oil & Grease (mg/l)	-	10	12.9	-	10.9	2-3	-
	pH (Range) (Su)	6.5-9.5		7.7	-	-	7.9-7.5	7.8
030052(002)	Flow (mgd)	-	-	-	0.03	0.03	-	0.033
	BOD_5 (mg/l)	-	-	4	-	4	<5-<5	<5
	Oil & Grease (mg/l)	-	10	16.5	-	16.5	<1-1	-
	Temperature (°F)	-	85	NR	NR	NR	73-70	-
	pH (Range) (Su)	6.5-9.5		-	-	-	6.9-6.4	6.9

NR - Not reported.

Table 6. Comparison of lab results obtained by Platmell Paper Company and the NRC lab on the split samples collected by staff.

Survey Period	Platmell Paper Lab Analysis	030049(005) NRC Staff Analysis	Platmell Paper Lab Analysis	030135(004) NRC Staff Results
From	12:00 Noon, 5/13/75	-	1:30pm, 5/13/75	-
To	11:45pm, 5/14/75	-	2:00pm, 5/14/75	-
pH	7.3	7.2	8.5	8.8
	mg/l	mg/l	mg/l	mg/l
5-day BOD	56	67	10	12
Total solids	720	696	2436	2260
Total volatile solids	-	-	83	406
Suspended solids	52	122	83	28
Suspended volatile solids	60	70	-	-
Dissolved solids	668	594	-	2230

Survey Period	030136(003)		030052(002)	
From	2:30pm, 5/13/75		2:35pm, 5/13/75	
To	2:15pm, 5/14/75		2:35pm, 5/14/75	
pH	7.7	7.8	7.3	6.9
	mg/l	mg/l	mg/l	mg/l
5-day BOD	4	<5	4	<5
Total solids	408	412	588	636
Total volatile solids	1	116	13	128
Suspended solids	1	4	96	25

14970

Table 7. Comparison of the data compiled from the previous survey at Platinwell Company in May, 1974, with the results obtained from this current survey.

	Process Waste Water 030049(005)				Cooling 030135(004)	
Survey Period						
From	5/20/74	5/21/74	5/13/75	5/20/74	5/21/74	5/13/75
To	5/21/74	5/22/74	5/14/75	5/21/74	5/22/74	5/14/75
Computed Flow rate (mgd)*	2.43	2.17	1.57	.251	.235	.212
pH	7.3	6.7	7.2	7.6	7.6	8.8
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
5-day BOD	86	96	67	<5	8	12
COD	150	182	240	11	15	17
Total solids	460	700	696	572	598	2260
Total volatile solids	216	264	304	260	180	408
Total nonvolatile solids	244	436	-	312	418	-
Suspended solids	[illegible]	26	122	14	6	29
Suspended volatile solids	84	24	70	13	-	-
Suspended nonvolatile solids	6	2	-	1	6	-
Dissolved solids	370	674	596	558	592	2230
Dissolved volatile solids	132	240	180	247	180	-
Dissolved nonvolatile solids	238	434	-	311	412	-
Settleable solids	30	6	22	-	-	-
Soluble orthophosphate-P	0.01	0.63	0.01	0.01	0.01	0.34
Total phosphorus-P	0.20	2.2	0.35	0.01	0.04	0.44
Nitrate nitrogen-N	0.10	0.06	0.01	0.98	1.3	0.75
Ammonia nitrogen-N	0.11	0.44	0.09	<.01	0.06	0.04
Organic nitrogen-N	2.8	20	5.3	0.76	0.52	2.1

* Flow rates used in the computation of lbs/day.

Table 7. (con't)

	Cooling Water Outfall 030136(003)			Cooling Water Outfall 030052(002)		
Survey Period						
From	5/20/74	5/21/74	5/13/75	5/20/74	5/21/74	5/13/75
To	5/21/74	5/22/74	5/14/75	5/21/74	5/22/74	5/14/75
Computed Flow rate (mgd)*	0.251	0.206	0.244	0.225	0.228	0.033
pH	7.4	7.4	7.8	7.4	7.2	6.9
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
5-day BOD	<5	<5	<5	<5	<5	<5
COD	9	<5	14	7	<5	85
Total solids	[illegible]	280	412	760	288	608
Total volatile solids	[illegible]	80	116	364	96	188
Total nonvolatile solids	[illegible]	220	296	396	192	420
Suspended solids	[illegible]	1	4	17	9	92
Dissolved solids	[illegible]	279	400	743	279	488
Soluble orthophosphate-P	[illegible]	<0.01	<0.01	0.01	0.04	<0.01
Total phosphorus-P	[illegible]	0.03	0.03	0.22	0.09	0.40
Nitrate nitrogen-N	[illegible]	1.1	0.59	0.91	3.5	0.65
Ammonia nitrogen-N	[illegible]	0.01	0.04	0.02	0.04	0.03
Organic nitrogen-N	0.59	0.14	0.23	0.32	0.24	0.27

* Flow rates used in the computation of lbs/day.

Table 8. Sample Preservation

Parameter	Preservative
BOD	Cooled to 4°C.
COD	5 drops 1:1 H_2SO_4/125 ml. Cooled to 4°C.
General Chemistry	Cooled to 4°C.
Microbiology	2 drops 10% sodium thiosulfate/125 ml to dechlorinate sample. Cooled to 4°C.
Pesticides, PCB's, Phthalate	100 ml hexane.
Phenolics	2 ml 10% $CuSO_4$ + H_3PO_4 (to pH 4)/250 ml. Cooled to 4°C.

Survey by: Thomas Polasek, Sanitary Engineer
John Kraft, Water Quality Investigator
Richard Irvin, General Foreman

Chlorinated Hydrocarbon Analyses by: Christine Kazen, Chemist

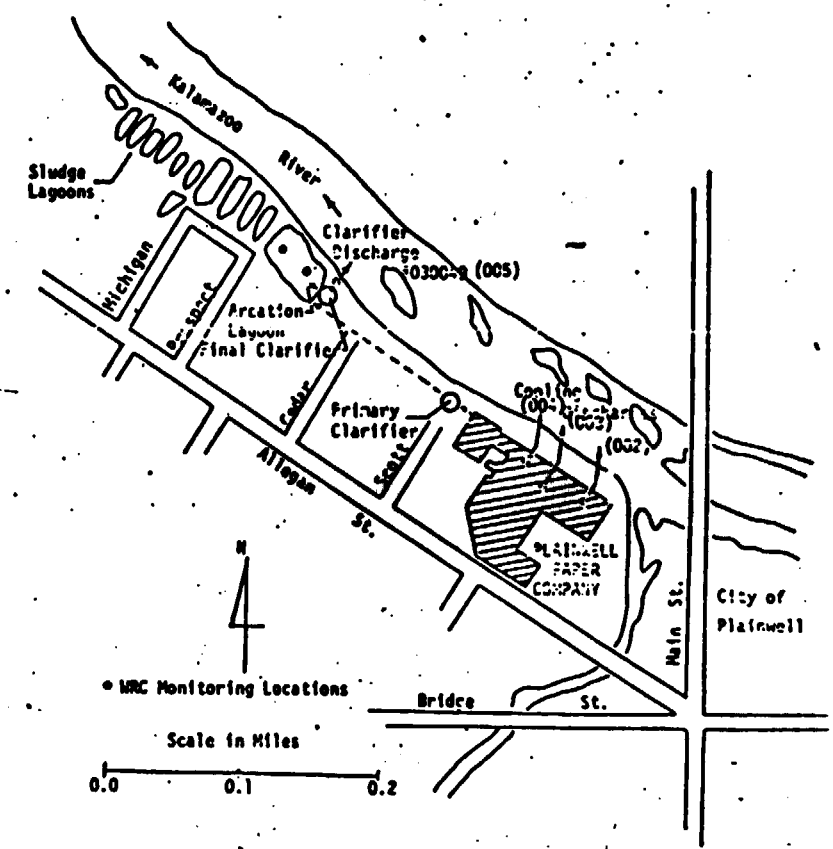
Physical & Chemical Analyses by: James Bedford, Chemist

Bacteriological Analyses by: Michigan Department of Public Health
Bureau of Laboratories

Report by: Thomas Polasek, Sanitary Engineer
Point Source Studies Section
Michigan Water Resources Commission
Bureau of Water Management
Environmental Protection Branch
Department of Natural Resources

Figure 1

Plainwell Paper Company
Outfalls-May 1974



14972

INTER-OFFICE CORRESPONDENCE

Jim Kurtzweil-Milw.
Jim Kieckhefer-Milw.
Jim Ishmael
Kirby Brown
Carl Gren

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Industrial, Incorporated

TO: Sam Taylor

DATE: August 11, 1981

FROM: George W. Lawton

SUBJECT: DNR Resource Recovery Division Conference

On Friday, August 8, 1981, John Fleckenstein and I met with regional and state representatives of the DNR Resource Recovery Division to discuss the possibility of continuing use of our present sludge disposal area. Three conclusions were drawn from the conference.

1. There are no circumstances under which Resource Recovery Division will agree to allow us to continue to use the site without a license.

2. They will work actively to deny us a license if we apply for one.

3. Resource Recovery Division is not interested in the closure of the site. They want to leave that up to Water Quality Division.

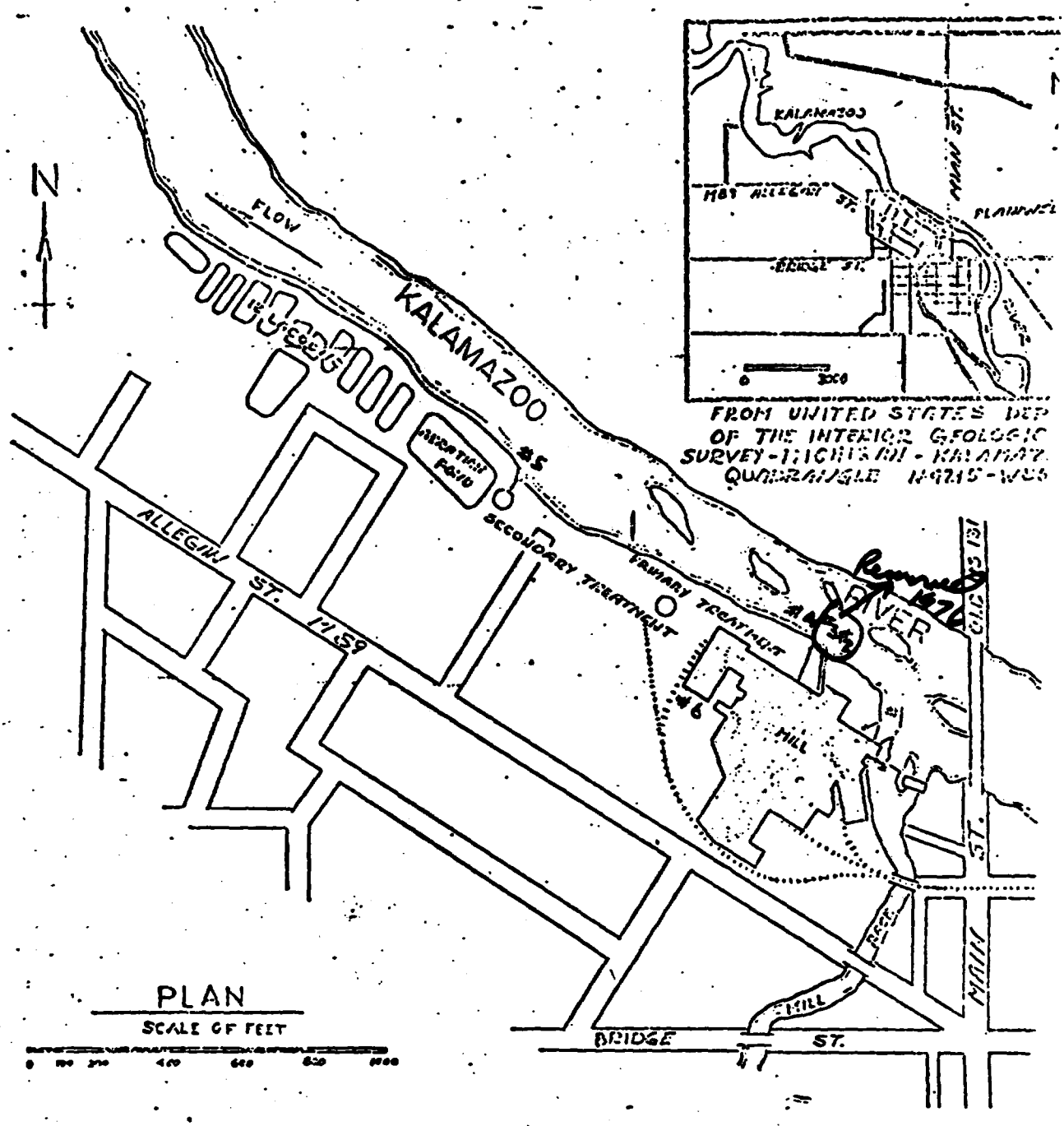
We met with the three people who are most involved in our situation. They were Mr. Ron Mosier, Region 3 Supervisor (from Lansing), Mr. Gerald Heyt, District Supervisor and Ms. Elizabeth Bols, Environmental Sanitation (both from Grand Rapids).

The most important result of the conference is that as soon as we have thickened sludge, we will have to dispose of it elsewhere. The other important result is that the Water Quality people will be responsible for overseeing the closure of the existing site. Since they have no rules covering such a situation, it may be that no closure will be required. We will need to discuss our position on this within the company.

George

George Lawton

5 14973



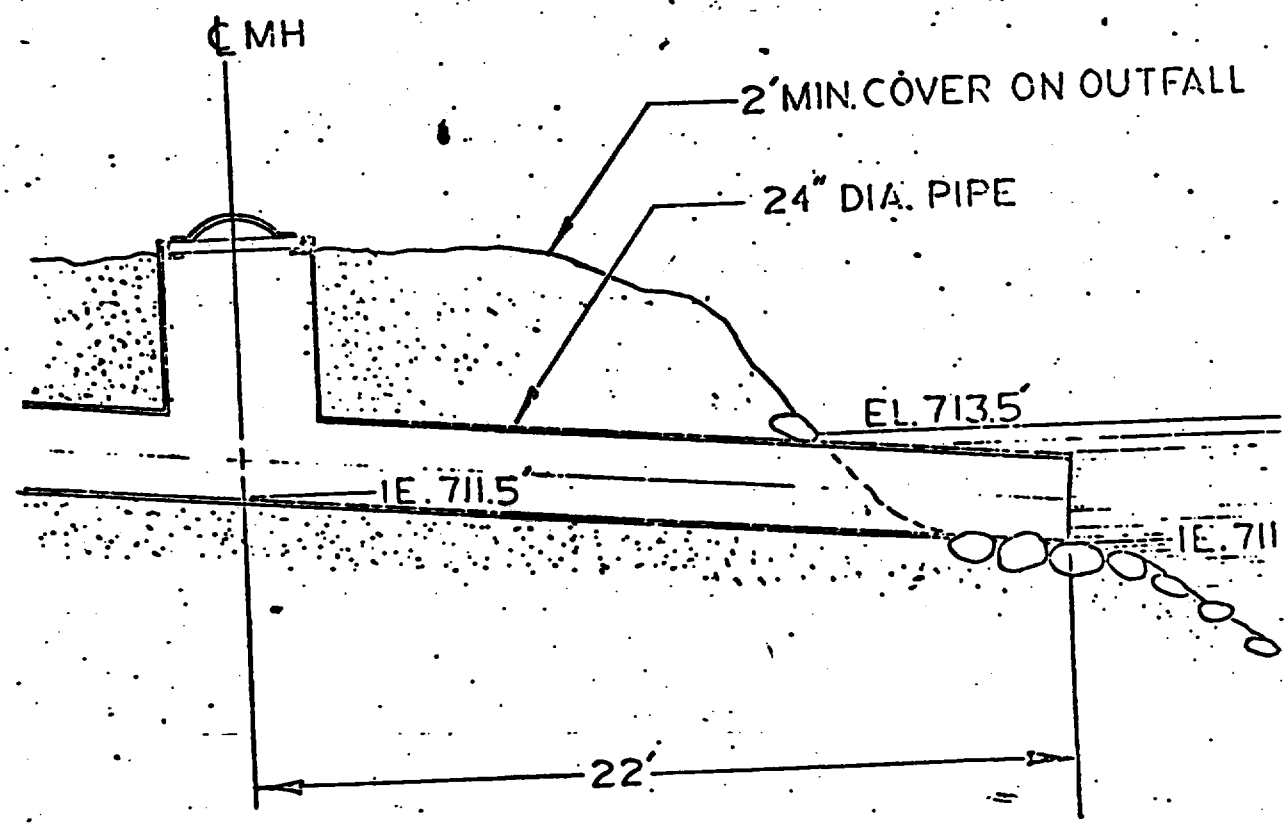
NOTE ELEVATIONS SHOWN ON THE FOLLOWING PAGES ARE TAKEN FROM U.S.G.S BENCH MARK NUMBER F 170

EXISTING OUTFALL & DISCHARG
IN THE KALAMAZOO RIVER
AT THE VILLAGE OF PLAINWE
ALLEGAN COUNTY, MICHIGAN

APPLICATION BY _____

SHEET 1 OF 5 DATE _____

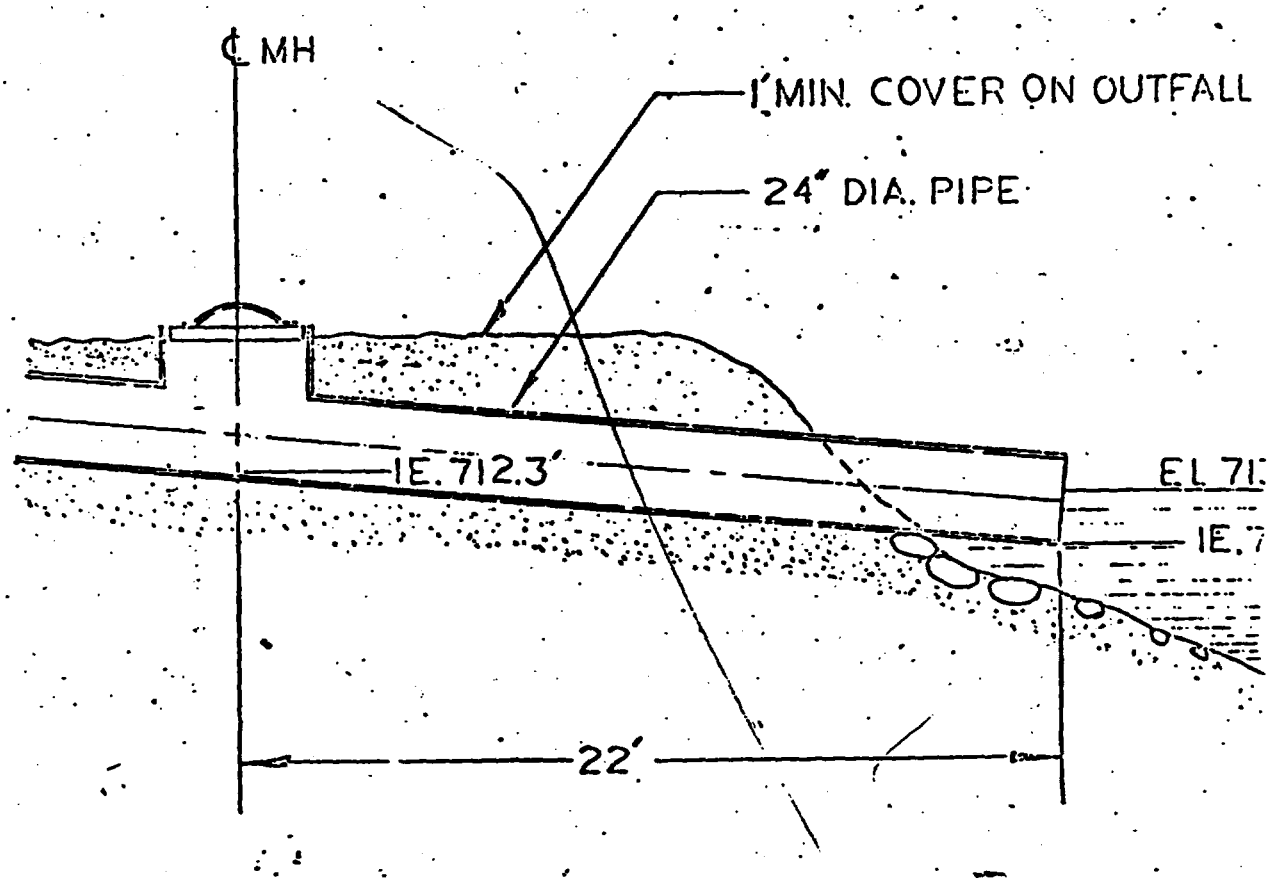
PROFILE #2 OUTFALL
CLEAR WATER SEWER



SHEET 2 OF 5

PROFILE #3 OUTFALL

CLEAR WATER SEWER



SHEET 3 OF 5

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926
HOWARD A. TANNER, Director

May 30, 1980

3 or 4 dilutions should be different amounts.
Example - 2 - 3 - 4 - 5 ml
& not 2-5, 2-5.

Carl A. Gren
Waste Water Treatment Superior
Plainwell Paper Co., Inc.
Plainwell, MI 49080

Dear Mr. Gren:

It was a pleasure meeting you and your associate last week and demonstrating our biochemical oxygen demand procedure. When you left, there appeared to be a couple minor changes you were going to investigate. The results of the samples set during your visit are as follows:

Sample Source	ml sample/ 60 ml bottle	Initial DO	Final DO	Calculated BOD
Plainwell Paper 030135	2	9.05	4.55	90
" "	5	9.0	1.00	79
" "	2	8.85	4.5	88
" "	5	8.85	1.05	76
Seed	2	8.85	5.7	43
"	4	8.8	5.1	34
"	6	8.65	3.9	34
"	8	8.65	2.95	33
Glucose-Glutamic Acid	.5	8.9	5.5	222
"	1.0	8.9	3.8	214
"	1.5	8.85	2.4	197
Blanks Contaminated	60	8.9	8.15	.75
" Blanks	60	8.9	8.2	.7

Should be 3 or 4 actual diff. dilution

Should not use

The seed concentration was 1.5 ml per 60 ml of dilution water. When 10 and 25 ml of sample were used, over-depletion occurred. The values based on 2 ml of sample (90 and 88 mg/l) appear most valid. The 5 ml of sample bottles are marginably overdepleted.

Please call me at (517) 373-2197 if I can be of further assistance.

Very truly yours,

ENVIRONMENTAL SERVICES DIVISION

John H. Peck

John H. Peck, Lab Scientist
Environmental Laboratory

Copy: M. Sprint
G. Lawton
J. Peck

MICHIGAN
THE GREAT LAKE STATE
R1026 1/75

JP:bm

5 14977

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

June 29, 1982

Mr. Carl A. Gren
120 Pinecrest Dr
Plainwell, MI 49080

Dear Mr. Gren:

With the recommendation of the Board of Examiners and with the authority granted by the Natural Resources Commission, you are hereby granted a continuance of your certification in the treatment plant classifications listed below.

A-1b, C-1b

This certification is to be considered valid for all facilities with the same classifications as indicated and is to remain in effect until July 1, 1987, unless revoked for a just cause as set forth in the rules of the Water Resources Commission being Part 10 of the said rules.

An official certificate is enclosed. Your designated certificate number will continue to be the same, W-483, and should be included with your signature when signing and submitting all operating reports.

Sincerely,

Howard A. Tanner
Director

MICHIGAN

R1026 10/76

14978

State of Michigan
Department of Natural Resources

This is to certify that

CARL A. GREN

is qualified under the rules governing the certification of
Waste Treatment Plant Operators
to operate any
Industrial or Commercial treatment facility
of the classifications listed hereunder

Classification

A-1B, C-1B

Certificate No. W-483 Director Howard A. Tanner

Expiration Date July 1, 1987

R4627-1

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149279

6/15

Carl

I wasn't sure if you had a copy of this so I made one if you'd like to keep it. If not, just throw it away.

J

INDUSTRIAL WASTEWATER TREATMENT PLANT OPERATORS

Application for Certification Renewal

NAME: GREN (Last) CARL (First) A. (Middle)

HOME ADDRESS: 120 PINECREST DRIVE (Street Number, Street)

PLAINWELL (City) MICHIGAN (State) 49080 (Zip Code)

SOCIAL SECURITY NUMBER: 372-32-4664

CERTIFICATE NUMBER: W-483

CLASSES CERTIFIED IN: A-1b C-1b

NAME AND ADDRESS OF PRESENT EMPLOYER: PLAINWELL PAPER CO.
2000 ALLEGAN STREET
PLAINWELL, MICHIGAN 49080

ADDRESS OF WORK STATION IF DIFFERENT FROM ABOVE: 127 CEDAR STREET
PLAINWELL, MICHIGAN 49080

ARE YOU PRESENTLY IN THE WASTEWATER TREATMENT FIELD? YES

ARE YOU THE DESIGNATED OPERATOR (the individual designated to sign the monthly operating reports)? YES

Carl A. Gren
Signature

6/4/82
Date

RETURN THIS FORM TO:

X Training & Certification Section
Water Quality Division
Department of Natural Resources
Box 30028, 8th Floor Mason Building
Lansing, Michigan 48909

5 14981

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
CARL T. JOHNSON
E.M. LAITALA
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

June 9, 1982

Returned 7/21/82

Mr. Carl Gren
Plainwell Paper Company
200 Allegan Street
Plainwell, Michigan 49080

Dear Mr. Gren:

Enclosed are draft copies of the plant processes and water supply, wastewater and treatment sections along with a process diagram from our forthcoming report on the wastewater survey conducted at your plant May 18-19, 1982. Please review these materials and give us your comments by June 30, 1982.

We do have a few follow-up questions:

1. Is a bleaching agent used? If so, what is used and where is applied?

2. Do you have a list of the dyes and pigments used in the process? If so, please send us a copy.

3. Are sizing agents other than alum used in the process? If so, which ones and are they slurried in or coated on?

We'd appreciate your response to these questions along with your comments for the report materials.

Thank you for your cooperation.

Sincerely,

ENVIRONMENTAL SERVICES DIVISION

Martin E. Rock, P.E.
Environmental Engineer
Point Source Studies Section

MER:mm
cc: M. Spruitt, WQD, Grand Rapids
Enc.

MICHIGAN
THE GREAT LAKE STATE

R1028 1/79

5 14982

Plant Processes

Plainwell Paper Company manufactures a variety of specialty papers for books, release backings and electrographic uses. The mill operates 24 hours per day, 7 days per week and employs approximately 360 people.

Paper is manufactured from sulfite and sulfate pulp which is purchased from elsewhere. The pulp is slurried in hydropulpers and blended with such things as water insoluble pigments and direct dyes (which are alkaline salts of higher molecular weight dye sulfonic acids that will dye the fiber "direct" without dyeing assistants); alum to set the dyes and for sizing; calcium carbonate for filler and pH control and titanium dioxide and kaolin slurry clay for brightness and opacity. (Sizing is the process in which a chemical additive provides paper with resistance to wetting and penetration, usually by aqueous liquids[1]). The slurry clay and pigments may contain measurable amounts of heavy metals. After blending the furnish flows to a beater chest and to refiners wherein relatively long, smooth, stiff fibers are mechanically transformed into shorter, fibrillated, more flexible fibers to give the paper its desired properties and strength.

The blended and refined stock then flows to a machine chest on one of three Fourdrinier paper machines which form the paper products. In the Fourdrinier operation, dilute pulp, about 0.5 percent consistency, flows from the headbox onto an endless fine screen called a "wire". The wire permits water to drain through and retains the fiber layer. A suction pick-up roll transfers the sheet from the wire to presses which enhance density and smoothness and remove additional water. The paper mat leaves the "wet end" of the machine at about 35 to 40 percent consistency and goes through dryers in the "dry end". The dryers are followed by calendar stacks which give the paper a smooth firm surface after which various coatings, brighteners and sizing compounds are applied and the roll is rewound. The finished product is either warehoused, cut and shipped or shipped without cutting.

A process diagram is given in Figure 1.

Water Supply & Wastewater Treatment

Plainwell Paper Company obtains its process and cooling water from three operating wells (2 @ 2500 gpm and 1 @ 800 gpm). Two other dormant water supply wells are located at the plant but have not been used for quite some time. An ion exchange unit softens water for use in the paper coatings. Domestic water is supplied and domestic wastewater is treated by the City of Plainwell.

Cooling water is used within the mill for cooling bearings and heat exchangers on the paper machines, for cooling some small air compressors, for jacket cooling water on the starch coolers and for the measurex computer cooling system. Cooling water from these sources and roof drainage are discharged to the Kalamazoo River via outfall 030135 (004).

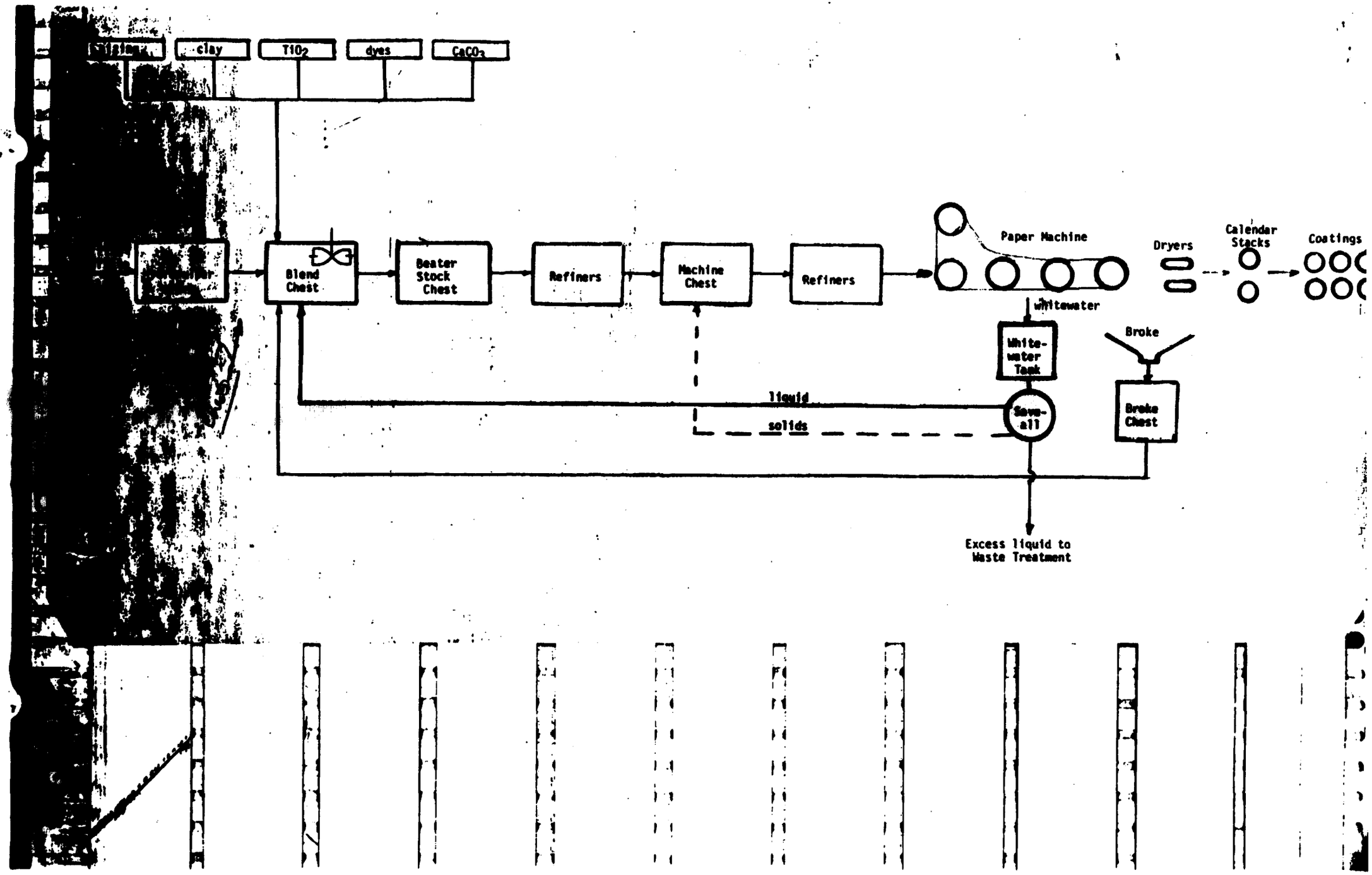
[1] Britt, K.W., Pulp and Paper Technology, Second Edition

Process wastewater is derived from the paper machines. Each paper machine discharges its whitewater from a couch (pronounced kooch) pit to a disc type save-all. The save-all separates the whitewater solids from the liquid portion. The whitewater solids are introduced back into the machine chest. The remaining liquid portion, depending on the paper grade, is recycled back to the regulators and blend chest for pulp make-up. Excess wastewater from the save-alls is discharged to the wastewater treatment system along with softener backwash, boiler blowdown, condenser cooling water, compressor cooling water from the large compressors and floor drainage.

The treatment system receives wastewater from a sump in the plant. Wastewater treatment consists of a primary clarifier, aeration lagoon and final clarifier. Phosphoric acid is added as necessary to the aeration lagoon. Wastewater is discharged from the final clarifier through an 18-inch Parshall flume, outfall 030049 (005), to the Kalamazoo River.

Sludge from the primary and final clarifiers is pumped to a holding tank. Sludge is taken from the holding tank and is dewatered in the plant's new sludge dewatering machine (SDM). Dewatered sludge is either taken to a landfill or used commercially (as insulation, etc.). Water from the SDM is returned to the raw mill wastewater line. Sludge lagoons are still available for use in case the dewatering system fails. Some of the sludge from the final clarifier is recycled to the aeration lagoon.

A map of the plant is given in Figure 2.


clay
TiO_2
dyes
$CaCO_3$
Blend Chest
Beater Stock Chest
Refiners
Machine Chest
Refiners
Paper Machine
Dryers
Calendar Stacks
Coatings
whitewater
White-water Tank
Broke
Broke Chest
liquid
solids
Save-all
Excess liquid to Waste Treatment

14985

R 1088

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
BOX 30028
LANSING, MICHIGAN 48909

LANSING, MI 489
PM
10 JUN
1992

ALWAYS
USE ZIP C

Mr. Carl Gren
Plainwell Paper Company
200 Allegan Street
Plainwell, MI 49080

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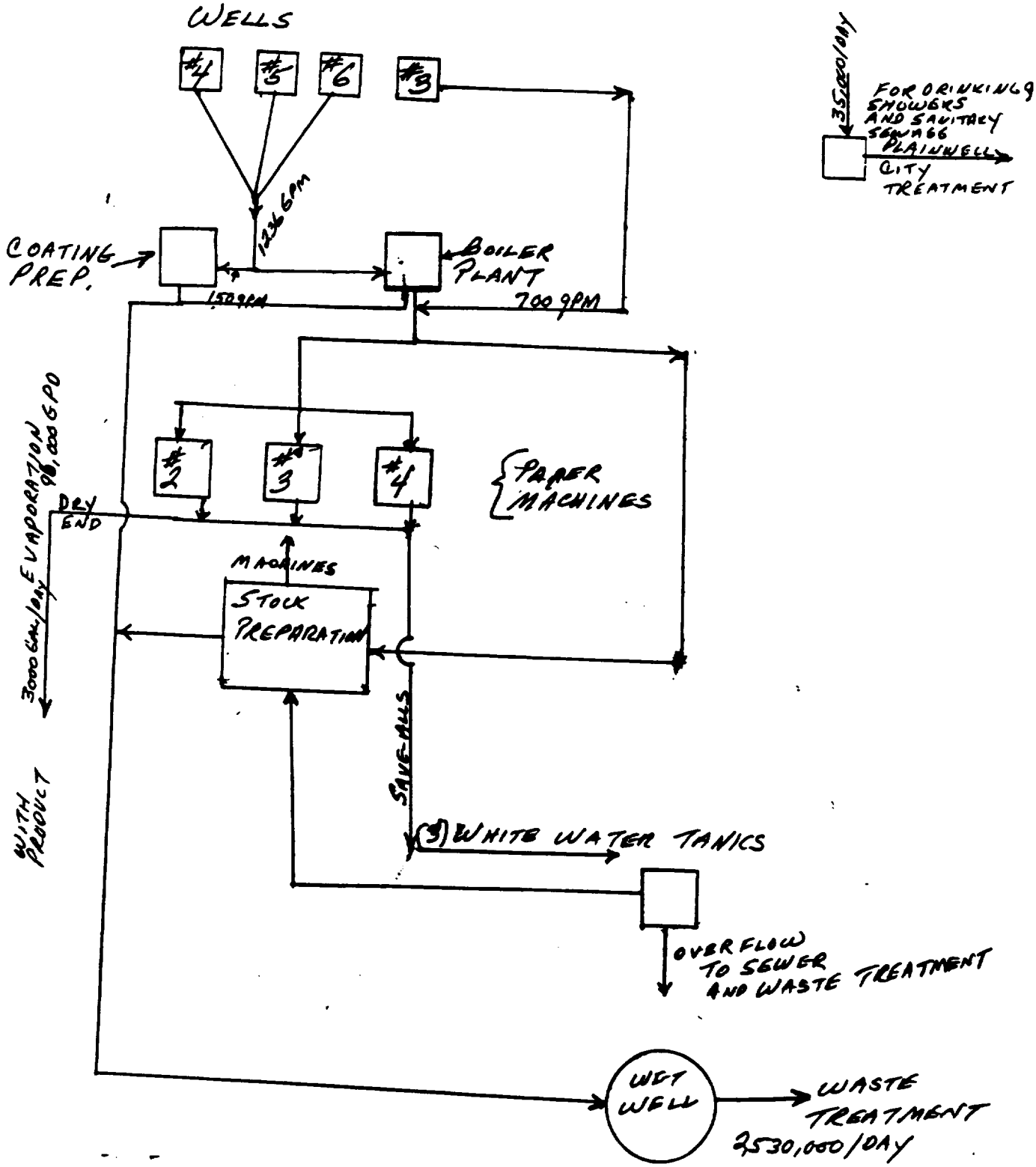
14986

Calcium hypochlorite is used in Paris wastewater.

AAC

OF WATER FLOW

PLAINWELL PAPER CO. INC.



Only I

DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES COMMISSION

DISCHARGE PERMIT APPLICATION

2/74

FOR OFFICIAL USE
HYD.
GEOL.
DIST.
P.N.

Please print or type. The last page of this application contains a list of instructions and other important information. Please read the last page carefully before completing this application.

1. APPLICATION FOR (Check one):

[X] Existing Discharge [ ] New Discharge [ ] Increased Discharge

2. Name of Applicant: PLAINWELL PAPER CO. INC. Telephone No.: 685-5851
No. and Street: 300 ALLEGAN ST. City: PLAINWELL State and Zip Code: MI. 49080

3. (a) TYPE OF LEGAL ENTITY (Check one):

[ ] Sole Owner [X] Corporation [ ] Partnership
[ ] Governmental Unit [ ] Non-Profit Organization

If incorporated, indicate state in which articles of incorporation are filed:

(b) TYPE OF PROPOSED ENTERPRISE (Check one):

[ ] A. Municipal Wastewater, School, Trailer Park [X] C. Manufacturing and Mining
[ ] B. Agricultural, Including Fish Farms [ ] D. Wholesale and Retail Trade, Other Commercial Establishments

(c) DESCRIPTION OF PROPOSED ENTERPRISE:

NON-INTEGRATED SPECIALTY PAPER MILL PRODUCING UP TO APPROXIMATELY 270 TONS PER DAY OF ~~[illegible]~~ AVERAGE PREVIOUS 12 MONTHS production was 214 TONS PER DAY FROM (3) THREE FOURDRINIER PAPER MACHINES AND AN ~~[illegible]~~ IN-MACHINE TRAILING BLADE COATER.

(d) LOCATION OF PROPOSED ENTERPRISE:

Street Address: 300 ALLEGAN STREET City or Village: PLAINWELL
County: ALLEGAN Township: GUN PLAIN Town: Range: Section:

4. SOURCE OF WATER (Example: private well, river, municipal supply):

PROCESS WATER	WELL	Amount (gal/day) 2,530,000
COOLING AND CONDENSING	WELL	Amount (gal/day) 90,000+
DOMESTIC WATER	City of Plainwell	Amount (gal/day) 35,000
OTHER (Specify)		Amount (gal/day)

5. PROPOSED LOCATION OF WASTE DISCHARGE (Example: groundwater, public sewer, county drain, lake; give name where applicable):

PROCESS WATER	KALAMAZOO RIVER	Amount (gal/day) 2,530,000 (3 shifts)
COOLING AND CONDENSING	KALAMAZOO RIVER ~~[illegible]~~	Amount (gal/day) 90,000 (3 shifts)
DOMESTIC WASTE WATER	PLAINWELL ~~[illegible]~~ MUNICIPAL TREATMENT PLANT	Amount (gal/day) 35,000 (3 shifts)
OTHER (Specify)		Amount (gal/day)

5 14989

6. BRIEF DESCRIPTION OF PROPOSED TREATMENT OR CONTROL FACILITIES:

RAW MATERIAL RECYCLED WITHIN PLANT. ~~Waste~~ WATER FLOWS THRU BAR SCREEN TO COLLECT LARGE WASTE. WATER THEN PUMPED TO PRIMARY CLARIFIER WITH SETTLED WASTE TO DEWATERING PONDS. PRIMARY SUPERNATE FLOWS TO AERATION BASIN. BIOLOGICALLY REDUCES WASTES. EFFLUENT FROM THE AERATION BASIN FLOWS BY GRAVITY TO SECONDARY CLARIFIER FOR FURTHER SOLIDS REMOVAL - SOLIDS REMOVED AT BOTTOM IS PUMPED TO EQUAL. PONDS. CLEAR OR SUPERNATE WATER THEN FLOWS TO KALAMAZOO RIVER

(b) DESCRIPTION OF EXPECTED CHARACTERISTICS OF WASTE AFTER TREATMENT (Bacterial, physical, chemical, other):

Process Waste

COOLING AND CONDENSING WATER — List All Additives: Chlorine -

ANTICIPATED TEMPERATURE OF DISCHARGE — Max. Summer 77° °F; Max. Winter 71 °F; Ave. Summer 73° °F; Ave. Winter [illegible] °F

ANTICIPATED TEMPERATURE OF INTAKE: Ave. Winter 55 °F; Ave. Summer 60 - [illegible] °F

SANITARY SEWAGE: PUMPED TO ~~[illegible]~~ PLAINWELL MUNICIPAL TREATMENT PLANT

OTHER (Specify)

7. DISTANCE OF TREATMENT FACILITIES FROM NEAREST WELL:

PRIVATE WELL 2 FEET — MUNICIPAL WELL ~~[illegible]~~ 4424 FEET NORTH MAIN STREET

8. IF SUBSURFACE DISPOSAL OR OXIDATION POND IS PROPOSED, NEAREST DISTANCE TO A SURFACE WATERCOURSE: ~~[illegible]~~ FEET

9. IF DISCHARGE IS TO UNDERGROUND BY INJECTION WELL, INCLUDE COMPLETE DATA AS TO DEPTH AND DIAMETER OF WELL, MATERIALS AND DETAILS OF CONSTRUCTION, DATE OF DRILLING, SCREEN DATA, AND PROPOSED OPERATIONS OF INJECTION WELL ON A SEPARATE FLY SHEET.

N.A.

SEE PREVIOUS PERMIT -

10. Provide herewith, either by drawing in the space below or by attaching a USGS map or county map with appropriate marking, each proposed discharge point for process wastes, cooling waters or sanitary wastes.

~~USE PREV. DESCRIPTION~~

SEE ATTACHED -

11. NAMES AND ADDRESSES OF PROPERTY OWNERS ADJACENT TO PROPOSED ENTERPRISE SEE ATTACHED

Name	Address
CITY OF PLAINWELL	101 NORTH MAIN STREET - PLAINWELL, MI.
QUALITY PRODUCTS SALES AND SERVICE	422 ALLEGAN STREET
ROBERT E. CLARK	127 CEDAR STREET PLAINWELL MICHIGAN

12 FOLLOWING IS A LIST OF CRITICAL MATERIALS. PLEASE INDICATE THE AMOUNT OF THESE MATERIALS USED, OR PROPOSED TO BE USED IN OR INCIDENTAL TO YOUR OPERATIONS.

I. INORGANIC MATERIALS

NAME	AMOUNT (lbs/yr)	NAME	AMOUNT (lbs/yr)
Antimony	0	Mercury	0
Arsenic	0	Nickel	0
Cadmium	0	Selenium	0
Chromium	0	Silver	0
Copper	0	Sulfides	0
Cyanides	0	Thallium	0
Lead	0	Zinc	<500#

II. ORGANIC MATERIALS

NAME	AMOUNT (lbs/yr)	NAME	AMOUNT (lbs/yr)
Acridine	0	Hexachlorobenzene (HCB)	0
Acrolein	0	Hexachlorobutadiene (HCBD)	0
Aldrin	0	Hydroquinone	0
Ammonia [redacted]	250,000 #/YR	Isoprene	0
Amyl Acetate	0	Lactonitrile	0
Anilines (incl. Benzidines)	0	Mesitylene	0
Benzaldehyde	0	Mesityl Oxide	0
Benzene (Solvent)	0	Napthol	0
Benzyl Bromide	0	Naphthenic Acid (Napthalene)	0
Bêta Propriolactone	0	Nitrobenzenes	0
Butyl Alcohol	0	Phenolic Compounds	0
Butyraldehydes	0	Phenanthrene	0
Butyric Acid	0	Phthalates	0
Carbon Disulfide	0	Picrametes (nitro-phenols)	0
Chlorinated Benzene Compounds	0	Polychlorinated biphenyls (PCB'S)	0
Crotonaldehyde	0	Pyridines	0
Cumene	0	Quinoline	0
DDT	0	Quinone	0
Dichloropropane	0	Styrene	276#
Dieldrin	0	Tordon	0
Diethylbenzene	0	Toxaphene	0
Endrin	0	Vinyl Toluene	0
Ethyl Acrylate	0	Xylenes	0
Heptachlor	0	2-4-5 T (and its formulations)	0

[redacted] ?

Submitted in accordance with Section 8 (b), Act 245, Public Acts of 1929, as amended.

Signature of Applicant	Date	If Partnership, Signature of Co-Owner	Date
Print or Type Applicant's Name and Title: DONALD V. Martin, Vice President General Manager		Print or Type Co-Owner's Name	

NOTE: If sanitary sewage is to be discharged from housing developments, apartment buildings, shopping centers, or other commercial developments into a system other than an approved municipal sanitary waste collection system, the following should be completed and signed by an authorized municipal official or township officer.

It is the policy of the Commission to request that applications involving the disposal of sewage of human origin from any entity other than local government include the local government as a co-signer of the statement, and that all proceedings and hearings against the said entity will include the local unit of government as a party by appropriate notice, and all permits issued as a result of such hearings and proceedings will be jointly against the said unit and entity.

Signature of Authorized Local Government Representative		Mailing Address of Local Government Representative
Print or Type Name of Local Government Representative		
Title	Date	

State of Michigan
Department of Natural Resources
Water Resources Commission

DISCHARGE PERMIT APPLICATION

This permit application is required by the Michigan Water Resources Commission Act, Act 245, Public Acts of 1929, as amended. A completed application should be submitted at least 180 days prior to initiation of a new or increased use of waters of the state for waste disposal purposes.

INSTRUCTIONS FOR COMPLETING THE APPLICATION

The following instructions are listed in the order in which the items to be completed appear on the application. Please read carefully and complete the entire application. Print or type all information except for required signatures. Partially completed applications will be returned to the applicant for completion. Upon completion, retain one (1) copy of the application for your files and send three (3) applications to:

Water Resources Commission
Department of Natural Resources
Stevens T. Mason Building
Lansing, Michigan 48926

You will be notified by letter that your application has been received, and you will be contacted by a district representative or notified of action taken by the Water Resources Commission. If the proposed discharge is to surface waters, you will receive additional forms to be completed in accordance with the National Pollutant Discharge Elimination System Permit Program.

1. Check whether discharge is an existing discharge, to be a new discharge, or to be an increase in an existing discharge.
2. Name, Mailing Address and Telephone Number of Applicant:
   Give the name of the person proposing to make the new or increased use of the waters of the state for waste disposal purposes. An agent may sign the application if authorization to act for the discharger accompanies the application. If the application is submitted by a corporation or a company, it should be signed by an officer of that organization, i.e., president, vice president, etc.
   Give the mailing address and telephone number where the person proposing to make the new or increased use may be contacted.
3. (a) Check whether the person proposing to make the new or increased use is doing so as an individual, partnership, corporation (public or private), governmental board or agency or other legal entity.
   If the person proposing to make the new or increased use is a public or private corporation, name the state in which the articles of incorporation are filed.
   (b) Check the box which best corresponds to the proposed enterprise.
   (c) Characterize proposed enterprise on the basis of its principal function. Examples: cannery, oil refinery, chemical manufacturing, metal plating, or car wash. Then give narrative description of the proposed enterprise including types and volume of material produced or processed.
   (d) Describe location of proposed enterprise. Be specific. Whenever possible use street or road names and numbers, name of political subdivision (city, village, township). Attach a sketch or map showing location.
4. Describe water supply source (well or wells, surface water, public supply). If source is surface water, give name of lake or stream involved; if source is public supply, give name of owner (city, village, township, etc.).
   Give separate estimates of the amounts of water to be used for various purposes as indicated. Amounts should be expressed in terms of gallons per day.
5. Describe the proposed location of the waste discharge (groundwater, public sewer, county drain, river, lake). Give proper name where applicable. If discharge is to a public sewer, give name of owner and state whether sewer is of the storm, sanitary or combined type. If discharge is to a county or inter-county drain, give name of drain and state whether it is open or closed. (Information on drains may be obtained from appropriate county drain commissioner).
   Give separate estimates of the daily volume of waste to be discharged in gallons per day. Indicate whether discharge is over 1 shift (8 hours), 2 shifts (16 hours), or 3 shifts (24 hours). With respect to periodic batch discharges, indicate volume and frequency.
6. (a) Indicate the type of treatment expected to be used to provide adequate control of the wastes.
   (b) List significant bacterial, physical or chemical waste characteristics. Example: color, turbidity, temperature, biochemical oxygen demand, chemical oxygen demand, toxic components, alkalinity or acidity, taste and odor producing components, radio-activity, etc.
7. Distance private and municipal wells are from proposed waste treatment facilities.
8. Distance surface watercourse is from proposed waste treatment facilities if sub-surface disposal or oxidation pond is proposed.
9. If injection well is proposed give a narrative description of the method and manner to be followed in the construction of the well. Any above ground treatment needed prior to injection also should be described.
10. Either draw in the space provided or enclose a USGS or county map with appropriate markings showing each proposed point of discharge as indicated in Item 5.
11. List names and addresses of property owners adjacent to proposed enterprise.
12. Act 200, Public Acts of 1970, requires every industry and commerical entity which discharges wastes to the waters of the state to file an annual report with the Commission listing materials used or incidental to its manufacturing operations, including by-products and waste products, which appear on the register of critical materials compiled by the Commission. Indicate the amount of each material listed which is used or is proposed to be used, in or incidental to, your operations.

NOTE: Section 6 (a) of Act 245, Public Act of 1929, requires that every industrial or commercial entity which discharges liquid wastes into any surface water or groundwater shall have waste treatment facilities under the specific supervision and control of persons who have been certified as properly qualified to operate the facilities. Prior to start-up of your proposed operation, you will be required to submit an application for the person(s) for certification under the Act.

The township supervisor, village president, or city superintendent must sign the statement if sanitary waste is to be discharged into a system other than an approved municipal sanitary waste collection system. The appropriate official should sign in the space labeled "Signature of Authorized Local Government Representative" and complete other spaces at the end of the statement.

APPLICATIONS WITH PARTIALLY COMPLETED STATEMENTS WILL BE RETURNED TO APPLICANT.

Michigan Water Resources Commission
CRITICAL MATERIALS REGISTER
Published October 1, 1977

Please note that a new series of critical material parameter numbers is being introduced this year. Do not use previously published parameter numbers to report critical materials. With the exception of critical material classes (where all compounds of the material are to be reported) the parameter number assigned each material is from the Chemical Abstract Service "Registry Handbook." This reference may be used to find additional information about the substances.

Inorganic Materials

A. The following inorganic materials and all their compounds are to be reported

	Parameter Number
Antimony	Class-01-0
Arsenic	Class 01-1
*Beryllium	Class 01-2
Cadmium	Class-01-3
Chromium	Class-01-5
*Cobalt	Class-01-6
Copper	Class-01-7
Cyanides	Class-01-8
*Hypochlorite	Class-01-4
Lead (organic forms only)	Class-01-9
*Lithium	Class 02-0
Mercury	Class 02-1
Nickel	Class 02-2
Selenium	Class-02-3
Silver	Class 02-4
Thallium	Class-02-5
*Tin (organic forms only)	Class 02 6
Zinc	Class 02-7

B. The following specific inorganic materials are to be reported (do not report compounds)

	Parameter Number
Ammonia	07664-41-7
*Asbestos	01332-20-4
*Chlorine	07782-50-5
*Phosphorus (elemental)	07723-14-0
*Phosphorus oxychloride	10025-87-3
Hydrogen sulfide	07783-06-4
Potassium sulfide	01312-73-0
Sodium sulfide	01313-82-2

II Organic Materials

	Parameter Number
*acetone cyanohydrin	00075 86-5
acrolein	00260 94-6
acrolein	00107-02-8
*acrylonitrile	00107-13-1
*allyl chloride	00107-05-1
*aminoazobenzene	00660-09-3
*2 aminobiphenyl and 4-aminobiphenyl	Class 05-1
*amitrole	00061-82 5
aniline	00062-53-3
aziridines, including	
*ethyleneimine	00151-56-4
*N-(2 hydroxyethyl) ethylenimine	01072-52-2
*propylenemine	00075-55-8
*other aziridines (specify)	Class 05-2
benzene	00071-43-2
benzidine	00092-87-5
*benzo(a)pyrene	00050-32-8
*benzyl chloride	00100-44-7
*brucine	00357-57-3
butyric acid	00107-92-6
carbon disulfide	00075-15-0
*carbon tetrachloride	00056-23-5
*chlorinated dibenzofurans	Class-05-3
*chlorinated dioxins	Class-05-4
chloroalkyl ethers, including	
*bis (2-chloroethyl) ether	00111-44-4
*bis (2-chloromethyl) ether	00542-88-1
*methyl (chloromethyl) ether	00107-30-2
*other chloroalkyl ethers (specify)	Class-05-5
2-chloroaniline	00095-51-2
*2-chloroethanol	00107-07-3
*chloroprene	00126 99-8
crotonaldehyde	04170-30-3
di-n-butyl phthalate	00084-74-2
dichlorobenzenes	Class-05-6
3,3'-dichlorobenzidine	00091-94-1
*1,4-dichloro-2-butene	00764-41-0
dichloropropanes	Class-05-7
*dimethylamine	00124-40-3
*dimethylaminoacetyl 1-(2,4,5-trimethylaniline	Class-05-8
*4-dimethylaminoazobenzene	00060-11-7
*dimethylbenzyl hydroperoxide	00080-15-9
*dimethyl sulfate	00077-78-1
epoxides, including	
*1-chloro-2,3-epoxypropane	00106-89-8
*ethylene oxide	00075-21-8
*2,3-epoxy-1-propanol	00765-34-4
*2,3-epoxy-1-propanol	00556-52-5
*other epoxides (specify)	Class-05-9
ethyl acrylate	00140-88-5
*ethylamine	00075-04-7
*ethylenediamine	00107-15-3

*indicates new critical material

Organic Materials (continued)

	Parameter Number
*ethylenediaminetetraacetic acid (EDTA)	00060-00-4
*ethylene dibromide	00106-93-4
*formaldehyde	00050-00-0
*furfural	00098-01-1
hexachlorobenzene (HCB)	00118-74-1
hexachlorobutadiene (HCBD)	00087-68-3
*hexachlorocyclohexane (lindane)	00608-73-1
*hexachlorocyclopentadiene	00077-47-7
*hexamethylenetetramine	00100-97-0
hydrazines, including	
*diethylhydrazines	Class-06-1
*dimethylhydrazines	Class-06-2
*hydrazine	00302-01-2
*hydrazobenzene	00122-66-7
semicarbazide	00057-56-7
*other hydrazines (specify)	Class-06-3
hydroquinone	00123-31-9
hydroxylamines, including	
*hydroxylamine	07803-49-8
*methyl hydroxylamine	00067-62-9
*other hydroxylamines (specify)	Class-06-4
lactonitrile	00078-97-7
*methylene(bis)-2-chloroaniline	00101-14-4
*methyl iodide	00074-88-4
naphthalenes, including	
*naphthalene	00091-20-3
naphthenic acid	01338-24-5
naphthol	01321-67-1
*1-naphthylamine and 2-naphthylamine	Class-06-5
*other naphthalenes (specify)	Class-06-6
nitrosoamines, including	
*N-nitroso-diethylamine	00056-18-5
*N-nitroso-dimethylamine	00062-75-9
*N-nitroso-dimethylaniline	00138-89-6
*other nitrosoamines (specify)	Class-06-6
*pentachloroethane	00076-01-7
*peroxyacetic acid	00079
phenolics, including	
2,3 and 4-chlorophenol	Class
cresols	
dichlorophenols	Class
2,3 and 4-nitrophenol	Class
pentachlorophenol (PCP)	00087
phenol	00108
resorcinol	00108
tetrachlorophenols	Class
trichlorophenols	Class
xylenols	Class
other phenolics (specify)	Class
*polybrominated biphenyls (PBB)	Class
polychlorinated biphenyls (PCB)	Class
*β-propiolactone	00057
quinoline	00091
quinone	00106
*sodium azide	26628
styrene	00100-
sultones, including	
*1,4-butanesultone	01633
*1,3-propanesultone	01120-7
*other sultones (specify)	Class-0
*tetrachloroethanes	Class-0
*thiourea	00062-5
*trialkyl phosphate esters	Class 0
triazenes, including	
*1-(4-chlorophenyl) -3,3-dimethyl triazene	20241-0
*3,3-dimethyl-1-phenyl triazene	07227-9
*other triazenes (specify)	Class-0
*tris (dibromopropyl) phosphate	00126-7
*vinyl chloride	00075-0

III Pesticides (To be reported only by manufacturers and formulators)

	Parameter Number
*aldicarb	00116-06-3
aldrin	00309-00-2
*4-aminopyridine	00504-24-5
*antimycin	00642-15-9
*atrazine	01912-24-9
*azinphos-methyl	00086-50-0
*barban	00101-27-9
*captan	00133-06-2
*carbaryl	00063 25-2
*carbofuran	01563 66-2
*carbophenothion	00786-19-6
*chlordane	00057-74-9
*chlordecone	00143-50-0
*chlorfenvinphos	00470 90 6
*chlorpyrifos	02921-88-2
*dalapon	00075-99-0
*dinitrotol	01420-54-0
*coumaphos	00056-72-4
*crotoxyphos	00700 17-0
*cycloheximide	00066-81-9
DDT	00050-29-3
*demeton	00086-48-3
*diallate	02303-16-4
*diazinon	00333-41-5
*dibromochloro-propane (DBCP)	00096-12-8
*dicamba	01918-00-9
*dichlone	00117-80-6
*dichlorophenoxyacetic acid (2,4-D)	00094-75-7
*dichlorvos	00062-73-7
*dicrotophos	00141-66-2
dieldrin	00060-57-1
*dimethoate	00060-51-5
*dinocap	00300 45-3
*dinoseb	00088 85 7
*dioxathion	00078 34-2
*diquat	00085 30-7
*disulfoton	00298 04-4
*diuron	00330-54-1
*endosulfan	00115-29-7
endrin	00072-20-8
*EPN	02104-64-5
*ethion	00563-12-2
*ethoprophos	00115 90-2
*fenthion	00055-38-9
*fyrfom	14484-64-1
*fonofos	00944-22-9
heptachlor	00076-44-8
*heptophos	21609-90-5
*linuron	00330-55-2
*malathion	00121-75-5
*methomyl	16752-77-5
*methoxychlor	00072-43 5
*methyl mercaptan	00074-93-1
*methyl parathion	00298-00-0
*mevinphos	07786-34-7
*mexacarbate	00315-18-4
*mirex	02385
*monocrotophos	06923
*naled	00300
*nicotine	00054
*oxydemeton-methyl	00331
*paraquat dichloride	[illegible]
*parathion	[illegible]
*phorate	00298
*phosazetim	04104-
*phosmet	00732
*phosphamidon	13171
*rotenone	00083 7
*silvex	00093-7
*simazine	00122-3
*sodium fluoroacetate	00052 7
*strychnine	00057 3
*sulfotepp	03689
*TDE	00072 5
*TEPP	00107-
*terbufos	13071-7
*thiram	00137-
toxaphene	08001-3
trichlorophenoxyacetic acid (2,4,5-T)	00093 7
*trichlorfon	00052 6
*trifluralin	01582 0
*triphenyltin hydroxide	00076 8
*ziram	00137-

*indicates new critical material

14993 5

SECTION II. PLANT PROCESS AND DISCHARGE DESCRIPTION

1. Discharge described below is
a. Present [X] b. Proposed new or changed [ ]

2. Implementation schedule [ ]

(Office use only)

Name of corporate boundaries within which the point of discharge is located.

State: 3. MICHIGAN
County: 4. ALLEGAN
City or Town: 5. PLAINWELL

6. Discharge Serial No. 003

State the precise location of the point of discharge.
7. Latitude ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.
8. Longitude ___ ___ ___ Degrees; ___ ___ Min; ___ ___ Sec.

9. Name of waterway at the point of discharge.
Kalamazoo River

10. Has application for water quality certification or description of impact been made? If so, give date:

Date: JAN (mo) 21 (day) 71 (yr)
Check if certificate is attached to form [X]
Name Issuing Agency: Water Resources Commission State of Michigan

11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing process).

3C

Sic- 26 General: Manufacture of Fine Printing Papers and Industrial Specialties

Specific: Three (3) Fourdrinier Paper Machines. Trailing Blade Coater and other Associated Equipment.

Specific: Raw Materials 100% Purchased Pulps.

12. Standard industrial classification number.
Sic ~~26~~ 493

13. Principal product.
FINE AND TECHNICAL PAPERS

14. Amount of principal product produced per day.
175 TD

15. Principal raw material.
Bleached Kraft Pulp

16. Amount of principal raw material consumed per day.
155 T/D Wood Pulp

17. Number of batch discharges per day.
Continuous

18. Average gallons per batch discharge.

19. Date discharge began.
___ (mo) ___ (day) 1914 (yr)

20. Date discharge will begin.
___ (mo) ___ (day) ___ (yr)

21. Describe waste abatement practices.

Outfall is cooling and condensor water.
Esepar, Esegre, Recycl

ENG FORM 4345-1
MAY 71

Copy

5 14994

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

State Office Building
350 Ottawa Avenue, N. W.
Grand Rapids, Michigan 49503

October 20, 1978

Mr. James C. Farrand, Director
Research and Development
Plainwell Paper Company, Inc.
Plainwell, Michigan 49080

Dear Mr. Farrand:

Enclosed are two copies of the "Report of An Industrial Wastewater Survey" conducted at the Plainwell Paper Company on July 10-11, 1978. The report includes the volume of wastewater discharged and results of the chemical analyses performed on the composite of the collected effluent. In addition, grab samples were obtained for certain determinations.

The results of this survey indicate that Plainwell Paper Company did not meet the daily maximum BOD_5 loading for outfall 005 and exceeded the maximum oil and grease concentration. The BOD_5 loading during the survey period was 1100 kg/day which exceeds the N.P.D.E.S. Permit's daily maximum limitation of 545 kg/day. One of two grab samples collected during the survey from outfall 005 contained a concentration of 14 mg/l which exceeds the 10 mg/l daily maximum limit. In addition, the concentration of BOD reported by the company on the split composite sample was much lower than that reported by the Environmental Protection Bureau Laboratory.

Lastly, during the survey period the flow from outfall 004 was observed leaking around the company's weir and not being recorded. Thus, the survey flow was approximately four times larger than the flow reported by the company. Has the flow measuring weir for outfall 004 been repaired?

The survey report also indicates that oily wastes are discharging to the wastewater treatment system. What is the nature of these oily wastes?

Your response to these items and the survey report are requested by November 20, 1978.

Very truly yours,

WATER QUALITY DIVISION

Roger Przybysz

Roger Przybysz,
Water Quality Specialist

RP/mc
Enclosures
cc: Carl Gren
John Bohunsky

R1020-1 1/75

14995

WRC - EPA [illegible]

Questionnaire by R. Przybysz for EPA.

8/31/77

Cal. Records -

July - 2 times - } over the limit -
" 3 times - }

ished about refrigerated sampler -

Nov. Exam - Cut off date for Exam - Oct. 1 -

~~25~~ Check on tonnage on No. 2
~~29~~ Machine - Send Memo to Roy.
~~10~~ Przybysz of D.N.R.

Fred Shelton of G.P. - Kal. -
has dewatering System -

They were concerned with flow meter -

PIPP plan additions - PCB's no. elements
& Latex storage -
? 2 Blend Chest - Sizes tanks - alum
& Clay tanks in addition.

Investigated - sludge beds, weirs, samplers, landfill,
Test Procedures -

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851

July 9, 1980

Mr. Robert Courchaine
Chief Engineer
Water Resources Commission
Stevens T. Mason Building
Lansing, Michigan 48926

Dear Mr. Courchaine:

RE: Permit No. MI 0003794
Facility No. 030027

I am writing at this time to inform you that we exceeded our Bod5 and suspended solids limit during the month of June. We exceeded limits on these parameters (3) three times.

We feel that the high Bod's and suspended solids were due to, at least in part, the following:

1. Highest losses from plant I can remember.
   a. Numerous order changes created some losses.
   b. Problems with operation of newly installed equipment added heavily. This is equipment recently put into operation for our #4 Paper Machine.

2. Fluctuating of Polymer flows to Primary Clarifier created higher than normal carry over there. This creates higher solids to final effluent.
   a. The polymer pump was worked on several times during the week ending 6/22/80. The lines had been plugged on two occasions causing damage to pump parts.
   b. The polymer is material used at the clarifier to improve solids reduction.

On one occasion, 6/18/80, we worked on the Polymer system late into the night. We had (2) two of the (3) three Paper Machines down 16 hours. The Polymer pump quit in the night between 1:00 am and 7:00 am. The flow was much higher than it should have been and we still had suspended solids over our NPDES limits.

14997

We tried adding other type flocculating agents to our secondary system during the day of 6/18/80 which appeared to help also but as stated the morning of 6/19/80, showed high solids.

We replaced major parts in the Polymer Pump 6/19/80. We increased polymer feed from 1 ppm to 3 ppm to the Primary Clarifier.

We think we have recently found a material which will improve solids reduction at the secondary clarifier and have purchased enough for a trial.

June's operational problems appear to be improving and this should continue.

We are also in the process of having a new Primary Clarifier, which is much larger than our present unit, installed by fall. At the same time the Aeration Basin flow pattern should be changed which should help overall BOD_5 reductions as the new clarifier will aid solids reductions.

I believe we are taking proper steps to help eliminate problems such as those which occured during June.

Sincerely,

PLAINWELL PAPER CO., INC.

Carl A. Gren

Carl A. Gren
Waste Water Treatment Supervisor

CAG/bjb

cc: J. Farrand
Ms. Marge Spruit, DNR

bcc: File: 10.61
Betty Kenyon
Dorothy Martin
Route: R&D

Carl & L.

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

January 31, 1979

Mr. Roger Przybysz
Water Quality Specialist
Water Quality Division
350 Ottawa Avenue N.W.
Grand Rapids, Michigan 49503

RE:MI 0003794

Dear Roger:

We recently were forced to by pass our Primary Clarifier and pump our paper mill effluent into our Aeration basin section of our Secondary Waste Water treatment plant.

Following is an explanation of the events occurring before, during, and after the by passing of Plainwell Paper Co. Primary Clarifier.

Wednesday morning at 7:30 a.m. the Primary Clarifier warning lights were flashing and maintenance people were already looking at the equipment.

Appearances at first looked as though the Clarifier had been stopped by an overload of stock lost from the mill. We tried several things to get the agitater going which we normally do when it looks like we may have an overload. At first we couldn't move the agitater. We finally got it to go part way around, but it would stop again. It would not run without our assisting it. We discovered a small gear at the top was broken.

We decided it would not run without replacing the gear. So about 12 noon we decided we had to by-pass. I called the Grand Rapids office of the Department of Natural Resources and reported that we had to by-pass the primary Clarifier.

We started tearing the equipment apart and found more problems as we proceeded.

It was well into the evening when it was torn apart enough to realize the damage. Water had gotten into the gears, froze, and broken a ball bearing

and a tooth from one of the gears. This broke the outer housing in several places. We had repair parts except part of the broken housing or gear case which had to be rebuilt and welded by our maintenance crews. Maintenance thought at first that we did not need to empty the Clarifier but later decided we should empty it. This caused some delay. We have two pumps on standby but had mechanical problems with them which created some delay. We had difficulty emptying the Clarifier because we could not close the inlet valve completely.

We needed a crane to remove the gears from the agitator. We tried for some time to get our crane running but it would not run. We then had to obtain an outside crane.

We tested grab samples of the final effluent around the clock to help keep it in our limits.

We need (2) two pumps at the secondary Clarifier 005 outfall to help effluent quality where it should be. We normally use one pump on a timer. We ran the two pumps continuously which ran into four empty sludge holding ponds. Most of the solids from the Primary Clarifier settled in the Aeration Basin and we will slowly get them into the Secondary Clarifier where the sludge will end up in the sludge holding ponds.

We had someone working on some part of the repair work around the clock and I feel our maintenance people did a good job under poor conditions.

Our #4 paper machine was down for some repair work during this period of repairs as was #3 paper machine which was down for around (12) twelve hours. This helped keep the mills effluent solids load down.

We refilled the Clarifier Saturday morning 1/20/79 and were operating completely around 1:30 pm.1/20/79.

We think we know where and how water gets into the gear that broke and we believe we have the solution to prevent this. We, therefore, feel that this type of damage should not reoccur at our Primary Clarifier.

Yours truly,

Plainwell Paper Co., Inc.

Carl A. Gren

Carl A. Gren
Waste Water Treatment - Supervisor

CAG/bjb

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

NPDES
Permit
Material

January 12, 1979

Mr. Roger Przybysz
Water Quality Specialist
State Office Building
350 Ottawa Avenue N.W.
Grand Rapids, Michigan 49503

Dear Mr. Przybysz:

We are sending the following information as a further clarification of information forwarded to the Department of Natural Resources on our recent application for N.P.D.E.S. permit MI 003794 for Plainwell Paper Co., Inc. As per your telephone request of 1/11/79, we submit the following information for correction.

Natural Resources Commission
Discharge Permit Application
Item 6B -

COOLING WATER DESCRIPTION

Chlorine at a rate of approximately 20#/day is added to all mill intake water. Therefore, our non-contact cooling water has chlorine added ot it. This is the only additive to this system 004.

The 20#/day chlorine is added to the total mill intake system and therefore would be less than 1 mg/L.

Chelent, Betz CL-2 is added to mill boiler feed water at a rate of 31-39# a day. This blowdown from this system discharges to our Waste Treatment process system. The only critical material claimed by the manufacturer Betz Company, is Cobalt Chloride at .24%. This is less than your required 1% reporting figure.

Polysperse 100 is used in the deaeration system in our Mill Boiler system at a rate of 65#-68# per day. This also would discharge to our mill Waste Water Treatment system. Betz reports there are no critical materials in this product listed on the Michigan Critical Materials Register.

15001

The sodium sulfite is also used in the boiler plant treatment system. This would also end up in the mill Waste Water Treatment system. We use approximately (15#) fifteen pounds per day of this material.

Item I.

INORGANIC CRITICAL MATERIALS

We previously used a product called Composition T in our coating preparation on the dry end of the paper machines to make up a coating formula. This accounted for about 500# per year of Zinc in our coating pigment make-up. None was used in the last year.

This product is no longer used. This product was replaced with Nalco 8652. To our knowledge this product contains no critical materials and more specifically it contains no heavy metals such as Zinc.

Only three (3) barrels (55 gals. each) were purchased in 1978 and (1) one barrel is still unused. Barrels weigh approximately 550# each and contain 33% solids.

EPA Form 7550-23 (7-73)
Item 19- Page 11-7

WATER TREATMENT ADDITIVES

219A

Percol 726 and Nopco Floc 154 are Polyacryl-amides added to our primary clarifier in our Waste Water Treatment system to improve settling of solids there.

We use approximately 20#-25# per day of these polymers. This is less than 1 mg/L.

I believe these are all the items which we discussed previously on the telephone and decided would need clarification.

If I have missed anything, I would be happy to explain further.

Very truly yours,

PLAINWELL PAPER CO., INC.

Carl A. Green
Waste Water Treatment Supervisor

CAG/bjb

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

Carl Green

November 22, 1978

Mr. Roger Przybysz
Water Quality Specialist
State Office Building
350 Ottawa Ave., N.W.
Grand Rapids, Mich. 49503

Dear Roger:

We received your letter informing us of discrepancies between some of your tests and ours during the survey at Plainwell on July 10 to 11, 1978. The following is our response to those problem areas.

In summary, we feel that the high BOD reading in outfall 030049 was an error by the DNR survey team. The oil and grease reading was higher than we have ever tested and was taken at a point where an oil scum is frequently present. but cannot pass to the river. The consistent difference in pH readings is difficult to explain since we standardize our unit every day. The estimated flow for outfall 030135 could not have been four times as large as our reading; there is no way this much water could leak around the weir.

The following is a discussion of the above points.

The high BOD found by the survey team was about four times higher than our reading on the same sample. Since our BOD readings were running fairly constant during that week and we double check our D.O. meter against daily titrations, we can't understand or explain the high DNR reading. My only suggestion is that we do more comparative testing because one of us is obviously doing something wrong. We are having a Kalamazoo lab, Kar Labs, double check our work.

The high oil and grease test can be explained by the sample point. The DNR team dipped a sample out of the manhole just before the river. Since the level is above the outlet pipe at about 3.0 MGD, an oil scum can be present which could be an abnormally large part of a grab sample and would thus give an unusually high grease and oil reading. Our sample is taken out of the effluent trough of the Secondary Clarifier. Unfortunately, we didn't take a sample at the same time as the survey crew so we have no direct comparison in either case.

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Any observations of oily wastes were not mentioned to Carl Gren during the survey so he cannot comment directly on them. However, as you know, there is an oily film on the floor from motors and pumps in some areas of the mill that will eventually enter the waste water system. Most of this will not enter the river because of the skimmer and baffles at our two clarifiers. Any significant amount of oil would be trapped in the Secondary Clarifier but no noticeable accumulation was observed during the survey week.

The flow discrepancy in 030135 clear water outfall cannot be as great as the survey team claims. It is true that our weir was leaking but the leak could in no way account for a four-fold difference in flow. Furthermore, the weir was leaking because apparently our maintenance men accidently dislodged it in preparing the area for the survey teams apparatus. This was mentioned to Mr. Rock while he was here. The weir was fixed within a few days. The only other explanation for the flow discrepancy could be the difference in sampling period: ours ran from 9:00 A.M. to 9:00 A.M. while the survey team ran from 6:00 P.M. to 6:00 P.M.

Finally, the difference in pH readings is also difficult to explain. Since our pH meter is kept in a lab environment and standardized daily, I would question the accuracy of the portable unit first.

I'm sorry we don't have any absolute answers for the various discrepancies that occurred during the survey. All we can do is offer to cooperate in further replicate testing with your people at any time convenient to you. We are comparing our test results in BOD and oil and grease extraction with a private lab to determine the validity of our tests and we will inform you of the results of those tests.

In the meantime, let me know what you want to do as the next step.

Sincerely,

PLAINWELL PAPER CO., INC.

Jim Farrand

James C. Farrand
Director - Research & Development

JCF/kem

cc: Carl Gren

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor
DEPARTMENT OF NATURAL RESOURCES
HOWARD A. TANNER, Director

State Office Building
350 Ottawa Avenue, N. W.
Grand Rapids, Michigan 49503

February 6, 1979

Mr. Carl Gren,
Wastewater Treatment Supervisor
Plainwell Paper Company, Inc.
Plainwell, Michigan 49080

Dear Mr. Gren:

We are in receipt of both your letters dated January 31, 1978 regarding the July 1978 wastewater survey and the repajrs made to the primary clarified on January 17-20, 1979.

I appreciate the information on the split BOD analysis between your laboratory and Kar Laboratory in Kalamazoo. These results indicate agreement between the labs. It would be my opinion that this type of check be conducted on a quarterly or semiannual basis. Your followup in this regard is appreciated.

Secondly, efforts to restore the primary clarifier and place it back in service in such a timely manner are acknowledged, as well as the preventative measures taken to avoid a reoccurrence.

Very truly yours,

WATER QUALITY DIVISION

Roger Przybysz

Roger Przybysz,
Water Quality Specialist

RP/mc

cc: John Bohunsky

MICHIGAN
THE GREAT LAKES STATE
R1088-1 1/75

15005

NATURAL RESOURCES COMMISSION
E. M. LAURIA, Chairman
CARL T. JOHNSON
HILARY F. SNELL
HARRY H. WHITELEY
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926

A. GENE GAZLAY, Director

WATER RESOURCES COMMISSION
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STANLEY QUACKENBUSH
THOMAS F. JAMES
JOHN H. KITCHEL, M.D.

January 22, 1974

CERTIFIED MAIL

James M. Hays, Manager
Product Div. & Technical Services
Nicolet Paper Company
Plainwell, Mich. 49080

Re: NPDES Permit No. MI 0003794
Plainwell Paper Co., Plainwell

Gentlemen:

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate State and Federal regulations.

All discharges authorized from this facility shall be consistent with the terms and conditions of this permit.

Your reporting forms will be transmitted to you in the near future.

Very truly yours,

WATER RESOURCES COMMISSION

James N. Howell
Division Permit Coordinator

JNH
Enclosure: Permit
cc: A. H. Manzardo (2)
R. J. Courchaine
K. Zollner
C. Harvey
File
Comp. Studies
Planning

MICHIGAN

Proposed Permit to Discharge

COMPANY NAME Plainwell Paper Company, Inc. PERMIT NO. MI 0003794

xx Public Notice period expired on January 7, 1974.

xx Special conditions will meet EPA guidelines and water quality standards.

xx Special conditions reviewed by EPA and written concurrence received.

xx No significant comments to Public Notice. (see comments below)

xx No significant changes in special conditions from what went out on Public Notice. (see comments below)

xx Recommend issuance of permit.

Signed James R. Howell
James R. Howell
Division Permit Coordinator

Date January 17, 1974

Comments

Application No. _____

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

(Superseding Order of Determination No. 1455, dated January 21, 1971)

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, the "Michigan Act"),

Plainwell Paper Co., Inc.
Division of Nicolet Paper Co.

is authorized to discharge from a facility located at

Plainwell, Michigan

to receiving waters named the Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight, January 15, 1979. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

Signed this 21 day of Jan 1974, for the Michigan Water Resources Commission.

Ralph W. Purdy
Ralph W. Purdy
Executive Secretary

15008

PART I

? ? ? ? 1985 — zero discharge

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Initial Effluent Limitations

During the period beginning upon issuance of this permit and lasting until June 30, 1975, the permittee is authorized to discharge from outfall(s) 004 and 005 (waste treatment discharge; clear water sewers). Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Average	Maximum	Monitoring Requirements Measurement Frequency	Sample Type
004						
Flow	-	-	-	-	Continuous	Total Daily Flow
BOD	-	58(160)	-	-	Weekly	24-hr comp.
Total Suspended Solids	-	20(45)	-	-	Weekly	24-hr comp.
Oil & Grease	oil sheen will result by less than 10 Mg/liter		-	-	Weekly	Grab
005						
Flow	-	-	-	-	Continuous	Total Daily Flow
BOD	760(1675)	1027(2260)	-	-	Daily	24-hr comp.
Total Suspended Solids	695(1525)	1136(2500)	-	-	Daily	24-hr comp.
Settleable Solids	-	-	-	-	Daily	Grab
Oil & Grease	-	-	-	-	Weekly	Grab

a. The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: 004 weekly-grab 005 daily-grab.

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

2. Final Effluent Limitations

During the period beginning July 1, 1975 and lasting until December 31, 1978, the permittee is authorized to discharge from outfall(s) 004 and 005. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Average	Maximum	Monitoring Requirements Measurement Frequency	Sample Type
004						
Flow	-	-	-	-	Continuous	Total daily flow
BOD	-	20(45)	-	20 mg/l	Weekly	24-Hr. comp
Total Suspended Solids	-	20(45)	-	20 mg/l	Weekly	24-Hr. comp
Oil and Grease	-	-	-	10 mg/l	Weekly	Grab
005						
Flow	-	-	-	-	Continuous	Total daily flow
Settleable Solids	-	-	-	-	Daily	Grab
May 15 to October 15						
BOD_5		545(1200)	-	-	Daily	24-Hr. comp
Total Suspended Solids		636(1400)	-	-	Daily	24-Hr. comp
October 15 to May 15						
BOD_5	545(1200)	818(1800)	-	-	Daily	24-Hr. comp
Total Suspended Solids	636(1400)	955(2100)	-	-	Daily	24-Hr. comp
Oil & Grease	-	-	-	10 mg/l	Weekly	Grab

a. The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: 004 weekly-grab 005 daily-grab

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River.

3. During the period beginning upon issuance of this permit and lasting until December 31, 1978, the permittee is authorized to discharge only uncontaminated cooling water from outfalls 002 and 003. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Average	Daily Maximum	Other Limitations Average	Maximum	Monitoring Requirements Measurement Frequency	Sample Type
002						
Flow	-	-	-	-	Continuous	Total Daily Flow
BOD	-	-	-	-	Monthly	Grab
Oil & Grease	-	-	-	10 mg/l	Monthly	Grab
Temperature	-	-	-	85°F	Monthly	Reading
003						
Flow	-	-	-	-	Monthly	Reading
BOD	-	-	-	-	Monthly	Grab
Oil & Grease	-	-	-	10 mg/l	Monthly	Grab

For the purposes of this subsection, the term "noncontact cooling water" shall mean water used for cooling which does not come into direct contact with any raw material, intermediate product, by product, waste product, or finished product.

a. The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: Monthly - Grab

b. The discharge shall not cause excessive foam in the receiving waters. The discharge shall be essentially free of floating and settleable solids.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters.

d. Samples taken in compliance with the monitoring requirements above shall be taken prior to discharging to the Kalamazoo River

e. In the event that the permit shall require the use of water treatment additives the permittee shall notify the Michigan Water Resources Commission in accordance with Part II, Section A-1.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit monitoring reports containing results obtained during the previous month and shall be postmarked no later than the 10th day of the month following each completed report period. The first report shall be submitted within 90 days of the date of issuance of this permit.

3. Definitions

a. The daily average discharge is defined as the total discharge by weight, or concentration if specified, during a calendar month divided by the number of days in the month that the production or commercial facility was operating.

b. The daily maximum discharge means the total discharge by weight, or concentration if specified, during any calendar day.

c. The Regional Administrator is defined as the Region V Administrator, U.S. EPA, located at One North Wacker Drive, Chicago, Illinois, 60606.

d. The Michigan Water Resources Commission is located in the Stevens T. Mason Building, Lansing, Michigan.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Act, under which such procedures may be required.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report. Such increased frequency shall also be indicated.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Michigan Water Resources Commission.

C. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for outfall(s) 004 and 005 in accordance with the following schedule:

✓ a. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before March 31, 1974.

b. Submit a preliminary engineering report and basis of design for said facilities to the Chief Engineer of the Michigan Water Resources Commission and obtain his approval thereof on or before NA.

c. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before NA.

✓ d. Submit final plans and specifications for said facilities to the Chief Engineer of the Michigan Water Resources Commission and obtain his approval thereof on or before June 30, 1974.

✓ e. Commence construction of said facilities on or before July 31, 1974.

✓ f. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before December 31, 1974.

✓ g. Complete construction of said facilities on or before March 31, 1975.

✓ h. Attain opperational level necessary to meet the limitations specified herein on or before June 30, 1975.

2. The permittee shall comply with the requirements of Section 9, Part II in accordance with the following:

a. Submit plans for approval to the Chief Engineer of the Michigan Water Resources Commission necessary to comply with the primary power provision of Section 9 in Part II on or before June 30, 1974.

b. The permittee shall comply with the requirements of items 9a or 9b contained in Part II on or before December 31, 1974. Before this date the permittee is still obligated to halt, reduce, or otherwise control production in order to protect the waters of the State of Michigan upon the reduction or loss of the primary source of power.

3. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

PART II

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide approved facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Water Resources Commission, as required by Section 6a of the Michigan Act.

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

7. By-passing

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Michigan Water Resources Commission and the Regional Administrator, in writing, of such diversion or by-pass.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

9. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. Provide an alternative power source sufficient to operate facilities utilized by permittee to maintain compliance with the effluent limitations and conditions of this permit which provision shall be indicated in this permit by inclusion of a specific compliance date in each appropriate "Schedule of Compliance for Effluent Limitations", or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Michigan Water Resources Commission and the Regional Administrator.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act and Rule 2128 of the Water Resources Commission Rules, Part 21, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State Water Pollution Control Agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Sections 7 and 10 of the Michigan Act.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully, all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, A-7) and "Power Failures (Part II, A-9), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or labor disputes.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

10. Severability

The propisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PLAINWELL PAPER CO., INC.
Plainwell, Michigan
MI 070 0X5 2 710549

The mixing zone for the purpose of evaluating compliance with the states water quality standards is defined as the right ¼ of the stream a distance of 600 feet downstream from each discharge.

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E. M. LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

WATER QUALITY DIVISION
State of Michigan Office Building
350 Ottawa Avenue, N. W.
Grand Rapids, Michigan 49503

October 20, 1977

Mr. Carl A. Gren
Wastewater Treatment Supervisor
Plainwell Paper Company, Inc.
Plainwell, Michigan 49080

Dear Mr. Gren:

On August 31, 1977, a compliance evaluation inspection was conducted at Plainwell Paper Company to determine if the company was meeting the terms and conditions stated in their N.P.D.E.S. Permit No. MI 0003794. The inspection focused primarily on the company's wastewater reporting records, flow measuring devices, sampling techniques, laboratory procedures, and operation and maintenance of the wastewater treatment facilities. No effluent samples were collected during this inspection.

While the company is essentially in compliance with the permit conditions, two areas were identified during my inspection which require correction:

The primary flow measuring device for outfall 005 is not functioning properly, and there is a question of whether it is capable of providing an accurate measurement of the wastewater being discharged to the Kalamazoo River. Since the company's effluent limitations for $B.O.D._5$ and suspended solids are based on a pound loading, an accurate flow measuring device is essential. Consideration should be given to the installation of a flow measuring station following the secondary clarifier since this location will most accurately reflect the volume of wastewater discharged to the Kalamazoo River.

Secondly, the 24-hour composite effluent samples for outfall 005 should be collected in a clean container and should be kept cool to assure that the first sample aliquot is as representative of the effluent as the last. It also appears that a new composite sampler is necessary since the present sampler is incapable of obtaining smaller aliquots.

Lastly, what is the company's plan for future sludge handling? Our letter of April 2, 1976 to Mr. Farrand stated that the use of the existing

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sludge disposal site for wet sludges can only be used for a limited time and that by 1978, other means of sludge concentration and handling should be developed. Disposal of wet sludges has come under severe scrutiny and will soon be a thing of the past. Therefore, foresight dictates that a plan should be developed to dispose of your plant sludges in a dewatered state. Since delivery dates for equipment can be quite long, it is important that the planning begin now.

I would appreciate your comments and the action to be taken on the above items by November 15, 1977. In the interim, if there are any questions that may arise, please feel free to call.

Very truly yours,

WATER QUALITY DIVISION

Roger Przybysz

Roger Przybysz,
Water Quality Specialist

RP/mc
cc: Karl Zollner

To: Jim Tarranel

Comments on WRC letter of 10/20/77

1- Flow measuring device.
We don't get correlation between integrator and the Taylor flow chart. It varies between the two badly. Asked Taylor man to come back in & verify one way or the other.
It is important but to figure solids & BOD5's per day we must use flow.
(a) We have considered flows after Indary -

2 - 2% Composite gets build-up of slime sometimes every day. It does not back flush as a good sampler would do.

3 - We mentioned to Roy. that presently it is difficult to justify mechanical sludge handling now. He (Roger) mentioned that wet sludges are & will be creating more legal problems.

Cl_2 Residual test of .024 Mg/L

Not attainable with our present equipment.

.024 Mg/L at 200,000 gals/day = .04 #Cl_2/day

1st report on date per new permit due within 90 days of issuance May 16, 1979 of new permit.

Plainwell Paper Co., Inc.
An Affiliate of Philip Morris Incorporated
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

June 15, 1981

Michigan Department of Natural Resources
Stevens T Mason Building
Box 30028
Lansing, MI 48909

ATTN: Chief Of The Water Quality Division

Dear Sir:

This report covers the progress made on the waste water treatment facilities project at Plainwell Paper Co., Inc., as required by NPDES Permit No. MI0003794.

1. The new outfall flow measuring system was placed in service on June 3, 1981.

2. The flow transmitter associated with the outfall flume has been delayed in delivery to the contractor. The contractor now estimates that the transmitter will be installed by July 1, 1981.

3. The sludge Dewatering Facility continues to move toward completion. However, delivery of the process control instrumentation for the main control panel is causing a major delay in completing that panel and thus, making it possible to start up the plant. The various contractors now estimate that the facility will be operational on July 1, 1981.

Very truly yours,

PLAINWELL PAPER CO., INC.

George W Lawton

George W. Lawton
Manager - Technical Operations

GWL:jj

cc: John Fleckenstein - PMI
Carl Gren - Plainwell
Frank Sabastian - Plainwell
Sam Taylor - General Manager
Jim Ishmael - Plainwell
Marge Spruit - DNR, Grand Rapids
File: EWW 8
GWL 81-75

15024

Temp. 004 1977-78

Summer

High 74°

Low 64°

Avg. 69°

Winter

High 73°

Low 62°

Avg 68°

Temp. Secondary 005

Summer 1977

High 77°

Low 66°

avg. 73°

Winter

High 71°

Low 59°

avg. 65°°

Temp - Nov - 1977
May - 1978 } 004

Ave - 67.3°
Hi - 76°
Lo - 59°

facility No. 030027 Permit M1 0003794

FORM APPROVED
OMB No. 156-R0100

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each discharge indicated in Section I, Item 9, that is to surface waters. This includes discharges to municipal sewerage systems in which the wastewater does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. SEPARATE DESCRIPTIONS OF EACH DISCHARGE ARE REQUIRED EVEN IF SEVERAL DISCHARGES ORIGINATE IN THE SAME FACILITY. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. Discharge Serial No. and Name

a. Discharge Serial No. (see instructions)	201a	~~030049~~ 005
b. Discharge Name Give name of discharge, if any. (see instructions)	201b	
c. Previous Discharge Serial No. If previous permit application was made for this discharge (see item 4, Section I), provide previous discharge serial number.	201c	030049

005 = 030049
004 = 030135

2. Discharge Operating Dates

a. Discharge Began Date If the discharge described below is in operation, give the date (within best estimate) the discharge began.	202a	67 12 (YR MO) = 005 ~~004 = 1914~~
b. Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin.	202b	N.A. (YR MO) ~~Not Applicable~~
c. Discharge to End Date If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end.	202c	N/A (YR MO)

3. Engineering Report Available Check if an engineering report is available to reviewing agency upon request. (see instructions) 203 ☐ ~~See Prev. Permit~~

4. Discharge Location Name the political boundaries within which the point of discharge is located.

				Agency Use
State	204a	MICHIGAN	204d	
County	204b	ALLEGAN	204e	
(If applicable) City or Town	204c	PLAINWELL	204f	

5. Discharge Point Description Discharge is into (check one): (see instructions)

Stream (includes ditches, arroyos, and other intermittent watercourses)	205a	☒ STR
Lake		☐ LKE
Ocean		☐ OCE
Municipal Sanitary Wastewater Transport System		☐ MTS
Municipal Combined Sanitary and Storm Transport System		☐ MCS

5 15028

DISCHARGE SERIAL NUMBER

030044

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

005

13. Activity Description Give a narrative description of activity producing this discharge.(see instructions)

213a THE DISCHARGE IS CREATED FROM THE MANUFACTURE OF PAPER FROM 3 THREE FOURDRINER PAPER MACHINES; ONE WITH ON THE MACHINE COATING AND VARIONS FINISHING PROCESSES AND ASSOCIATED EQUIPMENT

004 COOLING WATER FROM COATING PREP. EQUIPMENT AND COMPUTOR OP. COOLING WATER.

14. Activity Causing Discharge For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw-material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the Instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. Raw Materials

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214a	(1)	(2)	(3)	(4)	(5)
	~~26~~	~~WOOD PULP~~	~~224.25~~	~~TON~~	~~NONE~~
	~~26~~	~~CLAY~~	~~26.67~~	~~TON~~	
	~~26~~	~~STARCHES~~	~~7.85~~	~~TON~~	

~~Note for item 26 - there are (3) three main raw materials in making paper. all have same discharge point.~~

b. Products

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214b	(1)	(2)	(3)	(4)	(5)
	26	PAPER	230.00	TON	NONE
	~~26~~	~~[illegible]~~	~~[illegible]~~	~~TON~~	
	~~26~~	~~[illegible] PRINTING~~	~~60.00~~	~~TON~~	
	~~26~~	~~[illegible] BASE~~	~~60.00~~	~~TON~~	

~~Item 26 - 4 main grades produced all with same discharge point.~~

5

15029

DISCHARGE SERIAL NUMBER

030049

FOR AGENCY USE

Municipal Storm Water Transport System		☐ STS
Well (Injection)		☐ WEL
Other		☐ OTH
If 'other' is checked, specify	205b	

6. Discharge Point — Lat/Long Give the precise location of the point of discharge to the nearest second.

Latitude	206a	___DEG ___MIN ___SEC
Longitude	206b	___DEG ___MIN ___SEC

7. Discharge Receiving Water Name Name the waterway at the point of discharge.(see instructions) — 207a: KALAMAZOO RIVER

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete Item 8.

For Agency Use				For Agency Use
Major	Minor	Sub	207c	303e

8. Offshore Discharge

a. Discharge Distance from Shore	208a	45'-61'-67' feet
b. Discharge Depth Below Water Surface	208b	6 feet

THREE DISCHARGES FROM PIPE (3-NOZZLES-EXTENDING FROM 16" OUTLET PIPE.

9. Discharge Type and Occurrence

a. Type of Discharge Check whether the discharge is continuous, or intermittent. (see instructions)	209a	☒ (con) Continuous ☐ (int) Intermittent
b. Discharge Occurrence Days per Week Enter the average number of days per week (during periods of discharge) this discharge occurs.	209b	7 days per week
c. Discharge Occurrence — Months If this discharge normally operates (either intermittently, or continuously) on less than a year-around basis (excluding shutdowns for routine maintenance), check the months during the year when the discharge is operating. (see instructions)	209c	☒ JAN ☒ FEB ☒ MAR ☒ APR ☒ MAY ☒ JUN ☒ JUL ☒ AUG ☒ SEP ☒ OCT ☒ NOV ☒ DEC

Complete Items 10 and 11 if "Intermittent" is checked in Item 9.a. Otherwise, proceed to Item 12. N.A.

10. Intermittent Discharge Quantity State the average volume per discharge occurrence in thousands of gallons. — 210: NA thousand gallons per discharge occurrence.

11. Intermittent Discharge Duration and Frequency

a. Intermittent Discharge Duration Per Day State the average number of hours per day the discharge is operating.	211a	24 hours per day
b. Intermittent Discharge Frequency State the average number of discharge occurrences per day during days when discharging.	211b	___discharge occurrences per day

12. Maximum Flow Period Give the time period in which the maximum flow of this discharge occurs. — 212: From JAN (month) to DEC (month)

15030

DISCHARGE SERIAL NUMBER
030049

FOR AGENCY USE

13. Waste Abatement

a. Waste Abatement Practices
Describe the waste abatement practices used on this discharge with a brief narrative. (see instructions)

2155 Narrative: EACH PAPER MACHINE HAS FIBER WATER RECYCLE AND RECOVERY SYSTEM. FIBER AND WATER IS COLLECTED AFTER SCREENING IN LARGE TANKS - WATER IS REUSED ON EACH MACHINE. UNUSED WATER FLOWS TO A COLLECTOR WELL AND PUMPED TO A PRIMARY CLARIFIER, AERATED LAGOON AND FINALLY TO a Secondary CLARIFIER, Sludge is pumped to holding ponds, surface water removed and remaining sludge hauled to landfill

b. Waste Abatement Codes
Using the codes listed in Table II of the Instruction Booklet, describe the waste abatement processes for this discharge in the order in which they occur if possible.

2159

(1) ESEPAR.	(2) ESEGRE	(3) DHYSIC.
(4) RECOVE.	(5) RECYCL.	(6) RHEATR.
(7) QMONIT.	(8) PSKIMC.	(9) CCOAGU.
(10) CDDRC.	(11) CNUTRI.	(12) BAERAT.
(13) SLAGOO	(14) _____.	(15) _____.
(16) _____.	(17) _____.	(18) _____.
(19) _____.	(20) _____.	(21) _____.
(22) _____.	(23) _____.	(24) _____.
(25) _____.		

DISCHARGE SERIAL NUMBER
0 30049

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

16. Wastewater Characteristics

Check the box beside each constituent which is present in the effluent (discharge water). This determination is to be based on actual analysis or best estimate. (see instructions.)

005

Parameter 216	Present	Parameter 216	Present
Color 00080	X	Copper 01042	
Ammonia 00610	✓	Iron 01045	
Organic nitrogen 00605		Lead 01051	
Nitrate 00620		Magnesium 00927	
Nitrite 00615		Manganese 01055	
Phosphorus 00665		Mercury 71900	
Sulfate 00945		Molybdenum 01062	
Sulfide 00745	X	Nickel 01067	
Sulfite 00740		Selenium 01147	
Bromide 71870		Silver 01077	
Chloride 00940		Potassium 00937	
Cyanide 00720		Sodium 00929	
Fluoride 00951		Thallium 01059	
Aluminum 01105	/	Titanium 01152	
Antimony 01097	/	Tin 01102	
Arsenic 01002		Zinc 01092	/
Beryllium 01012		Algicides* 74051	
Barium 01007		Chlorinated organic compounds* 74052	
Boron 01022		Pesticides* 74053	
Cadmium 01027	X	Oil and grease 00550	X
Calcium 00916	/	Phenols 32730	
Cobalt 01037		Surfactants 38260	
Chromium 01034		Chlorine 50060	
Fecal coliform bacteria 74055		Radioactivity* 74050	

*Specify substances, compounds and/or elements in 26.

Pesticides (insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

7009 PM
1,008,000
4-5 wells
#3 well = 1,[illegible] gals/day — ? Max. 350 gpm.
700 [illegible] gpm
Chemo?

DISCHARGE SERIAL NUMBER
030049

FOR AGENCY USE

17. Description of Intake and Discharge

For each of the parameters listed below, enter in the appropriate box the value or code letter answer called for.(see instructions)

In addition, enter the parameter name and code and all required values for any of the following parameters if they were checked in Item 16: ammonia, cyanide, aluminum, arsenic, beryllium, boron, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols, oil and grease, and chlorine (residual).

3.0 MGD actually discharged + Steam Evaporator + Cooling Prep —

Parameter and Code	Influent: Untreated Intake Water (Daily Average) (1)	Influent: In-Plant Treated Intake Water (Daily Average) (2)	Effluent: Daily Average (3)	Effluent: Minimum Value Observed or Expected During Discharge Activity (4)	Effluent: Maximum Value Observed or Expected During Discharge Activity (5)	Effluent: Frequency of Analysis (6)	Effluent: Number of Analyses (7)	Effluent: Sample Type (8)
Flow* Gallons per day PART — 00056 50050 *NOW TREAT #3 WELL 1,005,000	~~3 wells~~ 1,15[illegible] ~~[illegible]~~ ~~[illegible]~~	~~2.86~~ ~~[illegible]~~ ~~[illegible]~~ MGD	~~2.56~~ 2.526	1.0 MGD	3.46	CONT.	353	~~[illegible]~~
pH Units 00400 Bldg Data →	~~8.2~~	~~8.2~~	X	6.7	7.8	1/1	353	G
Temperature (winter) °F 74028	~~[illegible]~~	~~55~~	67°	52°	75°	~~1/1~~	353	G
Temperature (summer) °F 74027	~~[illegible]~~	65	75°	68°	82°	1/1	363	G
Biochemical Oxygen Demand (BOD 5-day) mg/l 00310 use cooling water data	~~<1.0~~ *	<1.00 ave *	48	22	140	12/11	353	24
Chemical Oxygen Demand (COD) mg/l 00340 12.8 + 7.5	7.5 →	14.86	005 278.8 024 004	~~[illegible]~~ ~~[illegible]~~	305.8 005 ~~[illegible]~~	3/7	3	24 ~~[illegible]~~
Total Suspended (nonfilterable) Solids mg/l 00530 Cooling water * Data	~~<1.0~~ *	<1.0 *	56	10.00	15	1/1		24
Specific Conductance micromhos/cm at 25° C 00095 7/19/78 *	~~[illegible]~~	622	X	780	850	1/1	6	24 ~~[illegible]~~
Settleable Matter (residue) ml/l 00545 Check one —	~~<1.0~~	<1.0	4.0	0.50	2.00	5/7	5	G

*Other discharges sharing intake flow (serial numbers).(see instructions)

* Bldg — Total 9/77

Use Settle matter mg/L ?

G = Grab 24 hrs ?

Do NOT NORMALLY MEASURE WATER TEMP. WINTER OR SUMMER. Only ~~[illegible]~~ Winter 1972 — (55°C)

15033

DISCHARGE SERIAL NUMBER
030049

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

17. (Cont'd.)

Parameter and Code 2174	Influent: Untreated Intake Water (Daily Average) (1)	Influent: In-Plant Treated Intake Water (Daily Average) (2)	Effluent: Daily Average (3)	Effluent: Minimum Value Observed or Expected During Discharge Activity (4)	Effluent: Maximum Value Observed or Expected During Discharge Activity (5)	Effluent: Frequency of Analysis (6)	Effluent: Number of Analyses (7)	Effluent: Sample Type (8)
00610 AMMONIA	—	0.12	0.8	0.8	0.8	1/7	1	24
ALUMINUM 01105	—	LT.50	LT.50	LT.50	LT.50	1/7	1	24
~~ZINC~~	—	~~[illegible]~~						
OIL & GREASE 00550	—	0.0	2.94	0.20	9.70	1/7	52	G

18. Plant Controls Check if the following plant controls are available for this discharge.

Alternate power source for major pumping facility. — 218 — ☒ APS

Alarm or emergency procedure for power or equipment failure — ☒ ALM

Complete item 19 if discharge is from cooling and/or steam water generation and water treatment additives are used.

19. Water Treatment Additives If the discharge is treated with any conditioner, inhibitor, or algicide, answer the following:

a. Name of Material(s) — 219a — PERCOL 726; NOPCOFLOC 154

b. Name and address of manufacturer — 219b — PERCOL 726 – ALLIED COLLOIDS INC., ONE ROBINSON LANE, RIDGEWOOD N.J. 07450; NOPCOFLOC – DIAMOND SHAMROCK – P.O. BOX 2386R MORRISTOWN, NEW JERSEY, 07960

c. Quantity (pounds added per million gallons of water treated). — 219c — 8.34#

15034

DISCHARGE SERIAL NUMBER
030049

FOR AGENCY USE

d. Chemical composition of these additives (see instructions). | 219d | POLYACRYLAMIDES

Complete items 20-25 if there is a thermal discharge (e.g., associated with a steam and/or power generation plant, steel mill, petroleum refinery, or any other manufacturing process) and the total discharge flow is 10 million gallons per day or more. (see instructions)

20. Thermal Discharge Source Check the appropriate item(s) indicating the source of the discharge. (see instructions) | 220

- Boiler Blowdown ☐ BLBD
- Boiler Chemical Cleaning ☐ BCCL
- Ash Pond Overflow ☐ APOF
- Boiler Water Treatment — Evaporator Blowdown ☐ EPBD
- Oil or Coal Fired Plants — Effluent from Air Pollution Control Devices ☐ OCFP
- Condenser Cooling Water ☐ COND
- Cooling Tower Blowdown ☐ CTBD
- Manufacturing Process ☐ MFPR
- Other ☐ OTHR

NOT APPLICABLE 20-25

21. Discharge/Receiving Water Temperature Difference

Give the maximum temperature difference between the discharge and receiving waters for summer and winter operating conditions. (see instructions)

- Summer | 221a | ____°F.
- Winter | 221b | ____°F.

22. Discharge Temperature, Rate of Change Per Hour | 222 | ____°F./hour

Give the maximum possible rate of temperature change per hour of discharge under operating conditions. (see instructions)

23. Water Temperature, Percentile Report (Frequency of Occurrence)

In the table below, enter the temperature which is exceeded 10% of the year, 5% of the year, 1% of the year and not at all (maximum yearly temperature). (see instructions)

Frequency of occurrence

		10%	5%	1%	Maximum
a. Intake Water Temperature (Subject to natural changes)	223a	°F	°F	°F	°F
b. Discharge Water Temperature	223b	°F	°F	°F	°F

24. Water Intake Velocity (see instructions) | 224 | ____feet/sec.

25. Retention Time Give the length of time, in minutes, from start of water temperature rise to discharge of cooling water. (see instructions) | 225 | ____minutes

15035

FORM APPROVED
OMB No. 158-R0100

DISCHARGE SERIAL NUMBER

030049

FOR AGENCY USE

26. Additional Information

26 Item	Information
17-2	MILL INTAKE WATER CHLORINATED BEFORE USE WITHIN THE MILL.
	TOOK (5) FINE SETTLEABLE MATTER VOLUMETRIC MON. THRU FRIDAY WEEK ENDING 9/17/78
17-2	WINTER TEMPERATURE NOT CHECKED IN RECENT YEARS FOR WELL WATER FOUND ONLY OLD DATA SHOWING WINTER TEMPERTURES.

15036

II

I

150 TD Mill Capacity

Form 878

3.312.000 gpd pumped
− 60.000 gpd Boiler make up
− 72.000 gpd drying
process − 1.700.000 gpd Waste Treatment Plant
1.480.000 Cooling water

For max assume 5%.

II Future 200 TD Capacity

3.400.000 gpd pumped
86.500 gpd Boiler make up
96.000 gpd loss Drying
Process 2000.000 To waste Treatment Plant
1.417.500 Cooling water

City water 6¢
15.426.000 ÷ 360 = 42.800

Cooling water sources
Seal water to all pumps
Cooling water to #4 Ball shifters
+ Cooling water to air conditioners
Cooling water to heat exchangers ie
(Machine drying systems)

J Fig 200 TD

Max From Well

Form 8

#5 1000 gpm
#4 800 "
#3 700
2500 gpm

2500 x 60 x 24 = 3,600,000 gpd

Boiler makes up max 720,000 gal/day
720,000 ÷ 8.33 = 86,500 gpd.

Paper dried
200 TD
200 x 2000 x 2 = 800,000 gal/day
800,000 ÷ 8.33 = 96,000 gpd drying

Potable 50,000 gpd.

Waste Treatment
Design 10,600 gal per Ton
10,600 x 200 = 2,100,000 gpd.
2000 000 max Cap.
2,000,000 + 96,000 + 86,500 = 2182500
3600000 - 2182500 = 1417500
Cooling water

Present loading For 3 Machines Form 8

#5 Well 1000 gpm
#4 Well 600 gpm
#3 Well 700 gpm
2300 gpm

2300 x 60 x 24 = 3312000 gpday From wells

Boiler Make up 500.000 #/day (20%)
50000 ÷ 8.33 = 60.000 gpd.

Paper dried 3# water/1# paper
150 ton day
150 x 2000 x 3 = 600.000 #water
600.000 ÷ 8.33 = 72000 gal/day drying

Potable water City
16 426.000 ÷ 365 = 42500 gpd.

From - Jim Hays
Load to Waste Treatment Plant
1.700.000 Gall/day

1.700000 + 60.000 + 72000 = 1832,000
3312000 - 1.832.000 = 1.480.000

Cooling water

15039

WATER REMOVED
150 TD Production

C. J. Hays
O Saddler
D Martin

Form 871

60% Moisture to Dryers
5% Moisture to Size Press
30% Moisture to 3d Section
5% Moisture to Reel

1 + .40(stock) x 100 = 2.5# Water + Stock
60% - 5% = 55% Water removed
2.5 x .55 = 1.375# Water removed
First Dryer section

1 + .30(stock) x 100 = 1.43# Water + Stock
.30 - .05 = 25% water removed
1.43 x .25 = .359# Water removed
by 3'd section

1.375 + .359 = 1.734# Water removed
by drying

From Paper + Paper board drying pg 64
avg .3 lb water to lb paper loss at wet end

1.734 + .3 = 2.034# Water/lb paper

use 2 lb water to lb paper

S MacDonald

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES

DEPARTMENT OF NATURAL RESOURCES
BOX 355
PLAINWELL, MICHIGAN 49080

15041

Mr. Carl Gren
Plainwell Paper Company
200 Allegan Street
Plainwell, Michigan 49080

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
E. R. CAROLLO
MARLENE J. FLUHARTY
STEPHEN F. MONSMA
O. STEWART MYERS
RAYMOND POUPORE
HARRY H. WHITELEY

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

RONALD O. SKOOG, Director

District 12 Headquarters
P.O. Box 355, Plainwell, Michigan 49080
May 7, 1985

Mr. George Lawton
Plainwell Paper Company
200 Allegan Street
Plainwell, Michigan 49080

Dear Mr. Lawton:

Staff of the Department of Natural Resources have completed review of the Short Term Waste Characterization Study submitted by Plainwell Paper Company. This study is a requirement of NPDES Permit No. MI-0003794. With the exception of chloroform, this study did not find any purgeable halocarbons present in outfall 004 or 005 at a level of public health or environmental concern.

On December 13, 1984, chloroform was found in outfall 005 at a concentration of 1 mg/l. It should be noted that the chloroform concentration found on that day was significantly higher than was found during the rest of the study period. To confirm whether or not chloroform is being discharged from Plainwell Paper Company, I am directing that Plainwell Paper Company analyze treated effluent from outfall 005 once a week for six weeks. The analysis should be for chloroform, using U.S. EPA analytical method 601. If this testing indicates chloroform is being discharged at a level of public health or environmental concern, then a water quality based effluent limit will be recommended.

The results of the monitoring should be submitted to:

Mr. Fred Morley, P.E., District Supervisor
Surface Water Quality Division
Department of Natural Resources
P.O. Box 355, 621 North 10th Street
Plainwell, Michigan 49080

If you have any questions, please call me at the Plainwell District office.

Sincerely,

SURFACE WATER QUALITY DIVISION

Garth Aslakson

Garth Aslakson
Water Quality Specialist
Plainwell District
616-685-9886

GA:ek

cc: Carl Gren

15042

From D. Hill #4
in file labelled
"Water Resources Commission
1972"

LEGEND

WASTEWATER CONTROL STATUS REPORT

* Prime Station Number:	Assigned by Water Resources Commission staff to each plant and outfall location in the state. First two digits indicate county location. See attached map.
Region and District:	The Water Resources Commission Enforcement Region and District that has jurisdiction. See attached map.
Major River Basin:	Major river basin in which the outfall is located. A major basin is defined as one directly tributary to the Great Lakes and/or connecting channels. GW indicates a groundwater discharge.
Commission Order, Stipulation or Court Order:	Indicates type and number of Water Resources Commission orders and/or stipulations in effect. F = Final Order of Determination V = Voluntary Stipulation * = Order of Determination
Annual Rating:	A = Control Adequate B = Control Provided - adequacy not fully established. "C"= Water Resources Commission has discontinued use of "C" rating. D = Control provided - unreliable. E = Control inadequate Subscripts c = construction underway. p = plans being prepared. s = studies underway.

* Note: A prime station number does not appear for each rated plant or location. These numbers will be assigned in the future.

15044

SUMMARY

INDUSTRIAL

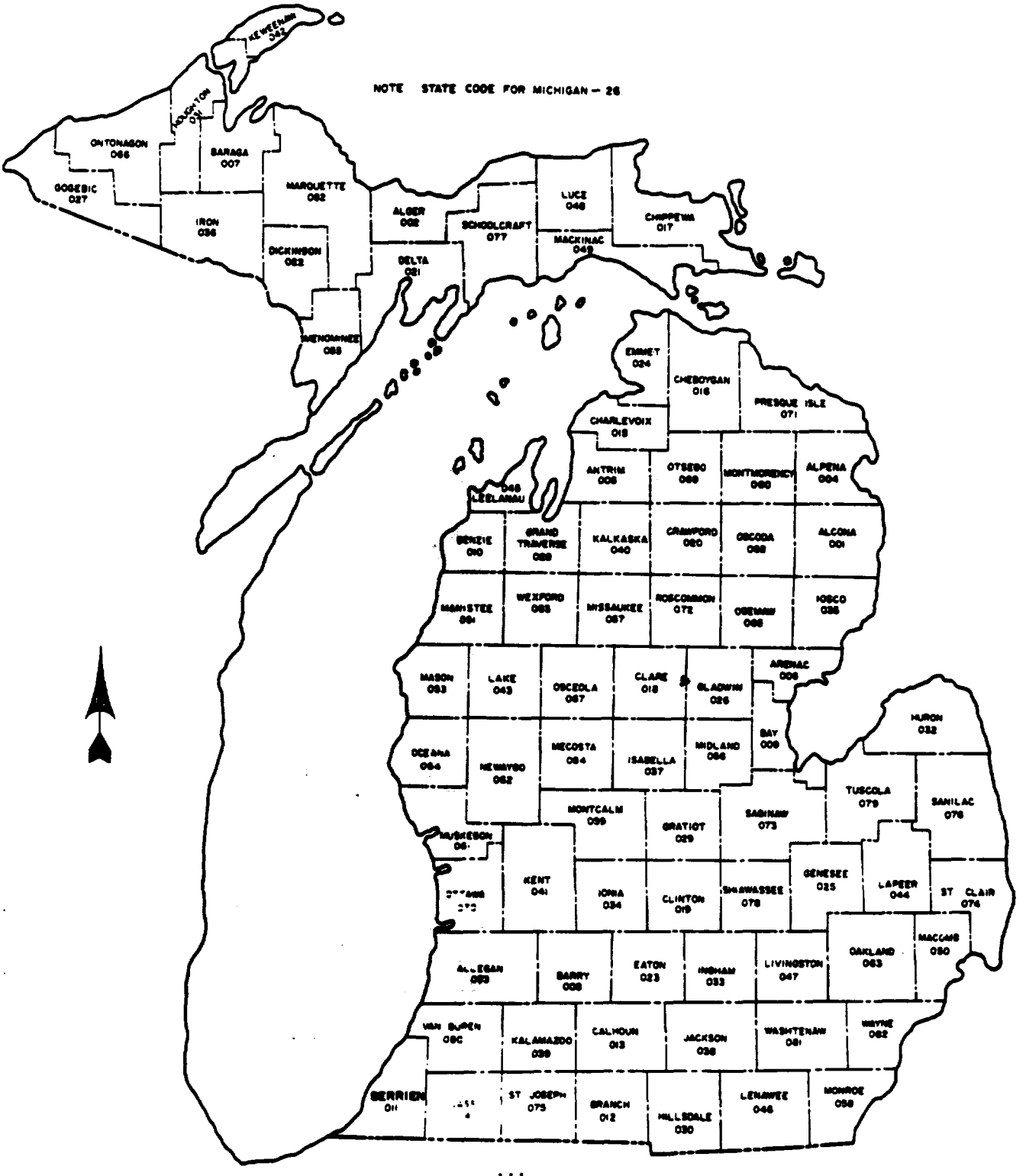
Ratings	YEAR 1969	1970	1971
A	230	306	383
B	178	198	465
C	7	----	----
D	46	41	32
E	106	115	110
Total	567	660	990

COMMERCIAL

Ratings	YEAR 1969	1970	1971
A	116	133	187
B	57	62	147
C	----	----	----
D	17	12	8
E	11	10	14
Total	201	217	356

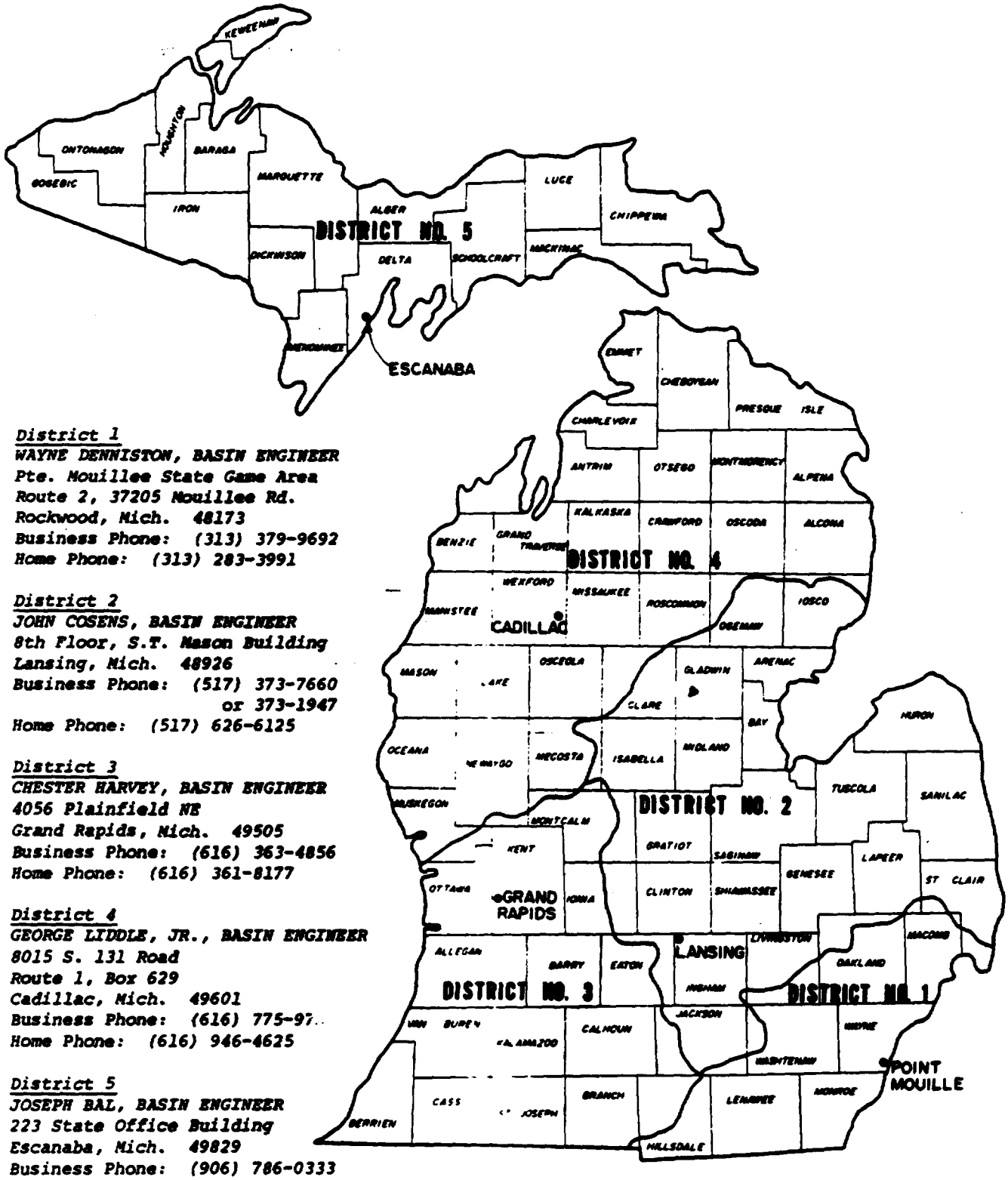
5 15045

STORET SYSTEM
COUNTY CODE NUMBERS



5 15046

MICHIGAN
WATER RESOURCES COMMISSION
DISTRICT OFFICES



District 1
WAYNE DENNISTON, BASIN ENGINEER
Pte. Mouillee State Game Area
Route 2, 37205 Mouillee Rd.
Rockwood, Mich. 48173
Business Phone: (313) 379-9692
Home Phone: (313) 283-3991

District 2
JOHN COSENS, BASIN ENGINEER
8th Floor, S.T. Mason Building
Lansing, Mich. 48926
Business Phone: (517) 373-7660
or 373-1947
Home Phone: (517) 626-6125

District 3
CHESTER HARVEY, BASIN ENGINEER
4056 Plainfield NE
Grand Rapids, Mich. 49505
Business Phone: (616) 363-4856
Home Phone: (616) 361-8177

District 4
GEORGE LIDDLE, JR., BASIN ENGINEER
8015 S. 131 Road
Route 1, Box 629
Cadillac, Mich. 49601
Business Phone: (616) 775-97..
Home Phone: (616) 946-4625

District 5
JOSEPH BAL, BASIN ENGINEER
223 State Office Building
Escanaba, Mich. 49829
Business Phone: (906) 786-0333
Home Phone: (906) 425-5411

15047

INDUSTRIAL

WASTEWATER CONTROL

STATUS

FOR

1971

5 15048

INDUSTRIAL
WASTEWATER CONTROL STATUS - 1971

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING 1969	1970	1971
700032	2	3	A.S.P. Manufacturing Co. Grand Haven	Grand	*	B	A	A
630039	1	1	A.T.& G. Manufacturing & Approved Manufacturing Company, Inc. Farmington	Detroit		A	A	A
040018	2	4	Abitibi Corp. - Alpena Plant Alpena	Lake Huron	V 00141	E	E_{sp}	E
320031	1	2	Active Industries - Elkton	Pinnebog	V 00038	B	B	D_c
410004	2	3	Ada Beef Company - Ada	Grand GW		A	A	A
	1	1	Addison Products - Addison	Maumee				B
300013	2	3	Addison Products - Jonesville	St. Joseph GW		A	A	A
630055	1	1	Adell Industries - Novi	Detroit	*	D	E	E
090034	1	2	Aetna Portland Cement Co.-Essexville	Saginaw			B	B
	1	2	Albert Sand & Gravel, Inc. Fowlerville	Grand				B
030012	2	3	Allegan Metal Finishing Company Allegan	Kalamazoo	*	D	B	D
230001	2	3	Allen Packing Company - Charlotte	Grand		A	A	A
700031	2	3	Allendale Packing Company Allendale	Grand		A	A	A
820294	1	1	Allied Chemical Corp., Semet-Solvay Div., Detroit Coke Plant - Detroit	Detroit	V 00006			A
			OIL-MG/L			E	D	
			PHENOL			E	D	
820282	1	1	Allied Chemical Corp., Semet-Solvay Div., Detroit Tar Plant - Detroit	Detroit		B	D	E
820312	1	1	Allied Chemical Corp., Indus. Chem. Div., Det. Chem. Works - Detroit	Detroit	V 00024	D	A	A
390049	2	3	Allied Paper Corp.- Kalamazoo	Kalamazoo	V 00175			A
290048	1	2	Alma Freezer Co. - Alma	Saginaw				B
290004	1	2	Alma Products Co. - Alma	Saginaw		A	A	B

5 15049

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	1	American Aggregates Corporation Plant 310 - Brighton	Huron				B
	1	1	American Aggregates Corporation Plant 311 - Oxford	Clinton				B
	1	1	American Aggregates Corporation Plant 312 - Romeo	Clinton				B
390008	2	3	American Aggregates Corporation Plant 314 - Kalamazoo	Kalamazoo		A	A	A
340002	1	2	American Anodco Corporation - Ionia	Grand GW	*	A	A	A
500064	1	1	American Asbestos Products Co. Industrial Fiber Products -	Clinton				E_c
550022	2	5	American Can Company - Menominee	Menominee	V 00133	B	B	A
820308	1	1	American Cement Corp. Peerless Cement Div. Brennan St. Plant Detroit	Detroit	V 00132	E	E_c	E
820348	1	1	American Cement Corp. Peerless Cement Div. Forman Ave. Plant Detroit	Detroit	*			B
610149	2	4	American Coil Spring Company Muskegon	Mona Lake Outlet				B
390011	2	3	American Cyanimid Corporation Kalamazoo	Kalamazoo GW		B	B	B
210028	2	5	American Cyanimid Corporation Escanaba	Escanaba GW	*	B	A	A
	2	4	American Porcelain Enamel Company Muskegon	Muskegon				B
780023	1	2	American Record Pressing Co. Owosso	Saginaw				D
	2	4	Amstead Industries, Inc. - Muskegon	Muskegon				B
410005	2	3	Amway Corporation - Ada	Grand		D	D_p	E_p
820283	1	1	Anaconda American Brass Co. Detroit	Detroit		B	B	E

5 15050

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
100022	2	4	Ann Arbor Railroad Car Ferry Dock Frankfort	Betsie		A	A	A
030013	2	3	Ano-Kal Company - Plainwell	Kalamazoo GW	*	A	A	A
390009	2	3	Anodize Specialists Corp. - Oshtemo	Kalamazoo GW		A	A	A
	1	1	Armco Steel Corporation - Plymouth	Detroit				B
630008	1	1	Artco, Subsidiary of US Industries, Inc. - Lake Orion	Clinton GW	*	B	B	B
	1	1	Associated Spring Corporation, Ann Arbor	Huron				B
820284	1	1	Associated Spring Corporation Plymouth	Detroit		C	B	A
	2	3	Atco Rubber Products, Inc. Grand Haven	Grand				B
410006	2	3	Attwood Corporation - Lowell Cooling Water Plating Waste	Grand	V 00045	B	B	 B B
630038	1	1	Auburn Heights Manufacturing Auburn	Clinton		E	B	D
760018	1	2	Aunt Janes Foods Div. of Borden Inc. Croswell	St. Clair	*	A	A	A
590003	2	3	Aunt Janes Foods Div. of Borden Inc. Edmore	Grand		B	B	A
800067	2	3	Auto Specialties Mfg. Co. Hartford Div. - Hartford	St. Joseph				B
110164	2	3	Auto Specialties Mfg. Co. Riverside Div. - Benton Harbor	St. Joseph				B
110067	2	3	Auto Specialties Mfg. Co. St. Joseph Div. - St. Joseph	St. Joseph		E	E_c	B
630051	1	1	Avon Industries - Rochester	Clinton	V 00191	E	E_s	E_p

15051

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
010004	2	4	B & M Market - Lincoln	AuSable				B
470037	1	2	Bain Packing & Ref. Co. - Howell	Saginaw GW				B
460088	1	1	Baker, Gerald - Hudson	Maumee				B
520013	2	5	Bancroft Dairy, Inc. - Marquette	Dead		E	E	B
	2	3	Battle Creek Rendering Co. Battle Creek	Kalamazoo				B
210054	2	5	Bay De Noc Packing Co. - Escanaba	Escanaba				B
090011	1	2	Bay Refining Company, Division of Dow Chemical Company Bay City	Saginaw	*			
			OIL			A	A	A
			PHENOL			A	A	A
450019	2	4	Bay View Orchards, Inc. - Omena	Lake Michigan				A
550018	2	5	Bayerls Wholesale Meat Market Menominee	Menominee		A	A	A
340022	2	3	Belding Fruit Storage Inc. Belding	Grand GW			A	A
550019	2	5	Bellefeuil, H. & N. - Wilson	Cedar GW	*	A	A	A
820085	1	1	Belleville Plating Company Belleville	Huron		A	A	B
110068	2	3	Bendix Corporation Hydraulics Div. St. Joseph	St. Joseph	*	A	A	B
570004	2	4	Benthems Slaughter & Proc. - McBain	Muskegon				B
110107	2	3	Benton Harbor Malleable - Benton Harbor	St. Joseph		E	E_c	E_c
730057	1	2	Bernthal Packing - Frankenmuth	Saginaw GW				A
090056	1	2	Berthiaume Slaughterhouse Pinconning	Pinconning GW				A
390091	2	3	Besbris, Max & Sons Inc. - Kalamazoo	Kalamazoo GW				A

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
040019	2	4	Besser Company - Alpena	Thunder Bay	*	A	A	A
700033	2	3	Bil-Mar Foods, Inc. - Borculo	Pigeon - Ottawa		B	A	A
410065	2	3	Bissell Incorporated - Walker Sanitary Wastes	Grand	*	A	A	A
410064	2	3	Bissell Incorporated - Walker Industrial Wastes	Grand		A	D	A
080003	2	3	Bliss, E. W. - Hastings	Grand		D	D	A
460018	1	1	Blissfield Canning Co., Inc. Blissfield	River Raisin GW	*	A	A	A
460110	1	1	Blissfield Manufacturing Co. Blissfield	Raisin				E_s
830014	2	4	Bob's Market & Locker Plant Cadillac	Muskegon				B
800048	2	3	Bohn Aluminum Corporation South Haven	Lake Michigan			A	A
700034	2	3	Bohn Aluminum Corporation - Holland	Black River - Holland	*	A	A	A
610117	2	3	Bonter's Slaughterhouse - Bailey	Grand				B
310008	2	5	Bosch Brewing Company - Houghton	Portage		B	A	A
540029	2	4	Bovens Custom Butchering - Morley	Muskegon				B
760038	1	2	Brabant Meat Packing Co. Croswell	St. Clair GW	*			A
080007	2	3	Bradford-White Corp., White Prod. Div. - Middleville	Grand		E	D_s	D_p
050025	2	4	Bradshaws Slaughterhouse - Bellaire	Elk				B
140015	2	3	Bradys Midway Market - Cassopolis	St. Joseph				B
810023	1	1	Braun-Brumfield - Scio Twp. Washtenaw Co.	Huron GW	*	C	B	E

15053

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
500016	1	1	Briggs Mfg. Co. - Sterling Twp. Co.	Clinton	*			B
090057	1	2	Brocks Slaughterhouse - Pinconning	Pinconning GW				A
120004	2	3	Bronson Manufacturing & Plating Co. Bronson	St. Joseph GW	F 00020	D	B	A
120005	2	3	Bronson Reel Co., Div., Bronson Specialties, Inc. - Bronson	St. Joseph GW		B	A	A
830001	2	4	Brooks and Perkins, Inc. - Cadillac Manufacturing Div. - Cadillac	Muskegon	*	B	A	A
	2	3	Brooks Products Inc. - Holland	Black-Holland				B
390015	2	3	Brown Company, KVP Division Mill 2 - Parchment	Kalamazoo	V 00181			
			BOD-5			A	A	A
			SOLIDSUS			A	A	A
390014	2	3	Brown Company, KVP Division Mill 1 - Parchment	Kalamazoo	V 00181			
			BOD-5#			A	A	D
			SOLIDSU#			A	A	D
390042	2	3	Brown Company, KVP Division Mill 1 - Parchment Acid Waste Sewer to Kalamazoo R.	Kalamazoo	*		E_p	B
	2	4	Browne-Morse Co. - Plant #1 Muskegon	Little Black Creek				B
	2	4	Brunswick Corp. - Muskegon	Muskegon				B
190001	1	2	Buggs Brothers Lockers - St. Johns	Grand GW	*	A	A	A
810032	1	1	Buhr Machine Tool Co. - Ann Arbor	Huron		C	B	B
640130	2	4	Bull, Vernon, Cherry Processing Plant - Benona Twp., Oceana Co.	Lake Michigan	*			B
730058	1	2	Bunyan, Paul, M t Prod., Inc. Saginaw	Saginaw GW				B
	2	3	Burch Printers, Inc. - Benton Harbor	St. Joseph				B
	2	3	Burdett Oxygen Company - Portage	Kalamazoo				B

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
800022	2	3	Burnette Farms Packing Co. Lawrence	St. Joseph GW		B	B	B
820286	1	1	Burroughs Corporation - Plymouth	Detroit		A	A	A
	1	1	Busch, C. H., Ind. - Troy	Clinton GW				B
210055	2	5	Bushey, Joe - Escanaba	Escanaba				B
390037	2	3	Cadillac Plastics - Kalamazoo	Kalamazoo			E	E_{pc}
410109	2	3	Caledonia Packing Co. - Caledonia	Grand				B
820287	1	1	Cam Chem Company - Chemical Recovery Systems, Div. of Nolwood Chem. Co. Wayne	Detroit	*	B	E_p	B
610034	2	4	Campbell, Wyant and Cannon Muskegon	Muskegon		B	B	B
610035	2	4	Campbell, Wyant and Cannon Muskegon Heights	Mona Lake Outlet		B	B	B
800088	2	3	Campbell, Wyant & Cannon, National Motor Castings Division South Haven	Black South Haven				B
460089	1	1	Carltons Freezer Processing Blissfield	Raisin				D
	1	2	Carmet Co., Carmet Div. - Bad Axe	Pinnebog GW				B
590004	1	2	Carnation Company - Sheridan	Grand		A	A	A
	1	2	Carnation Co. - Barryton	Saginaw				B
	2	5	Carney Milk Products - Carney	Menominee				B
590042	1	2	Carson City Lockers - Carson City	Grand				B
410035	2	3	Cascade Data Computer Systems Grand Rapids	Grand	*	A	A	A
070009	2	5	Celotex Corporation - L'Anse	Falls River GW	*	A	A	A
050003	2	4	Central Lake Industries Central Lake	Elk River		A	A	A
	2	4	Certified Concrete Inc. Muskegon Heights	Little Black Creek				B

15055

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
700035	2	3	Challenge Stamping & Porcelain Co. Grand Haven	Grand		E	B	A
160025	2	4	Charmin Paper Products Company Cheboygan	Cheboygan	*	A	A	A
640015	2	4	Chase Orchard - Walkerville	Pere Marquette GW	*		B	A
280030	2	4	Chef Pierre Inc. - Traverse City Discharge to Groundwater	Boardman GW	*	B	B	B
280032	2	4	Chef Pierre, Inc. - Traverse City Discharge to Boardman Lake	Boardman	*	A	A	A
820268	1	1	Chem Met Services - Brownstown Township, Wayne Co.	Huron	*	B	A	A
470015	1	2	Chem-Trend Inc. - Howell	Grand			B	A
700073	2	3	Chemetron Corp. - Holland Discharge to Lake Macatawa	Black-Holland		E	D_p	B
700077	2	3	Chemetron Corp. - Holland Deep Well Disposal to Groundwater	Black-Holland		A	A	A
610039	2	3	Cherry Hill Orchards - Bailey	Grand GW	*			A
280047	2	4	Cherry Hill Orchards, Inc. Cherry Pitting Operation Peninsula Twp., Grand Traverse Co.	Lake Michigan	*			B
250028	1	2	Chesapeake & Ohio Railroad - Flint	Saginaw				B
530057	2	4	Chesapeake & Ohio Railroad Yards Ludington	Pere Marquette				B
	2	4	Chesapeake & Ohio Railroad Muskegon	Muskegon				B
	1	2	Chesapeake & Ohio Railroad Saginaw	Saginaw				B
410008	2	3	Chesapeake & Ohio Railroad Yards Wyoming	Grand		E	E_p	B
	2	3	Chris-Craft Corp. - Holland Div. Holland	Black-Holland				A
	2	3	Chris-Craft Corp. - Roamer Div. Holland	Black-Holland				A

15056

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
820349	1	1	Chrysler Corporation Engine Plant Trenton	Detroit	*	D	B	A
810009	1	1	Chrysler Corporation Introl Div. Scio Plant - Ann Arbor	Huron	V 00211	B	A	B
340004	1	2	Chrysler Corporation Lyons Trim Lyons	Grand	*	A	A	A
820289	1	1	Chrysler Corporation Chemical Div. Trenton	Detroit	V 00102	E	B	A
	1	1	Chrysler Corporation Chelsea Proving Grounds - Chelsea	Huron				B
	1	1	Chrysler Corporation Detroit Tank Plant - Detroit	Detroit				B
740112	1	2	Chrysler Corporation Parts Div. Marysville	St. Clair	V 00212			A
	1	1	Chrysler Corporation Introl Div. Ann Arbor	Huron				B
380001	1	2	Clark Equipment Company - Jackson	Grand		B	A	A
130007	2	3	Clark Equipment Company - Battle Creek	Kalamazoo		A	A	A
110070	2	3	Clark Equipment Company - Buchanan	St. Joseph		E	E	E_p
	2	3	Clark Equipment Co.- Niles	St. Joseph				A
290049	1	2	Clark Packing - Ithaca	Saginaw				B
630041	1	1	Clawson Concrete - Pontiac Twp. Oakland Co.	Clinton			D	E
520021	2	5	Cleveland-Cliffs Iron Company Eagle Mills	Carp GW	*	A	A	A
120027	2	3	Climax-Molybdenum - Coldwater	St. Joseph				A
150037	2	4	Coblentz, Cal, Custom Foods East Jordon	Pine-Charlevoix				B
	1	1	Coca-Cola Bottling Company Ann Arbor	Huron				B
610052	2	4	Coil Anodizers Inc., Div. of Lorin Ind. - Muskegon	Mona Lake Outlet	*	B	E	E

5 15057

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
120007	2	3	Coldwater Rendering Co.- Coldwater	St. Joseph	F 01253			B
370017	1	2	Collins Locker Plant - Mt. Pleasant	Saginaw GW				A
110071	2	3	Coloma Cooperative Canning Co. Inc. Coloma	St. Joseph		D	D	B
180018	1	2	Colt Industries - Clare	Saginaw				B
280025	2	4	Concrete Services, Inc. Traverse City	Boardman			B	B
780038	1	2	Confers Slaughterhouse New Lothrop	Saginaw GW				A
	2	5	Consolidated Coal Co., Lime Island Plant - Goetzville	Lake Huron North Shore				B
	2	3	Consolidated Foundries & Mfg. Co. Holland	Black-Holland				B
580104	1	1	Consolidated Packaging Corp. North Side Plant - Monroe	Raisin	V 00012			
			BOD-5#				E	E_c
			SOLID-SU#				E	E_c
580105	1	1	Consolidated Packaging Corp. South Side Plant - Monroe	Raisin	V 00033			
			BOD-5#				E	E_c
			SOLID-SU#				E	E_c
500080	1	1	Consumers Power Co.-Clinton Twp. Macomb Co.	Clinton	*	B	B	B
390018	2	3	Consumers Power Co.-(B. E. Morrow Plant)--Comstock	Kalamazoo		A	A	B
730033	1	2	Consumers Power Co. - Zilwaukee	Saginaw			B	B
150013	2	4	Consumers Power Co. - (Big Rock Nuclear Plant) - Charlevoix	Lake Michigan	*	A	A	A
580112	1	1	Consumers Power Co. - (J.R. Whiting Plant) - Eric Twp., Monroe Co.	Lake Erie		B	A	A
530042	2	4	Consumers Power Co. - Ludington	Pere Marquette	*		B	B
700036	2	3	Consumers Power Co.-(J. H. Campbell Plant) - West Olive	Lake Michigan	*	A	A	A

15058

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
610055	2	4	Consumers Power Co. - (B. C. Cobb Plant) - Muskegon	Muskegon	*	B	A	A
740045	1	2	Consumers Power Co. - (St. Clair Compressor Station) - Ira Twp., St. Clair Co.	St. Clair	*	A	A	A
090012	1	2	Consumers Power Co. - (J. C. Weadock Plant) - Essexville	Saginaw	*	B	B	B
	2	3	Consumers Power Co. - (Elm Street Plant) - Battle Creek	Kalamazoo				A
090038	1	2	Consumers Power Co.-(D. E. Karn Plant) - Essexville	Saginaw	*			B
	2	3	Consumers Power Co. - (Wealthy St. Generating Plant)- Grand Rapids	Grand				A
	2	3	Consumers Power Co. -(Kalamazoo Steam Heating Plant)- Kalamazoo	Kalamazoo				A
	1	2	Continental Can Co., Inc. - Midland	Saginaw				B
	2	3	Continental Can Co., Plant #22 Three Rivers	St. Joseph				A
390092	2	3	Conyer Packing Co. - Richland	Kalamazoo				B
130008	2	3	Corning Glass Works - Albion	Kalamazoo	*	B	B	B_c
310027	2	5	Cornish Style Pasties - Houghton	Portage				B
560048	1	2	Cozat Brothers Packing Co. Coleman	Saginaw				B
540014	2	4	Cranny Anderson Feedlot - Morley	Muskegon GW			E_c	B
060012	1	2	Crew Products Company - AuGres	AuGres		E	D	B
	1	2	Crouse Clark Corp.-Waldenwoods Hartland	Saginaw GW				B
590005	1	2	Crystal Refining Company Carson City	Grand		B	B	B

5 15059

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	2	D.A.B. Industries Inc. - Vassar	Saginaw				B
	1	2	D. & J. Gravel Company - Howell	S. Br. Shiawassee				B
820096	1	1	D. T. & I. Railroad Yards Flat Rock	Huron		E	B	E
550020	2	5	Daggett Cheese Factory - Daggett	Menominee GW		A	A	A
050026	2	4	Dainings Proc. Co. - Ellsworth	Elk River				B
	2	3	Dake Corp. - Grand Haven	Grand				B
50060	1	1	Dalia Farms - Ray Twp. - Macomb County - Dairy Farm	Clinton			E	E
590043	2	3	Dan's Processing Plant - Six Lakes	Grand				B
820092	1	1	Dana Corporation - Midwest Frame Div. - Ecorse	Detroit	*	B	B	A
	1	2	Dana Corp.- Atlas Division - Lansing	Grand				B
820293	1	1	Darling and Company - Melvindale	Detroit	V 00044			A
			BOD-5			A	A	
			SOLID-SUS			A	A	
330025	1	2	Dart Containers Corp. - Mason	Grand				B
600003	2	4	Dave & Jim's Pizza, Inc. Hillman	Thunder Bay River				B
300064	2	3	Dave's Custom Butchering Jonesville	St. Joseph				B
470022	1	2	Dayco Corporation - Howell Packaging Film Div.	Saginaw			A	B
290050	1	2	Deano's Farm Market Alma	Saginaw				B
190022	1	2	Deboer, Mark & Son - St. Johns	Grand				B
410009	2	3	DeBruyn Produce Company - Near Byron Center	Grand	*	A	A	A
800061	2	3	Decatur Elevator Co. - Decatur Feedlot	St. Joseph	*			B

5 15060

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
800049	2	3	De Cook Poultry - Grand Junction	Black - South Haven			B	A
440020	1	2	Deering Packing - Silverwood	Saginaw GW				B
610118	2	4	DeMuro's Food Distributors Muskegon	Muskegon				B
750016	2	3	Denton Sleeping Garment Mills Centreville	St. Joseph	F 01296	E	E	E
	1	2	Detroit Battery Co. Inc. - Holly	Saginaw				B
820456	1	1	Detroit, City of, Power Plant Detroit	Detroit				A
820368	1	1	Detroit Edison Co. Delray Plant Detroit	Detroit		B	A	A
320030	1	2	Detroit Edison Company Harbor Beach	Lake Huron Southern	*	A	A	A
740044	1	2	Detroit Edison Company - Marysville	St. Clair		B	A	A
740027	1	2	Detroit Edison Company Port Huron	St. Clair	*	A	A	A
820384	1	1	Detroit Edison Company - Trenton	Detroit	*	B	A	A
820369	1	1	Detroit Edison Company - Wyandotte North Plant	Detroit		E	B	D
580124	1	1	Detroit Edison Company - Enrico Fermi Atomic Power Plant - Monroe	Swan Cr. - Monroe Co.	* *			A
820353	1	1	Detroit Edison Company - Conner Creek Plant - Detroit	Detroit		B	A	A
820352	1	1	Detroit Edison Company - Pennwalt Power Station	Detroit		B	A	A
820194	1	1	Detroit Edison Company - Wyandotte South Plant	Detroit			B	D
820355	1	1	Detroit Edison Company - Rouge Plant	Detroit				E
740046	1	2	Detroit Edison Company - St. Clair	St. Clair	*		A	A
580129	1	1	Detroit Edison Company - Monroe Power Plant	Raisin	*			B
	1	1	Detroit Edison Company - Sibley Quarry - Trenton	Detroit				B

15061

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
820324	1	1	Detroit Metropolitan Airport Romulus	Detroit			E	B
470020	1	2	Diamond Chrome Co. - Howell	Saginaw				B
740028	1	2	Diamond Crystal Salt Company St. Clair	St. Clair		B	B	B
	1	1	Diamond Stamping Co. - Roseville	Lake St. Clair				B
380030	1	2	Diecast Corporation - Jackson	Grand			A	A
700037	2	3	Donnelly Morrors, Inc. - Holland Auto Optics Division	Black-Holland		E	A	A
	2	3	Donnelly Mirrors, Inc. - Durachrome Plant - Holland	Black-Holland				B
120010	2	3	Douglas Manufacturing - Bronson	St. Joseph	F 00019	B	B	A
560004	1	2	Dow Chemical Company Midland	Saginaw	*			D
			ODOR			B	A	B
			BOD-5			A	A	A
			CL			B	E	A
			TOXICITY			E	B	E
530018	2	4	Dow Chemical Company Ludington	Pere Marquette	V 00198	B	E	E
530037	2	4	Dow Chemical Company - Ludington Brine Discharge to Lake Michigan	Pere Marquette	V 00162	B	E	E
560043	1	2	Dow Chemical Company, Agricultural Chem. Research Facility - Midland Township, Midland Co.	Saginaw	*			B
730006	1	2	Dow Corning Corporation - Hemlock	Saginaw	*	A	A	A
090031	1	2	Dow Corning Corporate Center Williams Twp., Bay Co.	Saginaw	*			A
460112	1	1	Driggs Dairy - Palmyra	Raisin				E
170011	2	5	Drummond Dolomite Inc. - Drummond Island	Lake Huron		A	A	A

15062

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
800024	2	3	Du-Wel Metal Products Inc. - Bangor	Black	*	B	B	B_p
800025	2	3	Du-Wel Metal Products Inc. Hartford	St. Joseph	*	A	A	A
			Du-Wel Metal Products Inc. South Haven	Black				A
610038	2	3	Duffy-Mott Incorporated - Bailey	Grand GW	*	A	A	A
280016	2	4	Duffy-Mott Incorporated - Grawn	Boardman GW	*	B	B	B
800023	2	3	Duffy-Mott Incorporated - Hartford	St. Joseph GW	*	A	A	A
280017	2	4	Duffy-Mott Incorporated - Mapleton	Lake Michigan GW	*	B	A	A
450015	2	4	Duffy-Mott Incorporated - Suttons Bay	Lake Michigan		B	A	A
080034	2	3	Dull's Meat Processing Plant Nashville	Grand				B
580081	1	1	Dundee Cement Company Dundee	River Raisin	*	B	A	A
630187	1	1	Dunleavy and Sons - Highland	Huron River - Monroe Co.				B
740029	1	2	Dunn Paper Company - Port Huron	St. Clair		B	B	E
610060	2	4	DuPont de Nemours, E. I. & Company Montague - Groundwater Discharge	Lake Michigan GW	*	A	A	A
610032	2	4	DuPont de Nemours, E. I. & Company Montague - Discharge to Lake Michigan	Lake Michigan	*	A	A	A
	1	1	Dura Corporation - Adrian	River Raisin				B
780039	1	2	Durand Meat Processing - Durand	Saginaw GW				A
110210	2	3	Dwan's Home Canning Company St. Joseph - Cooling Water Discharge to Abraham Dr.	St. Joseph	*			A
800087	2	3	Dwan's Home Canning Company St. Joseph - Discharge to the Paw Paw River	St. Joseph	*			D_p

15063

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
790008	1	2	Dykehouse Pickle Company Inc. Vassar	Saginaw GW	*		B	B
700038	2	3	Eagle Ottawa Leather Company Grand Haven	Grand	V 00145	E	E_p	E_p
150015	2	4	East Jordan Iron Works - East Jordan	Pine - Charlevoix	*	B	A	A
	2	4	East Shore Chemical Company Muskegon	Little Black Creek				B
130010	2	3	Eaton Corporation - Fluid Power Div., Marshall Plant - Marshall	Kalamazoo				A
390019	2	3	Eaton Corporation - Fuller Transmission Div. - Kalamazoo	Kalamazoo		D	D	D_p
130009	2	3	Eaton Corporation - Valve Div. Battle Creek	Kalamazoo		E	B	B
	2	3	Eaton Corporation - Precision Products, Spec. Castings - Marshall	Kalamazoo				B
	1	1	Eaton Corporation - Southfield	Detroit				B
	1	2	Eaton Corporation - Foundry Div. Vassar	Saginaw				B
110072	2	3	Eau Claire Packing Company Eau Claire	St. Joseph		A	A	A
	1	2	Eckrich, Peter & Sons, Inc. Freeland	Saginaw				B
120033	2	3	Ed's Meat Processing - Union City	St. Joseph				A
100018	2	4	Elberta Packing Co. - Elberta	Betsie		B	B	E
450016	2	4	Elk Rapids Packing Co. Lake Leelanau	Lake Leelanau	*	A	A	A
050005	2	4	Elk Rapids Packing Co. Elk Rapids	Elk River		B	B	E
390020	2	3	Ely, Thomas M., Plumbing & Heating Inc. - Kalamazoo	Kalamazoo	*	A	A	A
520014	2	5	Empire Iron Mining Co., Cleveland Cliffs Iron Company - Humboldt Twp., Marquette Co.	Escanaba	*	A	A	A

15064

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
470007	1	2	Entrekin Computers Inc. Tyrone Twp., Livingston County	Saginaw	*		B	A
790028	1	2	Erlas, Incorporated - Cass City	Saginaw				B
210040	2	5	Escanaba Paper Company - Escanaba Process Waste Effluent to the Escanaba River	Escanaba	*	B	B	B
210048	2	5	Escanaba Paper Company - Escanaba Cooling Water Discharge to the Escanaba River	Escanaba	*			A
210020	2	5	Escanaba Paper Company - Escanaba Sanitary Plant Outfall	Escanaba	*			B
750017	2	3	Essex International, Inc. Three Rivers	St. Joseph GW	*	D	B	B
120008	2	3	Essex International, Inc. - Coldwater - Metal Products Div.	St. Joseph	*	A	A	A
250053	1	2	Evans (Slaughterhouse) - Linden	Saginaw				B
820319	1	1	Evans Products Co. - Plymouth	Detroit	V 00041	A	A	A
670002	2	4	Evart Products Co. - Evart	Muskegon		A	A	A
630040	1	1	Ex-Cell-O Corporation, Bryant Computer Prod. - Walled Lake	Detroit	*	B	B	B
470031	1	2	Ex-Cell-O Corporation, Machinery Mfg. Plant - Howell Twp., Livingston County	Saginaw	*			A
340003	2	3	Extruded Metals Co. - Belding Extruded Metal Division	Grand		B	B	B_c
040038	2	4	Fabbrini Family Foods, Inc. Ossineke	Devil River				B
	2	3	Fabri-Kal Corp. - Kalamazoo	Kalamazoo				B
	1	2	Fairmont Foods Company Bad Axe	Pinnebog		B	B	B
	2	3	Farr View Cooperative Dairy Co. Fruitport	Grand				B
590014	2	3	Fedders Corporation - Greenville	Grand		B	E	E_{pc}

5 15065

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
590006	2	3	Federal Mogul Division - Greenville	Grand		A	A	B_p
190006	1	2	Federal Mogul Division - St. Johns	Grand	V 00182		E_p	E
630010	1	1	Federal Steel Company Springfield Twp.	Clinton GW	*	B	B	E
630060	1	1	Fendt Transit Mix - Novi	Detroit			B	A
370003	1	2	Ferro Stamping & Manufacturing Co. Mt. Pleasant	Saginaw		A	B	A
	1	1	Ferro Stamping & Manufacturing Co. Eynon-Dakin Co. - Detroit	Detroit				B
700108	2	3	Fillmore Beef Company - Holland	Black River - Holland				B
820300	1	1	Firestone Steel Products Div. Riverview	Detroit	V 00020	A	E	D
140016	2	3	Fisher's Custom Foods, Inc. Union	St. Joseph				B
110074	2	3	Flamm Pickle Company - Eau Claire	St. Joseph		D	B	A
040020	2	4	Fletcher Paper Company - Alpena	Thunder Bay		E	B	B
630005	1	1	Ford Motor Co. - Wixom Assembly Wixom	Huron	*		B	E_p
780003	1	2	Ford Motor Company - Owosso	Saginaw		A	A	A
580102	1	1	Ford Motor Company Metal Stamping Div. - Monroe	River Raisin	V 00005			B
			OIL-MG/L			E	E_p	E
			CYANIDE			A	A	A
			COLITMPN			B	E	A
			TOXIC METAL					B
820339	1	1	Ford Motor Company - Woodhaven	Detroit				B
820311	1	1	Ford Motor Company (Rouge Plant) Dearborn	Detroit	*			B
			SOLSUS#D			E	E	B_c
			OIL-MG/L			E	E	E_c
			PHENOL#			E	B	A
			FE#					A
			SOLIDSUS			E	E	B

15066

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
820101	1	1	Ford Motor Company - Auto Assembly Division - Wayne	Detroit		E	B	A
500017	1	1	Ford Motor Company - Michigan Proving Ground - Romeo	Clinton	*	A	A	A
820272	1	1	Ford Motor Company - Michigan Truck Division - Wayne	Detroit		E	B	A
820100	1	1	Ford Motor Company - Northville	Detroit		A	A	A
500070	1	1	Ford Motor Company Sterling Twp. Macomb County - Chassis Div.	Clinton	*	E	E	B
500074	1	1	Ford Motor Company - Utica Industrial & Chemical Products Div.	Clinton		A	A	A
	1	1	Ford Motor Company - Rawsonville	Huron				B
	1	1	Ford & Earl Design Associates Warren	Clinton				B
190023	1	2	Fowler - Locker Plant - Fowler	Grand GW				A
730059	1	2	Fowler Packing Company - Chesaning	Saginaw GW				A
	2	3	Formed Tubes, Michigan Division Division of Meridian Industries Sturgis	St. Joseph				B
170022	2	5	Frank & Jim's Restaurant - Kinross	Munuscong				B
100039	2	4	Frankfort Manufacturing Co. Frankfort	Betsie				B
170023	2	5	Freezer Pac Meats - Pickford	Munuscong				B
110075	2	3	French Paper Company - Niles	St. Joseph	V 00121	E	E_p	E
450017	2	4	Frigid Foods, Incorporated Suttons Bay	Lake Michigan	F 00014	A	A	B
550021	2	5	Frigo Cheese Corporation - Carney	Menominee	F 01387	E	E	E_c
800081	2	3	Frontenac Wine Company - Paw Paw	St. Joseph	*	E	E_c	A
	2	3	Fruehauf Corp. - Trailer Div. Grand Rapids	Grand				B
	2	4	Fruit Haven Nursery, Inc.	Manistee GW				A
630011	1	1	Fullerton Manufacturing Company	Huron		B	E	A

5 15067

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
320074	1	2	Gainor's Slaughterhouse - Bad Axe	New River				B
300014	2	3	Game Time, Incorporated - Litchfield	St. Joseph GW	*	A	A	A
	2	3	Gardner - Denver Co. - Grand Haven	Grand				A
810014	1	1	Gelman Instrument Co. - Ann Arbor	Huron GW	*	E	A	A
700109	2	3	Gemmen, A. & Sons - Allendale	Grand				B
590013	1	2	General Electric - Edmore	Saginaw	V 00190		B	B
	2	3	General Electric Co. - Holland	Black-Holland				B
630012	1	1	General Filters, Incorporated Novi	Detroit GW		B	E_s	B
130011	2	3	General Foods Corporation - Battle Creek	Kalamazoo		B	B	B_c
	2	3	General Foods Corporation - Post Division - Battle Creek	Kalamazoo				B
330034	1	2	General Motors Corporation Oldsmobile Div. Plant #1 - Lansing	Grand				B
330026	1	2	General Motors Corporation Oldsmobile Div. Plant #2 - Lansing	Grand				B
330035	1	2	General Motors Corporation Oldsmobile Div. Plant #3 - Lansing	Grand				A
250005	1	2	General Motors Corporation Chevrolet Flint Mfg. - Flint	Saginaw		A	A	A
250002	1	2	General Motors Corporation Fisher Body Div. - Flint	Saginaw	*	A	A	A
250003	1	2	General Motors Corporation AC Spark Plug Div. - Flint	Saginaw	V 00165	A	A	A
250004	1	2	General Motors Corporation Buick Div. - Flint	Saginaw	V 00179	B	B	B
250019	1	2	General Motors Corporation Chevrolet Engine Plant - Flint	Saginaw	*		A	A
250039	1	2	General Motors Corporation Metal Fabricating Plant - Flint	Saginaw			A	A
	1	2	General Motors Corporation Parts Div. - Flint	Saginaw				B

15068

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
730008	1	2	General Motors Corporation Metal Castings Plant - Saginaw	Saginaw	*	A	A	A
820204	1	1	General Motors Corporation Spring & Bumper Plant - Livonia	Detroit		B	A	A
820431	1	1	General Motors Corporation Chevrolet Motor Div. - Livonia	Detroit				A
410002	2	3	General Motors Corporation Diesel Equipment Div. - Wyoming	Grand	*	B	A	A
820102	1	1	General Motors Corporation Detroit Diesel, Allison Div. Detroit	Detroit		A	A	A
250008	1	2	General Motors Corporation, Parts Div. - Swartz Creek	Saginaw	*	A	A	A
250007	1	2	General Motors Corporation, Fisher Body Div. - Grand Blanc	Saginaw		B	B	A
410135	2	3	General Motors Corporation Fisher Body - Grand Rapids	Grand	*			B
090055	1	2	General Motors Corporation Chevrolet Motor Div. - Bay City	Saginaw				D
630087	1	1	General Motors Corporation, Pontiac Motor Div. - Pontiac	Clinton				B
630088	1	1	General Motors Corporation, Proving Ground - Milford	Huron River Monroe Co.				A
500106	1	1	General Motors Corporation Technical Center, Warren Twp., Macomb County	Clinton	*			B
230021	1	2	General Motors Corporation Parts Div. - Delta Twp., Eaton Co.	Grand		A	A	A
730060	1	2	General Packing Company Chesaning	Saginaw GW				D
340043	2	3	George Slaughterhouse - Saranac	Grand				B
390021	2	3	Georgia Pacific Corporation Kalamazoo Paper Div. - Kalamazoo	Kalamazoo	F 00094	B	A	D_p
390016	2	3	Georgia-Pacific Corporation Paper Converted Products Plant Portage	Kalamazoo		A	A	A

15069

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING 1969	1970	1971
620016	2	4	Gerber Products Company - Fremont Cooling Water to Darling Creek	Muskegon		A	A	A
620015	2	4	Gerber Products Company - Fremont Spray Irrigation to Ground Waters	Muskegon GW		A	A	A
750018	2	3	Getzelman and Son White Pigeon	St. Joseph GW	*	A	A	A
080035	2	3	Geukes Market - Middleville	Grand				E_{pc}
800027	2	3	Glaser, Crandell Company - Mattawan	St. Joseph GW	*	E	E	E
380046	1	2	Goodyear Tire & Rubber - Jackson	Grand			B	B
780037	1	2	Gossett, William T., Poultry Farm Shiawassee County	Saginaw	*			B
700041	2	3	Grand Haven Brass Company Grand Haven	Grand	F 01538	C	E	E_p
700040	2	3	Grand Haven Stamped Products Company	Grand	*	A	A	A
130012	2	3	Grand Trunk Western Railroad Co. Battle Creek	Kalamazoo		D	B	A
230008	1	2	Grand Trunk Western Railroad Co. Millett	Grand	*			A
820296	1	1	Great Lakes Steel Corporation Ecorse Rolling Mill	Detroit	V 00023			E
			PH			E	B	
			SOLIDSUS			A	A	
			OIL-MG/L			E	E_p	
			FE-UG/L				B^p	A
820295	1	1	Great Lakes Steel Corporation 80 Inch Hot Strip Mill River Rouge	Detroit	V 00008			B
			SOLIDSUS			A	A	
			OIL-MG/L			E	B	
820297	1	1	Great Lakes Steel Corporation Blast Furnace Div. River Rouge	Detroit	V 00028			E
			SOLIDSUS			E	D_p	D
			OIL-MG/L			D	D^p	D
			PHENOL#			A	A	A
			CYAN#/D					E
820322	1	1	Great Lakes Steel Michigan Plant Ecorse	Detroit			E	B

15070

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
300024	2	3	Great Markwestern Packing Company Feedlot & Holding Pens - Allen Twp., Hillsdale Co., Ecosystem Discharge	St. Joseph	*			A
300022	2	3	Great Markwestern Packing Company Beef Processing Plant - Allen Twp., Hillsdale Co.	St. Joseph	*			A
300023	2	3	Great Markwestern Packing Company Feedlot & Holding Pens - Allen Twp., Hillsdale Co. - Spray Irrigation	St. Joseph GW	*			B
110077	2	3	Green Giant Co. Formerly Michigan Mushroom - Niles	St. Joseph	V 00159	A	E_{sp}	E_c
630188	1	2	Green Lake Meats, Inc. - Ortonville	Saginaw GW				A
630054	1	1	Guardian Photo Inc. - Novi	Detroit	*	B	B	B
050007	2	4	Gulf & Western Metal Forming Inc. Mancelona	Elk		B	B	B
	1	1	Gulf & Western Metal Forming Co. Mt. Clemens	Clinton				B
	2	3	Gulf & Western Metal Forming Co. Angle Steel Div. - Plainwell	Kalamazoo				B

15071

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
700110	2	3	H & E Packing Company Hudsonville	Grand				A
810083	1	1	Haarer's Meat Processing Plant Saline	Raisin				A
750020	2	3	Haas Corp. (The) - Mendon	St. Joseph	*		B	A
370006	1	2	Hafer Farms Inc. - Mt. Pleasant	Saginaw GW	F 01441		B	B
	2	3	Hagen, Walter, Golf Equipment Co. Grand Rapids	Grand				B
740095	1	2	Hall's Meat - Port Huron	St. Clair GW				A
500039	1	1	Hamill Manufacturing Co., Div. of Firestone Products-Washington Twp.	Clinton		E	E_s	E
500066	1	1	Hamill Manufacturing Co., Div. of Firestone Products - Romeo	Clinton				B
720002	2	4	Hancock Industries Inc. - Roscommon	Au Sable GW	*	A	A	A
190005	1	2	Hancock Industries, Inc. - Elsie	Grand			B	B
220009	2	5	Hanna Mining Company Groveland Mine - Randville	Menominee	*	A	A	A
230026	1	2	Hanna's Slaughterhouse - Sunfield	Grand GW				B
530019	2	4	Harbison-Walker Refractories, Inc. Ludington	Pere Marquette	*	B	B	B
	2	3	Harbor Industries, Inc. - Grand Haven	Grand				B
510020	2	4	Hardy Salt Company - Manistee	Manistee	V 00180	B	E_p	E_c
	2	3	Harlo Products Corp. - Grandville	Grand				B
640008	2	4	Harris, Lloyd J., Pies - Shelby	Stoney Lk. Ck. Oceana GW		A	A	A
700042	2	3	Hart and Cooley Mfg. - Holland	Black-Holland	*	B	B	B_c
640009	2	4	Hart Frozen Fruit - Hart	Pentwater GW	*	E	E	B
	2	3	Harter Corp. - Sturgis	St. Joseph				B
	2	3	Hartford Plating & Mfg. - Hartford	Paw Paw				E
	1	1	Harvey Aluminum, Inc. - Adrian	River Raisin				B
080004	2	3	Hastings Aluminum Prod. Inc.-Hastings	Grand	*	D	D_c	A

15072

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
080005	2	3	Hastings Manufacturing Company Hastings	Grand	*	B	A	A
230027	1	2	Hausch Packing Company Eaton Rapids	Grand				B
130013	2	3	Hayes Albion Inc. - Albion	Kalamazoo		E	A	A
	1	1	Hayes Albion Inc., Wolverine Plastics Div. - Milan	River Raisin				B
610119	2	4	Hazekamp, Bart & Son - Muskegon	Muskegon				B
700043	2	3	Heinz, H. J. & Company - Holland	Black-Holland	V 00142	E	E_p	E_{pc}
590007	2	4	Heinz, H. J., & Company - Lakeview	Muskegon	*	B	B	B
620021	2	4	Heinz USA - Fremont	Muskegon GW				B
540035	2	4	Heinz USA - Mecosta	Muskegon GW				B
640025	2	4	Heinz USA - New Era	White River GW, Muskegon Co.				B
640026	2	4	Heinz USA - Shelby	Stoney Lake Cr. Oceana Co. GW				B
110155	2	3	Henco Inc. - Niles	St. Joseph			E_p	E_{pc}
700059	2	3	Henry House Meat Co. - Holland	Black Holland GW			A	A
520027	2	5	Hercules Inc. - Ishpeming	Carp			B	B
390022	2	3	Hercules Inc. - Parchment	Kalamazoo		E	E_p	E_c
320034	1	2	Hercules Incorporated - Huron Mill Harbor Beach	Lake Huron Southern		B	E_{cs}	B
110098	2	3	Hermal Die Casting - Eau Claire	St. Joseph			A	A
790029	1	2	Hills Slaughterhouse - Caro	Saginaw GW				B
	2	3	Hillsdale Tool & Mfg. Co. Hillsdale	St. Joseph				A
460090	1	1	Hoelzer, C. W. Son - Tipton	Raisin				A
660009	2	5	Hoerner-Waldorf Inc. - Ontonagon	Ontonagon	V 00163	E	E_p	E_p
700105	2	3	Holland, City of - James DeYoung Power Plant - Holland	Black R.- Holland	*			A
700044	2	3	Holland Die Casting, Inc. - Holland	Black-Holland	*	A	A	A
	2	3	Holland Hitch Co. - Holland	Black-Holland				B

15073

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
030017	2	3	Holland Rendering Works - New Richmond	Kalamazoo GW		B	A	A
	1	2	Hollerith-Willis Printing Co. Jackson	Grand				B
460021	1	1	Home Canning Company - Blissfield	River Raisin	V 00189	B	E_{sp}	B
750019	2	3	Home Plating Company - Sturgis	St. Joseph		E	E_c	B
800028	2	3	Honee Bear Canning Co. - Lawton	St. Joseph GW	*	A	A	A
610040	2	4	Hooker Chemical Company - Montague	White River-Muskegon Co.	V 00203	A	E_{sp}	E_p
	2	3	Hooster Industries Inc. Battle Creek	Kalamazoo				B
470003	1	2	Hoover Ball & Bearing Co., Utilex Div. - Fowlerville	Grand	V 00051	E	B	B
230003	2	3	Hoover Ball & Bearing Co., Aluminum Extrusions Division - Charlotte	Kalamazoo		A	A	A
810018	1	1	Hoover Ball & Bearing Co., Chemical Products Division - Whitmore Lake	Huron	*	A	B	B
810017	1	1	Hoover Ball & Bearing Co.,Universal Die Casting Division - Saline	River Raisin	V 00052	E	B	A
810016	1	1	Hoover Ball and Bearing Company Ann Arbor	River Raisin	*			A
			OIL-MG/L			B	A	
			COLI-TMF			A	A	
	1	2	Hoover Ball & Bearing Co., Reynolds Chemical Products Div. - Farwell	Saginaw				B
	1	1	Hoover Ball & Bearing Co., Stubnitz Spring Div. - Adrian	River Raisin				B
	1	1	Hoover Ball & Bearing Co., Uniloy Div. - Saline	Raisin				B
340044	1	2	Houghton Beef Packers - Ionia	Grand				B
610042	2	4	Howmet Corporation, Misco Division Whitehall	White R[illegible]r-Muskegon [illegible]o.		B	B	B
610053	2	4	Howmet Corporation, Misco Division Muskegon	Muskegon				B

15074

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
030018	2	3	Hudsonville Creamery and Ice Cream Company - Burnips	Kalamazoo		A	A	A
700112	2	3	Huizenga Wholesale Meats Ottawa County	Grand				B
320032	1	2	Huron Biochemicals, Inc. Harbor Beach	Lake Huron	V 00103	D	E	E
800029	2	3	Huron Farms Inc. - Decatur	St. Joseph GW		D	B	B
040021	2	4	Huron Portland Cement Co. - Alpena	Lake Huron Southern		A	A	A
760014	1	2	Huron Tool & Manufacturing Co., Inc. Lexington	Lake Huron	*	B	B	A
820109	1	1	Huron Valley Steel Corporation Belleville	Huron	*	B	A	B
390052	2	3	Hydreco Div. Gen. Signal Corp. Galesburg Sanitary Discharge	Kalamazoo	*	A	A	A
390053	2	3	Hydreco Div. Gen. Signal Corp. Galesburg Cooling Water Discharge	Kalamazoo	*	A	A	A
340036	2	3	Indian Summer, Inc. - Belding Process Wastes	Grand				A
340035	1	1	Indian Summer, Inc. - Belding Cooling Water	Clinton				A
190007	1	2	Industrial Painting - St. Johns	Grand GW			B	B
110097	2	3	Industrial Rubber Goods Co. St. Joseph	St. Joseph		D	D	B
110179	2	3	Industrial Rubber Goods Co. St. Joseph - Open Ditch to Abraham Drain	St. Joseph	*			E
770006	2	5	Inland Lime & Stone Co. - Gulliver	Lake Michigan		A	A	A
360011	2	5	Inland Steel Co., Sherwood Mine Iron River	Menominee		B	B	A

5 15075

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
340021	1	2	Integral Engineering & Mfg. Corp. Ionia	Grand GW	*		B	B
630014	1	1	Interlake Windows & Enamelum - Novi	Detroit	V 00160	E	B	B
800030	2	3	International Research & Development Corporation - Mattawan	St. Joseph GW	*	B	A	A
500033	1	1	Interpace Corporation Pipe Division - Romeo	Clinton	V 00177	E	E_s	B
510068	2	4	Jebavy-Sorenson Canning Co.	Manistee GW				A
630050	1	1	Jebbco Corporation - Walled Lake	Clinton		B	B	A
410012	2	3	Jervis Corporation - Grandville	Grand		A	A	A
410036	2	3	Jet Electronics & Technology, Inc. Grand Rapids	Grand	*	A	A	A
700111	2	3	Jewell, Charles - Meats Coopersville	Grand				B
330007	1	2	John Bean Corp. - Lansing	Grand			B	B
210033	2	5	Johnson, Felix & Son - Escanaba	Escanaba GW		A	A	A
	2	4	Johnson Products Inc. - Muskegon	Muskegon				B
760044	1	2	Johnston Meat Processing - Peck	St. Clair GW				A
	1	1	KMS Industries, Inc. - Stilson Corp. - Roseville	Lake St. Clair				B
390023	2	3	Kal-Die Company - Oshtemo	Kalamazoo GW		A	A	A
	2	3	Kalamazoo Paraffine Company Kalamazoo	Kalamazoo				B
460086	1	1	Kastel Slaughterhouse - Riga	Raisin	*			A
110076	2	3	Kawneer Co. Plant No. 1 - Niles	St. Joseph	V 00138	E	E_p	E_c
610101	2	4	Keene Corporation, Kaydon Bearing Division - Muskegon	Muskegon	*	A	A	A
130014	[illegible]	3	Kellogg Company - Battle Creek	Kalamazoo		A	A	A
	1	1	Kelsey Hayes Corporation, M.C. Mfg. Co. - Lake Orion	Clinton				B
	1	1	Kelsey Hayes Corporation, Milford Valve Plt. - Milford	Huron				B

5 15076

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
820211	1	1	Kelsey Hayes Corporation - Romulus	Huron R. - Monroe Co.				A
470008	1	1	Kelsey Hayes Corporation - Brighton	Huron R. - Monroe Co	*		B	A
410023	2	3	Kelvinator, Inc. - Wyoming	Grand		D	D	A
580149	1	1	Kempfs-Milan (Slaughterhouse)	Sandy Creek				A
760045	1	2	Kerbyson Meats - Deckerville	St. Clair GW				B
	2	4	Kersman, Inc. - Muskegon	Muskegon				B
	1	1	Key Int. Co. - Towne Robinson Fst. Dearborn	Detroit				B
380069	1	2	Kibby Cobb Mart - Jackson	Grand				B
460091	1	1	Kiebler, A. M. & Sons - Clinton	Sandy Creek				E
020006	2	5	Kimberly-Clark Corporation Munising Mill	Lake Superior		B	A	A
750045	2	3	Kirsch Manufacturing Co - White Pigeon	St. Joseph				A
750021	2	3	Kirsch Manufacturing Co. - Sturgis Plant #1	St. Joseph		B	B	A
410013	2	3	Knape Industries, Inc. - Rockford	Grand GW	*	A	A	A
090014	1	2	Kraft Foods - Pinconning	Pinconning		B	B	B
	2	4	Kroupa, Inc. - Traverse City	Lake Michigan GW				B

15077

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
570005	2	4	L & J Slaughtering and Processing - Lake City	Muskegon				B
580150	1	1	L & M Packing - Monroe	Sandy Creek				A
500020	1	1	LTV Aerospace Corporation, Missiles & Space Division - Warren	Clinton		A	A	A
300066	2	3	Laden Packing Company - Hillsdale	St. Joseph	*			A
030031	2	3	LaGrange County Processers - Pearl	Kalamazoo GW	*	B	A	A
	2	3	Lake Odessa Canning Co.- Lake Odessa	Grand				A
170016	2	5	Lake Superior Beef - Dafter	Waiska GW		A	A	A
310013	2	5	Lake Superior Engineering, Inc. Winona Mine - Winona	Misery GW	*	B	B	A
	2	5	Lake Superior Engineering, Inc. King Phillip Mine - Winona	Misery				B
390025	2	3	Lakeside Refining Co. - Kalamazoo	Kalamazoo		A	A	A
610041	2	4	Lakeway Chemicals, Inc. - Muskegon	Mona Lake Outlet GW	*	E	E	E_s
050006	2	4	Lamina Bronze Products - Division of Lamina Tool and Die - Bellaire	Elk		A	A	A
330009	1	2	Lansing, City of, Asphalt Plant Lansing	Grand			D_c	E
330011	1	2	Lansing Board of Water & Light Ottawa Street Station - Lansing	Grand				A
330010	1	2	Lansing Board of Water & Light Otto E. Eckert Power Station Lansing	Grand			D	E
800041	2	3	Lawton Produce Company Van Buren County	St. Joseph				A
800085	2	3	Leader Food Market - Bangor	Black-South Haven				B
460042	1	1	Lee Manufacturing Co. - Addison	Maumee			B	
	1	1	Lee Stamping & Machine Inc., Div. of Teer, Wickwire & Co. - Addison	Raisin				B

15078

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
450020	2	4	Leelanau Fruit Company - Suttons Bay	Lake Michigan	*	B	B	A
380002	1	2	LeFere Forge & Machine Co. - Jackson	Grand		B	B	B
700048	2	3	Leigh Products, Inc. - Coopersville	Grand GW				A
290006	1	2	Leonard Refineries, Inc. - Alma	Saginaw		A	A	A
670019	2	4	Leudeman Packing - LeRoy	Manistee				A
540030	2	4	Lewis Fur Farm - Mecosta Co.	Manistee				B
150017	2	4	Lexalite Corp. - Charlevoix	Lake Michigan GW		A	A	A
760032	1	2	Lexington Molding Co. - Lexington	Lake Huron GW			B	A
	2	3	Liberman & Gittlen Metal Co. Grand Rapids	Grand				B
670004	2	4	Liberty Dairy Co. - Evart	Muskegon	*	A	A	A
500037	1	1	Liquid Disposal - Utica	Clinton			A	B
810019	1	1	Lithocrafters Inc. - Ann Arbor	Huron	*	B	E_p	E
550037	2	5	Little River Packing - Menominee	Menominee				B
	2	3	Litton Business Systems, Inc. Sturgis	St.Joseph				B
	2	5	Lloyd Mfg. Co. - Menominee	Menominee				B
290054	1	2	Lobdell - Emory Manufacturing Co. Alma	Saginaw				E
830015	2	4	Longstreet's Meat Processing Plant - Manton	Manistee				B
810020	1	1	Longworth Plating Service - Chelsea	Huron	*	E	E	B
670020	2	4	Loranz Food Service - Evart	Muskegon				B
030096	2	3	Lortin Products Co. - Saugatuck	Kalamazoo	*			A
280054	2	4	Lou[illegible] Wholesale Meats Traverse City	Boardman				B

15079

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
100035	2	4	Love Packing Company	Betsie R. Benzie Co.				B
	2	3	Lu Van, Inc. - Belding	Grand				B
280053	2	4	Ludka Packing, Inc. - Traverse City	Boardman				B
	1	2	Lundberg Manufacturing Co. Jackson	Grand				B
640021	2	4	MCS Meat Portion Control - Rothbury	White-Muskegon Co.				B
460024	1	1	M & S Manufacturing Co., Tri-State Prods. Division - Hudson	Maumee	*	E	E_p	B
460037	1	1	M & S Manufacturing Co. Automatic Ind. - Hudson	Maumee GW			B	B
460038	1	1	M & S Manufacturing Co. Plant 1 Hudson	Maumee			E	B
460039	1	1	M & S Manufacturing Co. Plant 2 Hudson	Maumee			E	B
	1	2	MWA Co., Mid-West Abrasive Unit Owosso	Saginaw				B
540031	1	2	Mackersie Brothers, Inc. - Barryton	Saginaw				B
090021	1	2	Magline Inc. - Pinconning	Pinconning		D	E	E
060016	1	2	Magline Inc. - Standish	Pine - Arenac County		D	D	B
270016	2	5	Maki, William E. & Son (Slaughter-house) - Ironwood	Montreal GW		B	B	A
510019	2	4	Manistee Drop Forge Corp. - Filer City	Manistee		A	A	A
770008	2	5	Manistique Pulp & Paper Co.	Manistique	F 01473	E	E_{ps}	E_c
520056	2	5	Madeline's Pasty Shop - Ishpeming	Carp R - Marquette Co.				B
040039	2	4	Manning Me[illegible] Company - Lachine	Thunder Bay				B
520016	2	5	Marquette Iron Mining Company Republic Mine - Republic	Menominee	*	A	A	A
520007	2	5	Marquette Iron Mining Company Humboldt	Escanaba	*			A

5 15080

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
520015	2	5	Marquette, City of, Board of Light and Power - Steam Plant	Lake Superior	*	A	A	A
520028	2	5	Marquette, City of, Board of Light and Power - Diesel Plant	Dead		B	A	A
090058	1	2	Marshall-Collicker Packing Company Bay City	Saginaw GW	*			B
	1	2	Master-Cast Co.- Howell	Grand				B
530020	2	4	Mason County Cherry Packers Ludington	Pere Marquette GW		E	B	A
	1	1	Materials Research Center - Ann Arbor	Huron				B
090060	1	2	Matthews, J. C. Pickle Company Pinconning Twp., Bay County	Pinconning GW	*			B
320075	1	2	Maurer's Slaughterhouse - Ubly	Saginaw GW				B
240027	2	4	Maylowski, Elmer A. - Levering	Carp Lake River				B
740096	1	2	Maynard Packing Company Port Huron	St. Clair GW				A
	2	4	McCormick Sand Co. - Muskegon	Muskegon GW				B
	1	2	McDonald Cooperative Dairy Co. Chesaning	Saginaw				B
	1	2	McDonald Cooperative Dairy Co. Flint	Saginaw				B
130021	2	3	McGraw Edison Company - Albion	Kalamazoo		D	B	A
820301	1	1	McLouth Steel Corporation Trenton Plant - Trenton	Detroit	*	A	E	A
820302	1	1	McLouth Steel Corporation Gibraltar Plant - Gibraltar	Detroit	*	D	D_p	B
030016	2	3	Mead Corp. - Otsego	Kalamazoo		B	B	B_p
700049	2	3	Mead Johnson and Company Zeeland	Black - Holland	V 00150	A	A_c	A
390094	2	3	Meats and Fruits by Anderson Kalamazoo	Kalamazoo				B
150018	2	4	Medusa Portland Cement Co. Charlevoix	Lake Michigan	*	B	D_c	B

5 15081

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
030019	2	3	Menasha Corp. Paper Board Division Otsego	Kalamazoo	*			
			BOD-5#			B	B	B_c
			SOLIDSU#			A	B	B_c
820112	1	1	Mergraf Oil Products, Div.of Swain Corp. - Northville	Detroit GW		B	B	E
460098	1	1	Merrilet Woodworking Co. Madison Twp., Lenawee Co.	Raisin	*			B
450033	2	4	Mervau, Wayne H. & Alice J. Cherry Cooling Pad - Leelanau Twp., Leelanau Co.	L. Michigan	*			A
760017	1	2	Metal Dynamics Marlette	Saginaw		B	A	A
	1	2	Metamora Products Corp.- Metamora	Saginaw GW				B
360013	2	5	Meyer Provision Co. - Iron River	Menominee GW		A	A	A
190024	1	2	Michigan Beef Company - DeWitt	Grand				A
290007	1	2	Michigan Chemical Co. - St. Louis	Saginaw	V 00188	E	E_s	D
590008	2	3	Michigan Consolidated Gas Co. Six Lakes	Grand	*	A	A	A
	1	1	Michigan Consolidated Gas Co. Ann Arbor	Huron				B
	1	1	Michigan Consolidated Gas Co. Melvindale	Detroit				B
	2	4	Michigan Consolidated Gas Co. Muskegon	Muskegon				B
	2	4	Michigan Farm Cheese Dairy, Inc. Fountain	Lincoln				B
610097	2	4	Michigan Foundry Supply Company - Muskegon	Muskegon				B
030020	2	3	Michigan Fruit Canners Inc. Fennville	Kalamazoo	V 00164	B	D_p	Bc
	2	3	Michigan Fruit Canners Inc. Benton Harbor	St. Joseph				B
	2	3	Michigan Fruit Canners Inc. South Haven	Black				B
	1	1	Michigan Gas Storage Co. Manchester	River Raisin				B

5 15082

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	2	4	Michigan Gas Storage Co. - Marion	Muskegon				B
	2	4	Michigan Maple Block Co.-Petoskey	Bear				B
190002	1	2	Michigan Milk Producers Assoc. Ovid	Grand GW	*	A	A	A
440003	1	2	Michigan Milk Producers Assoc. Imlay City	St. Clair GW	F 00146	A	A	A
			Michigan Milk Producers Assoc. Lowell	Grand				E
460025	1	1	Michigan Producers Dairy Co. Adrian	River Raisin GW	*	B	B	B
320035	1	2	Michigan Producers Dairy Co. Sebewaing	Unnamed Drain at Sebewaing	F 00017	B	B	B
630015	1	1	Michigan Seamless Tube Company South Lyon	Huron	V 00053	B	A	A
110078	2	3	Michigan Standard Alloys, Inc. Aluminum Division - Benton Harbor	St. Joseph	*	A	A	A
			Michigan Standard Alloys, Inc. Zinc Division - Benton Harbor	St. Joseph				B
760015	1	2	Michigan Sugar Company Croswell	St. Clair	V 00140	E	B	B
790005	1	2	Michigan Sugar Co. - Caro	Saginaw	F 00343	D	D_s	E
320036	1	2	Michigan Sugar Co. - Sebewaing	Lake Huron Southern	F 00073	B	D_s	E
730010	1	2	Michigan Sugar Company Carrollton	Saginaw	V 00049	B	B	B
510018	2	4	Michigan Tool Company - Manistee Manistee Iron Works Div.	Manistee	*		B	A
630065	1	1	Michigan Tractor Sales - Novi	Detroit			E	E
110066	2	3	Michigan Tube Inc. - Eau Claire	St. Joseph	*	D	D_p	D_p
800031	2	3	Michigan Winery - Paw Paw	St. Joseph		B	B	E
	1	1	Micro-Measurements Div. - Vishay Romulus	Detroit				B
740031	1	2	Mid Michigan Materials Gravel Co. Yale	St. Clair		B	B	B
	1	1	Midland Adhesive & Chemical Corp. Troy	Clinton				B

15083

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	2	Midland-Ross Corp. - Owosso	Saginaw				B
030021	2	3	Midway Packing Co. - Wayland	Kalamazoo GW		E	A	A
740032	1	2	Midwest Machine Co. Port Huron	St. Clair		A	D	D
110079	2	3	Midwest Timer Service, Inc. Hagar Twp., Berrien Co.	St. Joseph GW	*	A	A	A
700050	2	3	Miles Laboratories Inc. - Zeeland Plant - Zeeland	Black Holland		B	A	B
670003	2	4	Miller Industries Inc. Germay Plant - Reed City	Muskegon	*		A	A
670011	2	4	Miller Industries Inc., Plant 1 Reed City	Muskegon GW	F 01313	E	B	B
380060	1	2	Milligan Packing Company - Parma	Grand				B
500041	1	1	Mineral Research Corp. Sterling Heights	Clinton	*	B	B	B
	2	4	Mitchell - Bently Corp. - Benzonia	Betsie GW				B
820306	1	1	Mobil Oil Corp. Refinery Woodhaven	Detroit	V 00017			A
			OIL-MG/L			B	A	
			PHENOL			E	E	
440019	1	2	Modern Manufacturing Company Incorporated - Columbiaville	Saginaw				B
110178	2	3	Modern Plastics Company Benton Harbor	St. Joseph				B
030081	2	3	Moline Beef - Moline	Kalamazoo				E
540008	2	4	Monderella Slaughterhouse Big Rapids	Muskegon			B	B
090015	1	2	Monitor Sugar Co. - Bay City	Saginaw	V 00048	B	B	B
820280	1	1	Monsanto Co. Inorganic Chemicals Div. - Trenton	Detroit	V 00025	B	A	A
130039	2	3	Moors, Don, Farm Fresh Meats Homer	St. Joseph	*			A

15084

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
280018	2	4	Morgan-McCool Inc. Traverse City Bayfront Plant #1	Lake Michigan	V 00089	E	E	E_{pc}
390026	2	3	Morren Poultry - Galesburg	Kalamazoo	*	B	E	E_p
700051	2	3	Morse, H. E. - Holland	Black - Holland GW	V 00112	D	B	A
510022	2	4	Morton Chemical Company - Manistee	Manistee	V 00192	B	E_{pc}	E_{pc}
510030	2	4	Morton Salt Co. - Manistee	Manistee	V 00185		E_{pc}	B
740033	1	2	Morton Salt - Marysville	St. Clair		A	A	A
810034	1	1	Motor Wheel Corp.- Ypsilanti	Huron	V 00144	E	B	A
050021	2	4	Morweld Steel Company - Ellsworth	Elk				B
030082	2	3	Mosier Meat Company - Fennville	Kalamazoo				B
740107	1	1	Mueller Brass Company Discharge of Waste to St. Clair River via Marysville Storm Sewer	St. Clair	*			B
740098	1	2	Mueller Brass Company Black River Country Club - Port Huron	St. Clair	*			E
370018	1	2	Mulder Packing - Shepherd	Saginaw GW				B
800032	2	3	Murch, A. F. & Co. - Paw Paw	St. Joseph GW		E	B	D
030022	2	3	Murray Packing Co., Inc. - Plainwell	Kalamazoo	*	B	B	A
	2	4	Muskegon Piston Ring - Muskegon	Muskegon GW				B
	2	4	Muskegon Tool Industries Inc. Muskegon	Muskegon GW				A
700114	2	3	Myaards Meats - Hudsonville	Grand				B
380061	1	2	N & W Market - Jackson	Grand				B
410015	2	3	National Fruit Products Co., Inc. Kent City	Grand GW		A	A	A
500021	1	1	National Machine Products Co. Utica	Clinton	*	B	D_p	E
630016	1	1	National Twist Drill & Tool Co. Rochester	Clinton		B	D_p	E

15085

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	2	3	National Water Lift Co. - Kalamazoo	Kalamazoo				B
410017	2	3	Nelson Metal Products, Division of Midland Ross Corp. - Grandville	Grand		A	A	A
530021	2	4	Nelson Packing Co. - Ludington	Pere Marq. GW	*	A	A	A
550023	2	5	Nemitz Packing Company - Menominee	Menominee GW	*	B	B	B
320037	1	2	Nestles Co., Inc. - Ubly	Saginaw		E	E	E
640010	2	4	New Era Canning Co. - New Era	White -White Lk. Outlet GW		A	A	A
			New Products Corp. - Benton Harbor	St. Joseph				B
390028	2	3	North American Aluminum Corp. Kalamazoo	Kalamazoo	*	A	A	A
030025	2	3	North American Rockwell Corp. Universal Joint Division - Allegan	Kalamazoo				B_c
	1	1	North American Rockwell Corp. Troy	Clinton				B
440021	1	2	North Branch Food Lockers, Inc. North Branch	Saginaw GW				A
	2	3	Northeast Gravel Co. - Belmont	Grand				B
520012	2	5	Northern Automatic Electric Foundry - Ishpeming	Carp - Marquette Co.	*	B	A	A
150019	2	4	Northern Michigan Electric Co-Op. Advance	Pine - Charlevoix	*	B	B	B
160035	2	4	Northern Michigan Electric Co-Op. Tower - Diesel Plant	Cheboygan				B
380062	1	2	Northwest Market - Jackson	Grand				B
	2	4	Nugent Sand Co., Inc. - Muskegon	Muskegon				B

15086

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	1	Q & S Bearing & Mfg. Co. Whitmore Lake	Huron				B
640027	2	4	Oceana Canning Co. - Shelby	Stoney Lake Cr. Oceana Co. GW				B
	1	2	Oldberg Mfg. Co. - North Tube Div. Pinconning	Pinconning				B
700052	2	3	Oldburg Machine Co. - Grand Haven	Grand		B	A	A
510023	2	4	Onekama Packing Co. - Onekama	Portage Lake Outlet		A	A	E
660010	2	5	Ontonagon Valley Co-Op Creamery Bruce Crossing	Ontonagon		B	B	B
590009	2	3	Ore-Ida Foods, Inc. - Greenville	Grand GW	*	A	A	A
650001	1	2	Osceola Refining Co. - West Branch	Rifle River		A	B	B
	2	3	Otsego Sanitary Milk Prod. Co. Otsego	Kalamazoo				B
610043	2	4	Ott Chemical Co. - Muskegon County	Muskegon	*			E_{sp}
820117	1	1	Ottawa Silica Company Michigan Silica Division - Rockwood	Huron		B	B	A
820135	1	1	Otto R. Ernst-Brownstown Twp. Wayne Co.	Detroit			A	A
230004	2	3	Owens-Illinois Glass Company Charlotte	Grand		A	E_s	A
780009	1	2	Owosso Graphic Arts Owosso	Saginaw GW	*	A	A	B
630109	1	1	Oxford Precise Casting, Inc. Oxford	Clinton R.				A
510024	2	4	Packaging Corp. of America Filer City	Lake Michigan	V 00146		E_{spc}	E_{pc}
410018	2	3	Packaging Corp. of America Amer. Box Board Div. - Grandville	Grand		B	A	A
410019	2	3	Packaging Corp. of America Grand Rapids	Grand		E	E_p	E_p
130015	2	3	Par Plus Valves Inc. - Battle Creek	Kalamazoo GW	*	D	E	E_c

5 15087

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
110082	2	3	Paramount Die Casting Co. Stevensville	St. Joseph GW	*	A	A	A
540003	2	4	Paris Gravel Co. Plant No. 1 Big Rapids	Muskegon		A	A	A
540001	2	4	Paris Gravel Co. Plant No. 2 Big Rapids	Muskegon			A	A
	1	1	Parke Davis Co. - Ann Arbor	Huron				B
	1	1	Parke Davis Co. - Rochester	Clinton				B
700053	2	3	Parke Davis Co. - Holland All Outfalls	Black - Holland	*	A	A	A
700083	2	3	Parke Davis & Co. - Holland #2-7 Inch Disposal Wells	Black - Holland GW	*	A	A	A
820118	1	1	Parke Davis & Co. - Detroit	Detroit	*	A	A	A
250054	1	2	Parsell Beef Co. - Flint	Saginaw GW				B
110083	2	3	Pearl Grange Fruit Exchange Plant Berrien County	St. Joseph GW		A	A	A
390095	2	3	Pease Brothers - Scotts	St. Joseph				B
740037	1	2	Peerless Cement Corp. - Port Huron	St. Clair			B	B
	1	2	Peet Packing Co. - Bay City Plant Bay City	Saginaw				B
730011	1	2	Peet Packing Co. - Chesaning	Saginaw	*	A	A	A
380063	1	2	Peet Packing Co. - Jackson	Grand				A
590044	1	2	Pendells Meat Proc. - Carson City	Grand GW				B
280020	2	4	Peninsula Fruit Exchange Corp. Old Mission	Lake Michigan		A	B	A
810026	1	1	Peninsular Paper Co. - Ypsilanti	Huron		D	D	A
090016	1	2	Penn Central Railroad - Bay City	Kawkawlin		E	E	E
380003	1	2	Penn Central Railroad - Jackson	Grand		A	B	B
240014	2	4	Penn-Dixie Cement Corp. - Petoskey	Lake Michigan		A	A	A

15088

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
820298	1	1	Pennwalt Chemicals Corp. East Plant - Wyandotte	Detroit	V 00014	B	A	E
820299	1	1	Pennwalt Chemicals Corp. West Plant - Riverview	Detroit	V 00013	B	B	E
100023	2	4	Pet Milk Co., Pet-Ritz Foods Div. Frankfort	Betsie		B	B	E_p
800033	2	3	Pet Milk Co. - Musselman Fruit Products Division - Paw Paw	St. Joseph	*	E	D_p	B_p
030023	2	3	Pet Milk Co. - Wayland	Kalamazoo		B	A	A
240015	2	4	Petoskey Plating Co. - Petoskey	Bear - Emmet		A	A	A
080036	2	3	Pettengill Slaughterhouse - Hickory Corners	Kalamazoo				B
810089	1	1	Phillips Products Co., Plastics Fabricating Plt., Northfield Twp., Washtenaw Co.	Huron	*			B
170024	2	5	Pickford Whse. Meat Co. - Pickford	Munuscong				B
380004	1	2	Pittsburgh Forging Co. - Jackson	Grand		A	D_p	B
030024	2	3	Plainwell Canning Co. - Plainwell	Kalamazoo		A	A	A
030027	2	3	Plainwell Paper Company Inc. Process Wastes Discharge	Kalamazoo	*			
			SOLSUS#D			A	A	A
			BOD-5#/D			A	A	A
110084	2	3	Plastic Masters - New Buffalo	Lake Michigan		B	A	A
	2	3	Plastronic Packaging Corp. Stevensville	St. Joseph				B
060020	1	2	Poole and Sons Slaughterhouse, Lincoln Twp., Arenac Co.	Pine GW	*			B
740034	1	2	Port Huron Paper Co.	St. Clair	*	B	B	E
750053	2	3	Porta Metals - Three Rivers	St. Joseph				B
470038	1	1	Prescott Proc. - Gregory	Huron				A

5 15089

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	2	Prestolite Co. - Bay City Div.	Saginaw				B
	1	1	Price Brothers Co.- Clarkston	Clinton				B
250055	1	2	Price Packing Co., Inc. - Linden	Saginaw GW				B
330045	1	2	Primeat Prov. - Lansing	Grand GW				B
390039	2	3	Production Plated Plastics, Inc. Richland	Kalamazoo GW		B	B	B
610120	2	4	Punches & Son Slaughterhouse Muskegon	Muskegon				B
	2	3	Quality Films Inc. - Schoolcraft	St. Joseph				B
800034	2	3	Quality Frozen Foods - Lawrence	St. Joseph	*	A	A	A
380005	2	3	Quality Production Co. Spring Arbor	Kalamazoo GW	*	A	A	A
120011	2	3	Quincy Products Co. - Quincy	St. Joseph	*	A	D_s	B
	1	1	R B & W Fabricated Metal Prod., Inc. Livonia	Detroit				B
	2	3	R B & W Powdered Metal Prod.,Inc. Coldwater	St. Joseph				B
210026	2	5	Rapid River Cheese Co. - Rapid Riv.	Rapid		B	B	B
500022	1	2	Ray Weeks Packing Co. - Richmond	St. Clair GW		E	B	A
730014	1	2	Raymond Products Co., Inc. Thomas Twp., Saginaw Co.	Saginaw			B	A
790030	1	2	Reed & Sons - Cass City	Saginaw GW				A
820388	1	1	Refiners Transport & Terminal Corp. Trenton	Detroit	F 01169			B
730061	1	2	Reichards Meats - Hemlock	Saginaw				D
410003	2	3	Rem Die Castings Inc. - Grand Rapids	Grand GW	*	B	B	B
750023	2	3	Research Molding & Film Co. - Mendon	St. Joseph		D	D_s	A
820309	1	1	Revere Copper & Brass Incorporated Detroit	Detroit	V 00029	D	B	B

15090

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
800086	2	3	Rezniks Pkg. Plant - South Haven	Black				B
250056	1	2	Richardson (Slaughterhouse) Linden	Saginaw GW				A
380027	1	2	Richardson Asphalt Corp. - Jackson	Grand		C	D	A
500092	1	2	Richmond Meat Pkrs., Inc. Richmond	St. Clair GW				B
530035	2	4	Richter Vinegar - Scottville	Pere Marquette			E_p	B
250057	1	2	Riegle, Hubert - Davison	Saginaw GW				A
260010	1	2	Robinson Industries - Beaverton	Saginaw			B	B
160031	2	4	Rocheleau Meats - Cheboygan	Cheboygan				B
410021	2	3	Rockford Paper Mills, Inc. Rockford	Grand		B	A	A
810021	1	1	Rockwell - Standard Corporation, Spring Div. - Chelsea	Huron		C	E_p	B
110100	2	3	Roll-Brite Company - Baroda	St. Joseph			B	A
	2	3	Ross Laboratories, Inc. - Sturgis	St. Joseph				B
380064	2	3	Roundtree Pkg. Co., Hanover	Kalamazoo				B
	2	3	Royal Crown Bottling Co. - Sturgis	St. Joseph				B
170014	2	5	Rudyard Creamery Company - Rudyard	Pine - Mackinac Co.		A	A	B
820440	1	1	Russell Slaughterhouse	Huron				A

15091

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
500032	1	1	Safie Brothers Pickle Company Macomb Co. Chesterfield Twp	Clinton		E	E_p	E
590045	2	3	Sages Slaughterhouse - Greenville	Grand				A
820441	1	1	Salem Packing Co. - Northville	Detroit				A
110081	2	3	Saluto's Foods - Benton Twp. Berrien County	St. Joseph	*	A	A	A
530022	2	4	Sanders Meat Packing Company Custer	Pere Marquette		D	D	D
340006	2	3	Saranac Mfg. Co. - Saranac	Grand GW	*	D	D	D
	1	1	Sauer Cooperage Co. - Wyandotte	Detroit				B
510025	2	4	Sawyer Processing Fruit Co. Bear Lake	Manistee GW		B	B	A
120012	2	3	Schafer Manufacturing Company Union City	St. Joseph	V 00151	E	E_c	E_c
010005	2	4	Schiellerds Quality Meats Lincoln	AuSable				B
	1	1	Schiller Ind. - Warren	Clinton				B
550025	2	5	Scott Paper Company - Menominee Groundwood Mill	Menominee	V 00139	B	B	B
820310	1	1	Scott Paper Company - Detroit	Detroit	V 00036			A
530026	2	4	Scottville Cheese Company	Pere Marquette		A	A	A
610044	2	4	Sealed Power Corporation Muskegon Heights	Muskegon		B	B	B
	2	4	Sealed Power Corporation - Muskegon	Muskegon				B
	1	2	Sealed Power Corporation St. Johns	Grand GW				B
	2	3	Sealed Power Corporation, Accro Form - Zeeland	Black-Holland				B
	1	2	Sealed Power Corporation - Alma	Saginaw GW				B
	2	3	Sealed Power Corporation - Dowagiac	St. Joseph				B
380065	1	2	Seconds Wholesale Meats - Jackson	Grand				B

15092

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
370019	1	2	Semigs Meats - Mt. Pleasant	Saginaw GW				A
			Seneca Plastics - Textron Inc. South Haven	Black				B
810085	1	1	Service Meat Proc. - Manchester	River Raisin				A
	1	2	Severance Tool Ind. Inc. - Saginaw	Saginaw				B
390029	2	3	Shakespeare Company - Kalamazoo	Kalamazoo	*	A	A	A
630107	1	1	Shea, T. D., Manufacturing, Inc. Pontiac	Clinton GW	*			A
190025	1	2	Sheldons Packing House - Ovid	Saginaw				B
820207	1	1	Shell Oil Company - Detroit	Detroit			B	A
	2	3	Sherman, H. B, Mfg. Co.-Battle Creek	Kalamazoo				B
150014	2	4	Sherman Canning Co. - East Jordan	Pine		D	A	A
340045	2	3	Sible Packing Company - Lake Odessa	Grand				D
800035	2	3	Sill Farms - Lawrence	St. Joseph		B	A	A
640011	2	4	Silver Mill Frozen Foods, Inc. Hart	Pentwater GW		A	B	E
110086	2	3	Silver Mill Frozen Foods, Inc. Eau Claire	St. Joseph GW	*	A	A	B
280026	2	4	Silver Mill Frozen Foods, Inc. Angle	Elk	*	B	B	B
460027	1	1	Simplex Paper Corporation - Palmyra COLITMPN	River Raisin	*	A	A	A
110087	2	3	Simplicity Pattern Company Inc. Niles	St. Joseph	V 00090	E	E_s	E_p
	2	3	Simpson Manufacturing Co. Litchfield	St. Joseph				B
390030	2	3	Simpson-Lee Paper Company Vicksburg	St. Joseph	*	E	E_s	B
	2	3	Slessman & Sons Co., The Jonesville	St. Joseph				E

5 15093

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
700115	2	3	Smallegan's Wholesale Meats Hudsonville	Grand				A
100019	2	4	Smeltzer Packing Company - Benzonia	Betsie Benzie Co.		A	A	A
810088	1	1	Smith, Frederick, Urthane Foam Manufacturing Plant - Pittsfield Twp., Washtenaw Co.	Raisin	*			B
790031	1	2	Smith's Slaughterhouse -Vassar	Saginaw GW				A
110176	2	3	Sodus Hard Chrome Co., Sodus Twp., Berrien County	St. Joseph				E_p
110186	2	3	Southern Michigan Cold Storage Company - Benton Harbor	St. Joseph				A
160032	2	4	Sparkey's Slaughterhouse Cheboygan	Cheboygan				B
410022	2	3	Sparta Foundry Company - Sparta Div. of Muskegon Piston Ring	Grand		B	B	A
630059	1	1	Spartan Concrete - Novi	Detroit			E_s	B
620009	2	4	Speas Company - Fremont	Muskegon	*	A	A	A
510026	2	4	Standard Lime and Refractories Co. Manistee	Manistee	V 00201	A	E	E_{pc}
820255	1	1	Standard Oil Tank Farm - Detroit	Detroit			B	B
	2	4	Standard Products Co., The-Gaylord	AuSable GW				B
040040	2	4	Standard Prov. Wholesale Meats Alpena	Thunder Bay				B
820125	1	1	Standard Tube Company, Div. Mich. Seamless Tube Co., Redford Twp., Wayne County	Detroit		B	B	D
130057	2	3	Stanley Packing Company - Marshall	Kalamazoo				B
460013	1	1	Stauffer Chemical Company - Weston	River Raisin	*	B	A	A
460029	1	1	Stauffer-Wacker Silicone Corp. Adrian	River Raisin	*	A	A	A
810086	1	1	Steeb Brothers - Ann Arbor	Huron-Monroe County				A

15094

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	2	3	Steffen, M. & Co. - Coloma	St. Joseph GW		D	B	B
500023	1	1	Steffey Metal Products, Inc. New Baltimore	Lake St. Clair GW	*	B	E	E
	2	3	Stidham Gravel Co. - Hastings	Grand				B
760016	1	2	Stokely-Van Camp, Inc. Croswell	St. Clair		A	A	A
760034	1	2	Stokely-Van Camp,Inc. Croswell	St. Clair GW		A	A	A
640012	2	4	Stokely-Van Camp, Inc. - Hart	Pentwater GW		A	A	A
530023	2	4	Stokely-Van Camp, Inc. - Scottville	Pere Marquette	V 00184	A	E	E_p
800042	2	3	Stones Meat Co. - South Haven	Black - South Haven GW			A	A
760046	1	2	Stovers Slaughterhouse - Croswell	St. Clair GW				A
370020	1	2	Straus Processing Company Weidman	Saginaw GW				B
140005	2	3	Sunstrand Corporation - Dowagiac	St. Joseph	*	B	A	A
310028	2	5	Superior Meat Products, Inc.	Seven Mile Creek - Houghton Co.				B
630020	1	1	Superior Metal Products Auburn Heights	Clinton				E
			OIL-MG/L			D	A	
			COLI-TMF			E	E	
110177	2	3	Superior Steel Castings - Benton Harbor	St. Joseph				E_c
270017	2	5	Superior Packing Company - Ironwood	Montreal GW		B	A	A
610045	2	3	Swanson Pickle Company - Ravenna	Grand GW		A	A	A
380066	1	2	Swift & Company - Jackson	Grand				B
730062	1	2	Swift & Company Hotel & Restaurant Supply - Saginaw	Saginaw				B
	2	3	Swift Dairy & Poultry Co. - Holland	Black-Holland				B

15095

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
500025	1	1	TRW Incorporated Michigan Division, Sterling Twp., Macomb County	Clinton	*	D	B	B
240020	1	2	TRW Incorporated - Portland	Grand	V 00178		D_c	D
280021	2	4	Tannehill and DeYoung, Inc. Traverse City	Boardman GW		B	B	B
460030	1	1	Tecumseh Products Company Tecumseh	River Raisin	V 00124	D	E_p	B
610037	2	4	Teledyne Continental Motors Corp. Getty Street Plant - Muskegon	Muskegon		A	A	A
610036	2	4	Teledyne Continental Motors Corp. Market Street Plant - Muskegon	Muskegon	V 00143	D	D	D_p
780004	1	2	Telfer Packing Company - Owosso	Saginaw		A	A	A
820321	1	1	Texaco Inc. Compounding & Blending Plant-River Rouge	Detroit			B	B
050008	2	4	Texas Instruments Inc. - Central Lk.	Elk GW		A	A	A
	1	2	Texiron Inc. - Howell	Grand				B
610056	2	4	Thermo Chem Inc. - Muskegon	Black Creek	*	B	B	B
350025	2	4	Thomson Company, The - Oscoda	AuSable	*		A	A
	1	2	Thomson Company, The - Bay City	Saginaw				B
	1	2	Thomson Company, The - Lexington	Lake Huron				B
	1	1	Thomson Company, The - Mt. Clemens	Clinton				B
	2	3	Three Rivers Rubber Corp. Three Rivers	St. Joseph				B
560007	1	2	Tignes, Calvin, Plastic & Steel Fabrication Plant - Coleman	Saginaw GW	*	B	B	B
580103	1	1	Time Container Corporation Monroe Division - Monroe	River Raisin	V 00010			E
			BOD-5			E	E_c	
			SOLIDSUS			E	E_c	
	1	2	Tomkins Johnson Co. - Jackson	Grand				B

5 15096

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
280022	2	4	Traverse City Canning Company Traverse City	Boardman	V 00086	E	E	E_{pc}
	2	4	Traverse City Canning Company Williamsburg	Lake Michigan				B
280027	2	4	Traverse City Light and Power Co.	Lake Michigan	*	A	A	A
560049	1	2	Triple Birch Custom - Midland	Saginaw GW				B
500082	1	1	Troy Laboratories - Utica	Clinton				D
680005	2	4	Troyer's Locker - Mio	AuSable				B
030026	2	3	Ty-King - Plainwell	Kalamazoo	*	E	E_p	B
820351	1	1	U. S. Rubber Company - Detroit	Detroit		A	B	A
690004	2	4	U.S. Plywood - Champion Papers Inc. Gaylord	Au Sable GW	*	A	A	A
490014	2	5	U.S. Steel - Cedarville (Quarry)	Lake Huron			A	A
710017	2	4	U.S. Steel Corporation, Michigan Limestone Oper. - Rogers City	Lake Huron		A	A	B
580106	1	1	Union Camp Corporation Plants No. 3 & 4 - Monroe	River Raisin	V 00022			E
			BOD-5#			E	E_c	
			SOLIDSU#			E	E_c	
820442	1	1	Union Carbide Corporation Linde Div., Tonnage Oxygen Plant Ecorse	Detroit	*			B
130017	2	3	Union Steel Products Company Albion	Kalamazoo	V 00194	A	A	A
110090	2	3	United Foods, Inc., Sodus Fruit Exchange, - Sodus	St. Joseph		A	A	A
	2	3	United States Register Co. Battle Creek	Kalamazoo				B
	2	3	United Steel & Wire Co. Battle Creek - Fonda St. Plt.	Kalamazoo				B

5 15097

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	2	3	United Steel & Wire Co. Battle Creek - Kendall St. Plant	Kalamazoo				B
810022	1	1	University Microfilms - Ann Arbor	Huron R - Monroe Co.	*	A	A	A
820270	1	1	University of Michigan (Willow Run Airport) - Willow Run	Huron		E	E_c	A
390031	2	3	Upjohn Company - Kalamazoo	Kalamazoo GW	*	A	A	A
520018	2	5	Upper Peninsula Generating Company Presque Isle Station - Marquette	Lake Superior	*	A	A	A
070010	2	5	Upper Peninsula Power Company J. H. Warden Station - L'Anse	Lake Superior	*	A	A	A
210027	2	5	Upper Peninsula Power Company Escanaba	Lake Michigan		A	A	A
500108	1	1	Utica Packing Company Utica	Clinton				B
	1	2	Vacumet Finishing, Inc. - St. Clair	St. Clair				B
820208	1	1	Vacuum Orna-Metal - Romulus	Huron			B	E
630207	1	1	Valenite Metals Div., Valeron Corporation - Walled Lake	Huron-Monroe Co	*			B
520019	2	5	Van Damme & Sons - Watson	Escanaba	*	B	A	A
380006	1	1	Van Schoick, Frank II - Clark Lake	River Raisin GW	*	B	A	A
330069	1	2	Vanalstines Slaughterhouse East Lansing	Grand				B
290066	2	3	Vecta Educational Company Kalamazoo	Kalamazoo	*	B	B	A
	1	2	Vesely Co. - Lapeer	Saginaw				B
610086	2	3	Vintage Foods - Bailey	Grand			E	E_c
440004	1	2	Vlasic Food Products Company Imlay City	St. Clair	*	A	A	A
590025	1	2	Vlasic Foods Inc. - Carson City	Grand			D_s	E

15098

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
730012	1	2	Vlasic Foods, Inc. - Bridgeport	Saginaw	*	B	B	A
250058	1	2	Vogt & Watson - Flint	Saginaw GW				B
110187	2	3	Voice of Music Corporation Benton Harbor	St. Joseph				B_p
820277	1	1	Voss Steel Corp. - Taylor	Detroit			B	B
450021	2	4	Vulcan Cincinatti Inc. - Northport	Lake Michigan GW	*	B	B	B
	1	2	Walker Mfg. Co., Michigan Div. - Plant I - Jackson	Grand				B
750055	2	3	Wall Packing Company, Inc., Sturgis	St. Joseph				A
670006	2	4	Wallace Stone Company - Hersey	Muskegon GW		A	A	A
320076	1	2	Walsh Packing Plant - Pigeon	Pigeon R.- Huron Co. GW				B
120015	2	3	Walter Packing Company - Coldwater	St. Joseph		B	A	A
	2	4	Warren, R. C. & Co., Inc. Traverse City	Lake Michigan				B
610046	2	4	Warren, S. D. Company - Muskegon Div. of Scott Paper	Muskegon	V 00161	E	E_{spc}	E_{pc}
110091	2	3	Watervliet Paper Company Div. of Hammermill	St. Joseph	*	E	E_{sp}	E_{pc}
730063	1	2	Wegner Slaughterhouse - Merrill	Saginaw GW				B
800037	2	3	Welch Grape Juice Company - Lawton	St. Joseph		A	A	A
620012	2	4	Westfield-Sommers Foods Company Fremont	Muskegon GW	*	B	B	B
750024	2	3	Weyerhaeuser Company - White Pigeon	St. Joseph		B	B	B_c
110092	2	3	Whirlpool Corporation - Benton Harbor	St. Joseph	*	B	B_c	B
110093	2	3	Whirlpool Corporation - St. Joseph	St. Joseph	*	E	E_c	D_c
340009	2	3	White Consolidated Industries Belding - Gibson Refrigerator Div.	Grand	V 00202	D	D_p	B_c

5 15099

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
590010	2	3	White Consolidated Industries Greenville - Gibson Refrigerator Div.	Grand		E	E_{sp}	E_{pc}
660011	2	5	White Pine Copper Company White Pine Mine	Mineral	V 00166	A	A	A
610047	2	4	Whitehall Leather Company Division of Genesco - Whitehall	White - White Lake Outlet	V 00056	E	E spc	E pc
820130	1	1	Whitman and Barnes Division United Greenfield Corporation - Plymouth	Detroit		A	A	A
290051	1	2	Williams Slaughterhouse Ashley	Grand GW				B
030028	2	3	Wolverine Electric Co-Op Inc. Burnips	Kalamazoo	*	B	A	A
	1	2	Wolverine Gas Products, Inc. Saginaw	Saginaw				B
390035	2	3	Wolverine Packaging Company Schoolcraft	St. Joseph GW			B	B
780040	1	2	Woody's Dog Food - Byron	Saginaw GW				B
340046	2	3	Wrights Slaughterhouse - Ionia	Grand				B
550029	2	5	Warth Concrete - Menominee Co.	Menominee			B	B
820314	1	1	Wyandotte Chemicals Corp. (Now BASF Wyandotte Corp.) North Works	Detroit	V 00027	A	A	A
820315	1	1	Wyandotte Chemicals Corp. (Now BASF Wyandotte Corp.) South Works	Detroit	*	D	A	A
820133	1	1	Wyckott Steel Screw and Bolt Co. Plymouth	Detroit GW		B	B	B
	1	2	Wyeth Laboratories - Mason	Grand				B
410112	2	3	Zandbargen's Meats - Grand Rapids	Grand				A
	2	3	Zodiac I stries, Inc. - Bridgman	Lake Michigan				B
330003	1	2	4 - D Corporation - Ingham County	Grand GW	*	B	B	A

15100

SUMMARY

INDUSTRIAL

Ratings	YEAR 1969	1970	1971
A.	230	306	383
B.	178	198	465
C.	7	----	----
D.	46	41	32
E.	106	115	110
Total	567	660	990

COMMERCIAL

WASTEWATER CONTROL

STATUS

FOR

1971

15102

COMMERCIAL
WASTEWATER CONTROL STATUS - 1971

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
380007	1	2	Aiken, R. and Burns G. Automatic Laundry - Jackson	Grand GW	*	B	B	B
580152	1	1	Airport Community Schools Elementary School near Carlton	Swan Creek - Monroe Co.	*			B
740099	1	2	Albert, Henry - Apartments Fort Gratiot Twp., St. Clair County	Lake Huron GW	*			B
630052	1	1	Alexander R. & Bauer J. dba Waterford Coin-Op Laundry Waterford Twp., Oakland Co.	Clinton	*		B	E
030080	2	3	Allegan County Park Commission County Park near Ganges	Lake Michigan	*			A
290008	1	2	Alma Travelodge, Inc. Motel & Restaurant - Alma	Saginaw	*	D	D	D
110094	2	3	American Oil Co. Service Station New Buffalo	Galien	*	A	A	A
470034	1	2	American Oil Company Truckstop near Hartland	Saginaw GW	*			A
110165	2	3	Andrews University - Berrien Springs	St. Joseph	V 00066			A
630021	1	1	Anglin, Jack B., Car Wash - Novi	Detroit	*	B	B	B
510062	2	4	Arcadia Twp. Schools - Elementary School near Arcadia	Arcadia Lake Outlet GW	*			B
540005	2	4	B.A.G. Car Wash - Big Rapids	Muskegon GW	*	A	A	A
500026	1	1	Backus Bros. Car Wash - Sterling Twp., Macomb Co.	Clinton	*	A	A	E
320038	1	2	Baker, Charles F., Car Wash Bad Axe	Lake Huron Southern GW	*	A	A	A
380073	1	2	Baker, Edward, Coin-Op Laundry near Jackson	Grand	*			A
230005	2	3	Baker, Ivan - Car Wash - Olivet	Kalamazoo	*	A	A	A
630023	1	1	Banks, Robert, Car Wash - Highland	Huron GW	*	B	B	B
800038	2	3	Barcel, H. & Miller, F. Laundry Gobels	St. Joseph GW	*	A	A	A

5 15103

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
380075	1	2	Bauer, Joseph A. - Laundromat Vandercook Lake	Grand GW	*			A
090017	1	2	Bay City Country Club - Bay City	Saginaw	*	A	A	B
090039	1	2	Bay City School District Transportation Service Facility	Kawkawlin GW	*			B
090052	1	2	Bay County Dept. of Public Works & Beaver Road Area Water Filtering Plt.	Kawkawlin	*			B
780005	1	2	Bayer, M. & J. - Auto. Laundry & Dry Cleaning - Shiawassee County	Grand GW	*	A	A	A
200007	2	4	Bear Mountain Resort, Inc. Grayling	AuSable GW	*	A	A	A
090018	1	2	Beaudry, Ronald - Car Wash & Gas Station - Auburn	Kawkawlin	*	E	E	E
630024	1	1	Belete, Dewey - Automatic Laundry Oakland County	Detroit GW		A	A	A
380009	1	2	Bently, Paul - Automatic Laundry - Jackson	Grand GW	*	A	A	A
750028	2	3	BER Enterprises Inc. Automatic Laundry - Mendon	St. Joseph	*			A
700056	2	3	Berghorst, Stanley, Auto. Laundry West Olive	Pigeon R. - Ottawa Co.	*	A	A	A
730013	1	2	Beson, Robert, Automatic Laundry - Freeland	Saginaw GW	*	A	A	A
560044	1	2	Betron, Richard E., Coin-Op Laundry near Sanford	Saginaw GW	*			A
720012	2	4	Biggar, Robert L.,dba Higgins Lake Laundromat, Gerrish Twp., Roscommon County	Muskegon GW	*			A
630180	1	1	Blachura, Leon, General Contract g Inc., Apartment Development, Waterford Twp., Oakland Co.	Clinton	*			B
380010	1	2	Black, R. & Nichols, R. Auto. Laundry, Leoni Twp., Jackson County	Grand GW	*	A	A	A

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
630025	1	1	Blunk, C. J., Laundry - Walled Lake	Huron	*	A	A	A
140006	2	3	Boeve, Lloyd, Laundry - Edwardsburg	St. Joseph GW	*	A	A	A
	1	1	Boron Oil Co. - Restaurant & Service Station - Monroe	Raisin GW				B
650008	1	2	Bowser, Walter F., Auto Laundry Mills Twp., Ogemaw County	Rifle River GW	*			B
110184	2	3	Boy Scouts of America, S.W. Mich. Council, Camp Madron, Buchanan Twp., Berrien County	St. Joseph	*			A
240016	2	4	Boyne Highlands - Harbor Springs (Recreation Area)	Lake Mich. GW	*	B	A	A
150023	2	4	Boyne Mountain - Boyne Falls	Pine GW Charlevoix	*		A	A
510063	2	4	Brethren Public Schools - Brethren High School Addition	Manistee GW	*			B
520022	2	5	Brisson, Max, Auto Laundry Harvey	Chocolay				B
510027	2	4	Buccaners Inc. - Onekama (Housing Development & Restaurant)	Portage Lake Outlet GW	*	A	A	A
190001	1	2	Buggs Brothers Lockers - St. Johns	Grand GW	*			A
030029	2	3	Burr, W. Auto. Laundry - Gun Plain Twp., Allegan County	Kalamazoo GW	*	A	A	A

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	2	C & A Laundramat - Calvin Howard Bancroft	Saginaw GW				B
	2	4	Caberfae Motor Lodge - Cadillac	Muskegon GW				B
180006	1	2	Calkins Automatic Laundry - Harrison	Saginaw GW				B
	2	3	Camp Cherith at Saddle Lake Grand Junction	Black-South Haven				B
	1	1	Camp Tamarack - Brighton	Huron				B
	1	2	Camp Tamarack - Ortonville	Saginaw GW				B
730034	1	2	Candlelite Inn - Bridgeport (Bowling Alley & Restaurant)	Saginaw	*			B
	2	3	Capitol Auto Wash, Inc. Battle Creek	Kalamazoo				B
390102	2	3	Carlson Laundromat - Augusta	Kalamazoo	*			B
380013	1	1	Caspers Friendly Laundromat Brooklyn	River Raisin GW		E	E_p	E
	1	1	Cass Auto Parts - Mt. Clemens	Clinton				B
440023	1	2	Cattlekings Chuckwagon Co. Chuckwagon Restaurant near Dryden	St. Clair GW	*			B
370014	1	2	Central Michigan Inns dba Holiday Inns of Mt. Pleasant, Union Twp., Isabella Co.	Saginaw	*			E
750060	2	3	Centreville Public Schools High School at Centreville	St. Joseph	*			B
700125	2	3	Charver Corporation - Restaurant Wright Twp., Ottawa Co.	Grand	*			E_c
620011	2	4	Chesley, Richard, Laundry White Cloud	White R. GW Muskegon Co.	*			A
110183	2	3	Chicago Youth Centers, Camp Mikisabee - Pipestone Twp.	St. Joseph	*			A
[illegible]016	1	2	Clark, Percy L. - Car Wash Metamora Twp., Lapeer Co.	Saginaw GW	*			A
630206	1	1	Clarkston Community Schools Addition to High School - Clarkston	Clinton	*			B

5 15106

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
110095	2	3	Claudon, Robert, Laundromat Stevensville	Kalamazoo		E	E_c	E
110020	2	4	Clifford, Stephen P., Automatic Laundry - Benzonia	Betsie - Benzie Co. GW	*	A	A	A
430006	2	4	Cole, Arthur, Automatic Laundry Baldwin	Pere Marquette GW	*	B	B	B
540006	1	2	Cole Auto. Laundry - Barryton	Saginaw	*	D	D	D
540007	2	4	College Inn of Big Rapids, Inc. Big Rapids	Muskegon GW	*	E	E_p	E
440005	1	2	Colonial Auto Wash - Imlay City	St. Clair GW	*	A	A	A
390032	2	3	Comstock Laundromat - Comstock	Kalamazoo	*	D	B	B
630027	1	1	Conklin Car Wash - Pontiac	Huron GW Monroe Co.	*	A	A	A
540019	1	2	Coon, R. - Laundry - Chippewa Lake	Saginaw	*			B
	1	2	Cooks Soft Water Service - Elsie	Grand				B
030030	2	3	Corson, W., Auto. Laundry - Wayland	Kalamazoo GW	*	A	A	A
260011	1	2	Crofoot, Charles, Auto. Laundry Beaverton	Saginaw GW	*	A	A	A
100021	2	4	Crossman, R. & Campbell, J.,Laundry Honor	Platte GW	*	A	A	A
670007	2	4	Crowe, Bud-Car Wash - Marion	Muskegon GW	*	A	A	A
460033	1	1	Culligan Soft Water, Inc.- Adrian	River Raisin	*	B	B	B
	2	3	Culligan Water Cond. of Allegan Allegan	Kalamazoo				B
	2	3	Culligan Water Cond. - Greenville	Grand				B
	1	2	Culligan Sales & Service - Ionia	Grand				B
	2	3	Culligan Soft Water Service Lawrence	Paw Paw				B
240028	2	4	Culligan Water Conditioning of Petoskey - near Petoskey	Bear River	*			B
	2	3	Culligan Soft Water Service Saugatuck	Kalamazoo				B

15107

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	2	Culligan Water Conditioning Co. Sebewaing	Sebewaing				B
	2	3	Culligan Soft Water of Western Michigan - Zeeland	Black - Holland				B
560005	1	2	D. & C. Laundromat - Sanford	Saginaw GW		B	A	A
690005	2	4	Davis, Lillian, Auto. Laundry Johannesburg	AuSable GW	*	B	B	B
320039	1	2	Davis, R. & I., Auto. Laundry Bad Axe	Lake Huron GW Southern	*	B	B	B
120029	2	3	Davison, Gerald, dba Gerald Assoc. - Apartment Development - Union City	St. Joseph	*			B
730042	1	2	Degeus, Leonard, Car Wash St. Charles	Saginaw GW	*			A
	2	4	Deits, Charles - Alanson Trout Hatchery - Alanson	Cheboygan				B
080033	2	3	Delton - Kellogg School - Delton	Grand	*			A_p
250051	1	2	DeMars, William, Car Wash-near Mt. Morris	Saginaw	*			B
820324	1	1	Detroit Metropolitan Airport Romulus	Detroit				B
460059	1	1	Devils Lake Laundry - Drive In Laundromat - Manitou Beach	Maumee GW	*	A	A	A
500038	1	1	Dicicco's Car Wash - Shelby Twp. Macomb County	Clinton			B	B
220016	2	5	Dickinson County Road Commission Trailer Camp & Park near Iron Mountain	Menominee	*			A
630203	1	1	Dinnan, William - Apartments Waterford Twp., Oakland County	Clinton	*			B
560006	1	2	Dorman, Dennis, Car Wash - Coleman	Saginaw GW	*	A	A	A
780006	1	2	Douglas, J. E., Car Wash - Owosso	Saginaw GW	*	A	A	A
630150	1	1	Douglass, Bruce H., Car Wash Waterford Twp., Oakland County	Clinton	*			B

15108

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
620010	2	4	E-Z Auto Wash - Fremont	Muskegon GW	*	A	A	A
	2	3	Eastgate Cleaners & Laundromat Niles	St. Joseph				E
340040	1	2	Edmonds, Dave C., Car Wash - Muir	Grand GW	*			A
060021	1	2	Edmonds, Karl N., Car Wash AuGres	AuGres GW	*			A
630152	1	1	Eggert, Kenneth & Mildred Car Wash - Waterford Twp., Oakland County	Clinton	*			B
630035	1	1	Embassy West Apartments Apartment Development - Waterford Twp., Oakland County	Clinton	*	A	A	A
780034	1	2	Emmendorfer, Norbert, Car Wash Near New Lothrop	Saginaw GW	*			A
250010	1	2	Fawcett, L. & B., Auto Laundry Flint	Saginaw	*	D	D	D
730016	1	2	Fent, L. A., Automatic Laundry Birch Run	Saginaw GW	*	A	A	A
450034	2	4	Fisher Properties of Indiana, Inc. Restaurant & Lounge - Leland Twp., Leelanau County	Lake Leelanau Outlet GW	*			B
740035	1	2	Fishermans Wharf - St. Clair	St. Clair	*	D	B	B
250011	1	2	Flint Professional Associates Flint	Saginaw	*	D	B	B
760041	1	2	Foley, Adrian K., Laundromat Port Sanilac	Lake Huron GW	*			B
650004	1	2	Forward Distributing Company Restaurant & Gas Station West Branch Twp., Ogemaw Co.	Rifle Arenac Co. GW	*			A
670010	2	4	Franke, A. E. - Tustin (Car Wash)	Manistee GW	*	B	A	A
610048	2	4	Frank's Washing Laundermat Muskegon	Muskegon GW	*	A	A	A
380015	1	2	Frigidaire Quick Clean Laundry Pleasant Lake	Grand GW	*	A	A	A
630029	1	2	Frixen, A. E., Car Wash Ortonville	Saginaw GW	*	B	A	A

5 15109

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
630028	1	1	Frixen, A. E., Car Wash Union Lake	Clinton GW	*	A	A	A
370016	1	2	Fulk, G. - Apartment Development near Mt. Pleasant	Saginaw	*			A
630030	1	1	G. & C., Incorporated - Highland Shopping Center	Huron Monroe Co. GW	*	A	A	A
630183	1	1	Gage, Edwin, Shopping Center near Drayton Plains	Clinton	*			B
110190	2	3	Galien Twp. Public Schools Classroom Additions - Galien	Galien	*			E_p
470005	1	1	Gallup-Silkworth Co., Car Wash Hamburg	Huron GW Monroe Co.	*	B	B	B
530024	2	4	Gibbs, Harold - Ludington (Restaurant)	Pere Marquette GW	*	A	A	A
180004	1	2	Gibson, Floyd, Auto. Laundry Harrison	Saginaw GW		A	A	A
650011	1	2	Gifford, Jack - Laundromat Rose City	Rifle, Arenac County GW	*			B
460092	1	1	Ginsburg, Hurand, Simon & Fortino, dba Southland Plaza, Adrian	River Raisin	*			B
750054	2	3	Glen Oaks Community College	St. Joseph	*			A
630139	1	1	Glengary Laundry, Inc., Walled Lake	Huron-Monroe County	*			A
230007	2	3	Goodrich, Leslie, Car Wash Bellevue	Kalamazoo GW	*	A	A	A
230024	1	2	Grand Ledge Public Schools Middle School near Grand Ledge	Grand	*			A
700124	2	3	Grand Rapids, City of Water Filtration Plant, Grand Rapids	Lake Michigan	*			B
190004	1	2	Green, Merle, Farm - Elsie	Saginaw GW		D	D	A
300016	1	1	Green, Richard & Madonna Auto. Laundry - Frontier	Maumee GW	*	B	A	A

15110

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
040035	2	4	Gries, Jack L., Auto Laundry near Lachine	Thunder Bay GW	*			B
040022	2	4	Gries, William, Automatic Laundry Hubbard Lake	Thunder Bay GW	*	A	A	A
280024	2	4	Griner Enterprises, Auto. Laundry Interlochen	Betsie - Benzie GW	*	A	A	A
760039	1	2	Hamblin, Roy, Car Wash - Peck	St. Clair GW	*			A
520020	2	5	Hamel, Joseph, Automatic Laundry Champion	Menominee GW	*	A	A	A
030078	2	3	Hamilton Community Schools Elementary School - Hamilton	Kalamazoo	*			A
610049	2	4	Happ's Wash King - Twin Lake	Muskegon GW	*			A
380016	1	2	Harrington, Lawrence & Treva Automatic Laundry - Jackson	Grand GW	*	B	B	B
630032	1	1	Heatherington, Gary & Roy Laine Car Wash - Highland	Huron-Monroe County	*	B	B	B
090019	1	2	Hedglin, Winn, Laundry - Linwood	Lake Huron GW	*	A	A	A
280023	2	4	Hedlund, E. L. & L. H. - Automatic Laundry - Interlochen	Betsie - GW Benzie Co.	*	B	B	B
470006	1	1	Helfer, James Ray Apartment Development - New Hudson	Huron GW	*	B	B	B
610051	2	3	Herman, P.L., Automatic Laundry Ravenna	Grand GW	*	A	A	A
630089	1	2	Holly Greens, R. I. Inc. - Holly Motel & Restaurant	Saginaw	*		A	A
340010	1	2	Hornes of Michigan Restaurant Ionia	Grand GW	*	A	A	A
800040	2	3	Hornes of Michigan Restaurant Lawrence	St. Joseph GW	*	B	A	A
580151	1	1	Ida Public Schools - High School Ida	Otter Cr. Monroe County	*			B

15111

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
630034	1	1	Independence Square Apartments Waterford	Clinton GW	*	B	B	B
380017	1	2	Isaac, Donald E., Car Wash Michigan Center	Grand GW	*	A	A	A
320041	1	2	J. & M. Laundromat - Port Austin	Lake Huron GW	F 00677	A	A	A
380057	1	2	Jackson Community College near Jackson	Grand	*			B
380053	1	2	Jackson - Hillsdale Area Catholic Board of Education, High School Jackson	Grand	*			B
630190	1	1	Jarrenot, Lewis W. - Apartments Clarkston	Clinton	*			B
110188	2	3	Jewish Education, Board of,Summer Camp - Buchanan Twp., Berrien Co.	Galien	*			B
630033	1	1	Johns Building Co. Apartment Complex - Oxford Twp., Oakland Co.	Clinton GW	*	A	A	A
380078	1	2	Jones, Elwin, Coin-Op Laundry Napoleon Twp., Jackson Co.	Grand	*			A
390086	2	3	Kalamazoo County Road Commission Bathhouse in Coldbrook Co. Park near Climax	St. Joseph	*			A
390090	2	3	Kalamazoo County Road Commission County Park - near Vicksburg	St. Joseph	*			A
540006	1	2	Kaushmaul, Harold, Auto. Laundry Barryton	Saginaw	*	D	D	D
540011	2	4	Kaushmaul, Harold - Mecosta Automatic Laundry	Muskegon GW	*	E	E	B
140010	2	3	Kendell, Donald L. - Edwardsburg (Apts.)	St. Joseph GW	*	B	A	A
410113	2	3	Kenowa Hills Public Schools Junior High - Kent County	Grand	*			B
410096	2	3	Kenowa Hills Public Schools Elementary School - Alpine Twp., Kent County	Grand	*			B
410123	2	3	Kent County Board of Aeronautics Cascade Twp., Kent County	Grand	*			B

15112

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
720007	2	4	Kiiken, M., Laundry - St. Helen	AuSable GW	*			A
380048	1	2	Kingsbrooke, Inc. - Housing Development - Blackman Twp., Jackson County	Grand	*			B
630232	1	1	Kingsley Square, Inc. - Restaurant Bloomfield Hills	Detroit	*			B
790024	1	2	Kingston District Public Schools High School - Kingston	Saginaw GW	*			A
390033	2	3	Knowles, Roger, Auto. Laundry Climax	Kalamazoo GW	*	A	A	A
410028	2	3	Kroger Co. - Grocery Warehouse Kentwood	Grand	*	B	A	A
380056	1	2	Labadie, W. C., Machine Shop Grass Lake	Grand GW	*			E
040023	2	4	Labell, Oliver, Laundry - Ossineke	Devil GW	*	A	A	A
570002	2	4	Lake City Automatic Laundry - Lake City	Muskegon GW		A	A	A
720009	2	4	Lakeside Laundry - Houghton Lake	Muskegon GW	*		B	B
080039	2	3	Lakewood High School near Lake Odessa	Grand	*			A
590011	1	2	LaSalle, R., Automatic Laundry Crystal	Grand	*	E	E	B
780007	1	2	Latavis, F. & W. Bevin dba Suds and Duds Laundromat - Owosso	Saginaw GW	*			B
140014	2	3	Leavitt, Morton, Apartment Development near Edwardsburg	St. Joseph	*			B
	2	4	Leelanau Homestead, Inc. - Glen Arbor	Lake Mich. GW				B
490009	2	5	Les Cheneaux, Automatic Laundry Cedarville	Lake Huron GW		B	A	A
380018	1	2	Lincoln, Floyd Lee, Auto. Laundry Horton	Kalamazoo GW	*	A	A	A

5 15113

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
	1	2	Logan, Madelon L., R & J Laundry Caseville	Pigeon				B
380019	1	2	Loveland, D. & E., Car Wash Grass Lake	Grand GW	*	A	A	A
410102	2	3	Lowell Area Schools, Alto Elementary School - Alto	Grand	*			A
780008	1	2	M & M Motels Inc. - Owosso	Saginaw	*	D	B	D
260014	1	2	Mackey, Charles J. III, Coin-Op Laundry - Estey	Kawkawlin GW	*			B
240017	2	4	Mackinaw Laundry Co. Mackinaw City	Lake Huron GW	*	B	B	B
830003	2	4	Manton Launderama - Manton	Manistee GW		A	A	A
670021	2	4	Marion Public Schools - High School Marion	Muskegon GW	*			B
630137	1	2	Marlan, H. & E. Hillman dba Davisburg Lumber Co. - Davisburg	Saginaw	*			A
350032	1	2	Martin, William, Coin-Op Laundry Grant Twp., Iosco County	Au Gres GW	*			A
260012	1	2	Martonosi, Leo W., Jr. - Laundromat Buckeye Twp., Gladwin Co.	Saginaw GW	*			B
010007	2	4	Maus, Daniel & Helen, Coin-Op Laundry, Curtis Twp., Alcona Co.	AuSable GW	*			B
370005	1	2	McArthur, Leon, Auto. Laundry Weidman	Saginaw	*	E	B	B
400005	2	4	McCoy, Earle, dba Macs Place Automatic Laundry - Kalkaska	Manistee GW	*		B	B
630037	1	1	McNab, Donald S., Car Wash Walled Lake	Huron-Monroe County GW	*			B
630186	1	1	McNab, Donald S., Car Wash Wolverine Lake	Huron R. GW Monroe Co.	*	B	B	B
	1	1	McNichols Polishing & Buffing Detroit	Detrc				B
540025	2	4	Mecosta County Park Commission Paris Park Campgrounds	Muskegon GW	*			B

15114

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
370012	1	2	Mecosta Holding & Developing Corp.	Saginaw GW	*			A
410117	2	3	Meijer Supermarkets, Inc. Warehouse - Walker	Grand	*			A
510061	2	4	Mezeske, Carl P. - Coin-Op Laundry Dickson Twp., Manistee County	Manistee GW	*			A
180018	1	2	Michelak, Ray - Farwell	Saginaw GW				A
510060	2	4	Michigan Conference - Evangelical Coven. Church of America, Bible Camp near Onekama	Portage Lake Outlet GW	*			A
130055	2	3	Michigan Education Association Conference Center near Battle Creek	Kalamazoo GW	*			A
460034	1	1	Michigan International Speedway Cambridge Junction	River Raisin GW	*	B	B	B
380020	1	2	Miller, J. N., Eastgate Laundromat Jackson	Grand GW	*	A	A	A
	2	4	Miller, K. F. - Kim's Laundromat Oscoda	AuSable GW				B
030032	2	3	Miskotten, E., Automatic Laundry Hamilton	Kalamazoo GW	*	A	A	A
570003	2	4	Missaukee County Park Commission Recreation Site near Lake City	Muskegon GW	*			B
380021	1	2	Mitchell, J. A., Automatic Laundry Jackson	Grand GW	*	A	A	A
580092	1	1	Monroe Howard Johnson, Inc. Restaurant & Motel - Monroe	River Raisin	*	B	B	B
590012	1	2	Montcalm Community College - Stanton	Grand	*	B	B	A
250009	1	2	Montrose Laundramat, Inc. M. Bronson & W. Mills, Owners Montrose	Saginaw	*	B	B	B
640016	2	4	Morse, C. & I. - Laundry Hesperia	White-White Lake Outlet	*	A	A	B

5 15115

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
680004	2	4	Morse, Dennis G., Automatic Laundry - Luzerne	AuSable GW	*			A
110192	2	3	New Buffalo, City of, Water Supply Treatment Plant - New Buffalo	Lake Michigan	*			A
630042	1	1	Newsted, Warren R., Car Wash Clarkston	Clinton GW	*	B	B	B
	1	1	Noble, J. & B., Brandon Laundromat Pontiac	Clinton				B
630157	1	1	Norber Builders, Inc., Apartment Complex, Waterford Twp., Oakland Co.	Clinton	*			B
660012	2	5	Nordine, Thomas, Laundry Bruce Crossing	Ontonagon GW	*	A	A	A
320078	1	2	North Huron School District Elementary School - Kinde	Pinnebog	*			A
380022	1	2	Northwest School District School - Jackson	Grand	*	A	A	A
130065	2	3	Northwestern Investment Co. Automatic Laundry - Athens	St. Joseph GW	*			A
750025	2	3	Northwestern Investment Co. Automatic Laundry - White Pigeon	St. Joseph GW	*	A	A	A
320042	1	2	Nugent, John, Car Wash - Ubly	Saginaw GW	*	A	A	A

15116

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
630170	1	1	Oakland Community College Auburn Hills Campus	Clinton	*			B
080009	2	3	Olsen, R. N., Car Wash - Hastings	Grand	*	A	A	A
800045	2	3	Olsons Saveway Market Automatic Laundry - Mattawan	St. Joseph GW	*	A	A	A
660030	2	5	Ontonagon Twp. Public Schools, Elementary School at Mass	Flintsteel	*			B
660029	2	5	Ontonagon Twp. Public Schools, Elementary School at Rockland	Ontonagon	*			B
630049	1	1	Orchard Lake Village Shopping Ctr. (Cass Building Company)	Clinton GW		B	B	B
630043	1	1	Orion Village, Inc. - Shopping Center - Lake Orion	Clinton GW	*	B	B	B
110156	2	3	Osborn R. R., New Buffalo Township Berrien County	Lake Michigan	*			D_c
350034	2	4	Oscoda Area Schools - Jr. High School - Oscoda	AuSable GW	*			B
350035	2	4	Oscoda Area Schools - Elementary School - Oscoda	AuSable GW	*			B
690006	2	4	Otsego Ski Club Hidden Valley, Inc., - Gaylord	Cheboygan GW	*	A	A	A
700102	2	3	Ottawa Co. Bd. of Supervisors, County Infirmary near Eastmanville	Grand	*			A
700079	2	3	Ottawa Co. Grand Valley State College, WWTP	Grand				A_p
700118	2	3	Ottawa County School District, Elementary School near Conklin	Grand	*			A
140007	2	3	Owen, N., Malcom W. & Garwood C. Laundry - Jones	St. Joseph GW	*	B	A	A
780010	1	2	Owosso Country Club - Owosso	Saginaw	*	B	B	B
030033	2	3	Panyrek, Joseph L., Laundry Bradley	Kalamazoo GW	*	A	A	A
180011	1	2	Pardee, Charles, Automatic Laundry Hamilton Twp., Clare Co.	Saginaw GW	*	B	B	B
60001	2	4	Peck, Joe, Auto. Laundry - Atlanta	Thunder Bay GW	*	A	A	A

5 15117

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
250013	1	2	Perry, Kenneth, Car Wash Swartz Creek	Saginaw GW	*	B	A	A
780030	1	2	Pierce, J. & Delgaudio, C., Car Wash, Burns Twp., Shiawassee Co.	Saginaw	*			B
630045	1	1	Pine Knob Enterprises Recreation Area - Clarkston	Clinton GW	*	A	A	A
670018	2	4	Pine River Schools near Tustin	Manistee GW	*			B
410124	2	3	Plainfield Twp. Water Treatment Plant, Lime Softening, Kent Co.	Grand GW	*			A
700060	2	3	Point West, Inc. (Macatawa Inn) Macatawa	Black	*	A	D	D
630056	1	1	Pontiac Lake Laundry - White Lake Twp., Oakland County	Huron			A	A
630201	1	1	Poole, F. J. & Frericks, Gerald G. dba Waterford Investment Company Waterford Twp., Oakland County	Clinton	*			B
180005	1	2	Popard, Margaret Automatic Laundry - Harrison	Saginaw GW	*	A	A	A
740101	1	2	Port Huron Area Public Schools Elementary School - Gratiot Twp., St. Clair Co.	St. Clair GW	*			B
390103	2	3	Portage Twp. Schools High School, Kalamazoo Co.	Kalamazoo	*			A
040036	2	4	Pugh, Royal S., Car Wash, Emerson Station, Wilson Twp., Alpena Co.	Thunder Bay	*			A
580086	1	1	Pure Oil Company - Monroe Co. Restaurant & Truck Service	La Plaisance Creek	*	A	A	A
110101	2	3	Pure Oil Company - Sawyer Restaurant & Service Station	Lake Michigan	*	D	D	A
810025	1	1	Pure Oil Company Service Station Pittsfield Twp., Washtenaw Co.	Huron GW	*	D	B	B
810092	1	1	Pure Oil Company - Restaurant & Service Station - Pittsfield Twp., Washtenaw County	Raisin	*			B

15118

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
630143	1	1	Queens Corp., Apt. Development, Commerce Twp., Oakland Co.	Huron	*			B
380024	2	3	R & B Laundry - Hanover	Kalamazoo GW	*	A	A	A
	1	2	R & G Self Service Auto. Wash-Clio	Saginaw				B
090020	1	2	Rapanos, John & Nicholos Motel, Restaurant, Bowling, Gas Station	Saginaw	*	D	D	B
400004	2	4	Rapid City Laundromat - Rapid City	Elk GW	*	B	B	B
500028	1	1	Red Carpet Car Wash - Fraser	Clinton	*	B	B	E
630047	1	1	Rice, Ronald, Automatic Laundry Oxford Twp., Oakland Co.	Clinton GW		A	B	A
630046	1	1	Rice, Ronald, Car Wash - Lake Orion	Clinton GW		B	B	A
560027	1	2	Roberts, Lawrence, Automatic Laundry Coleman	Saginaw GW	*			B
410118	2	3	Rockford Public School System, Elementary School, Rockford	Grand	*			A
540020	2	4	Rogers Heights Service Center Big Rapids	Muskegon			A	A
410030	2	3	Roth, L. P. Gas, Incorporated Car Wash - Lowell	Grand	*	A	A	A
630136	1	2	Rothermal, Robert J., Apartment Development, Springfield Twp. Oakland County	Saginaw	*			B
170025	2	5	Rudyard Public Schools, Elementary School, Rudyard	Pine	*			B
630158	1	1	Sanders, Harry, Apartment Complex Waterford Twp., Oakland County	Clinton	*			B
560045	1	2	Sanford Public Schools, Meridian Senior High School, Sanford	Saginaw GW	*			A
250015	1	2	Savage, P. & Bauus, R. Automatic Laundry - Linden	Saginaw GW	*	B	A	A
780011	1	2	Savage, Philip, Automatic Laundry Byron	Saginaw GW	*	A	A	A
500030	1	1	Scaglione, Joseph, Car Wash Utica	Clinton	*	B	D	E

15119

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
380080	1	2	Schmid, Frederick, Coin-op Laundry Vandercook Lake	Grand	*			A
780012	1	2	Schmidt, Clarence, Car Wash - Perry	Grand GW	*	A	A	A
760019	1	2	Schommer, Leo, Car Wash Port Sanilac	Lake Huron GW		A	A	A
050009	2	4	Schuss Mountain, Michigan Ski Resort - Mancelona	Elk GW	*	A	A	A
170012	2	5	Schwartz, William, Auto. Laundry Rudyard	Pine GW Mackinac Co.	*	A	A	A
510028	2	4	Segerstrom, H., Auto. Laundry Dublin	Manistee GW	*	A	A	A
030034	2	3	Serie, James, Auto. Laundry Hopkins	Kalamazoo GW		A	A	A
790021	1	2	Severance, Lewis & Fern, dba Circle S Car Wash, Akron Twp., Tuscola Co.	Allen Drain GW	*			B
050010	2	4	Shanty Creek Lodge, Inc. Recreation Area - Bellaire	Elk GW	*	E	A	A
780013	1	2	Shiawassee County Probate Court Owosso	Saginaw	*	B	B	B
380049	1	2	Simonds, Robert F., Coin-operated Laundry - Grass Lake	Grand	*			A
800043	2	3	Sister Lake Laundry, Owner-Amiel Henry, Benton Harbor	St. Joseph		B	A	A
110102	2	3	Snow Crystal Motel - St. Joseph	St. Joseph GW	*	A	A	A
680002	2	4	Socia, Elmer, Laundry - Mio	Au Sable GW	*	A	A	A
520024	2	5	Sorenson, Richard, Auto. Laundry Forsyth Twp., Marquette Co.	Escanaba GW			A	A
810076	1	1	South Lyon Community Schools Salem Elementary School, Salem Twp., Washtenaw Co	Huron	*			B
780025	1	2	Spring Vale Acade[illegible] · Owosso	Saginaw			B	B

5 15120

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
110193	2	3	St. Joseph Public Schools Junior High School near St. Joseph	St. Joseph	*			B
110202	2	3	St. Joseph Public Schools Elementary School, Royalton Twp., Berrien Co.	Galien	*			A
630048	1	1	Steele, Edward L., Apartment Orchard Lake	Clinton GW	*	B	B	B
740077	1	2	Stein, Howard & Kenneth, dba Wadhams Car Wash, Kimball Twp., St. Clair Co.	St. Clair GW	*			B
720003	2	4	Stephens, Charles, Auto Laundry & Car Wash near Prudenville	Muskegon GW	*	A	A	A
060015	1	2	Stoner, Jack L., Auto. Laundry Sterling	Pine GW Arenac Co.	*	A	A	A
350023	1	2	Stoner, Jack L., Auto Laundry Whittemore	Au Gres GW	*	A	A	A
110103	2	3	Stover Soft Water Service Berrien Springs	St. Joseph	*	A	A	A
610053	2	4	Strasser, Joseph, Auto. Laundry Fruitport Twp., Musk. Co.	Mona Lk. Outlet GW	*	A	A	A
740036	1	2	Stuckeys Inc., Restaurant & Novelty Shop - Port Huron	St. Clair	*	D	B	A
450023	2	4	Sugar Loaf Mountain Resort Corp. Cedar	Shalda Cr. GW	*	A	A	A
630142	1	1	Sylvain, Richard D. - Coin-op Laundry - Highland	Huron	*			A
460093	1	1	Tecumseh Board of Education, Raisin Twp., Lenawee Co.	River Raisin	*			B
	2	5	Teleprompter Corp. - Calumet	Portage				B
500029	1	1	Thorman, Floyd B. - Utica	Clinton GW	*	B	B	B
370021	1	2	Tompkins, R. & L., dba Tompkins Mfg. Co., Car Wash Mt. Pleasant	Saginaw	*			B
380070	1	2	Trinity Lutheran Church near Jackson	Grand	*			B

5 15121

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
060014	1	2	Tucker, Willard, Auto. Laundry AuGres	AuGres GW	*	B	B	B
780041	1	2	Turson, Henry & Doris, Motel Owosso	Saginaw GW	*			D
	2	3	Twin City Soft Water Co. Benton Harbor	St. Joseph				B
160030	2	4	United Auto Workers, Recreational Center near Onaway	Cheboygan GW	*			A
130019	2	3	United Pentecostal Church Summer Camp - Marshall (United Church Builders)	Kalamazoo	*	A	A	A
350033	2	4	U. S. Department of the Air Force Wurtsmith A.F.B. - Wurtsmith	Au Sable	*			B
580130	1	1	University Gardens (Apartments) Whiteford Twp., Monroe Co.	Halfway Creek	*			A
740092	1	2	Valentine, Charles, Apt. Development St. Clair Twp., St. Clair County	St. Clair	*			B
090054	1	2	Valley Plaza, Motel-Theatre Restaurant-Bowling Alley, Williams Twp., Bay County	Kawkawlin	*			B
160026	2	4	Waldron, David, Auto. Laundry Burt Lake	Cheboygan GW	*	A	A	A
470009	1	2	Warner, Emery A., Car Wash Howell	Saginaw GW	*	A	A	A
430012	2	4	Wash-King Ben Bimba - Baldwin	Pere Marquette GW	*	A	A	A
830009	2	4	Webb, Malvern - Mesick	Manistee GW			B	A
320053	1	2	Webber, Robert (Car Wash) - Pigeon	Pigeon GW			B	B
280028	2	4	Weslock, Arnold, Laundry Fife Lake	Manistee GW	*	A	A	A
700117	2	3	West Ottawa Public Schools Elementary School addition near Holland	Black	*			A
700119	2	3	West Ottawa Public Schools, new Central Elementary School near Holland	Black	*			A

5 15122

PRIME STATION NUMBER	REGION	DISTRICT	COMPANY NAME	MAJOR RIVER BASIN	COMM. ORDER STIP. OR COURT ORDER	ANNUAL RATING		
						1969	1970	1971
130056	2	3	Wheatfield Motor Inn, Inc. near Battle Creek	Kalamazoo	*			A
250016	1	2	Whetham, H., Auto. Laundry Flushing	Saginaw GW	*	A	A	A
120031	2	3	Whisman, Frank B., Apt. Complex, Ovid Twp., Branch Co.	St. Joseph	*			A
470033	1	1	White, Jimmy D., Car Wash near Brighton	Huron	*			B
630118	1	2	Widman, Robert G., Apt. Development Ortonville	Saginaw	*			B
340039	1	2	Williman, R. C., dba Scale House Restaurant, Orange Twp., Ionia Co.	Grand	*			A
380076	1	2	Win Schulers, Inc., Restaurant near Jackson	Grand	*			A
110099	2	3	Win Schulers, Inc., Restaurant Stevensville	St. Joseph GW	*	A	B	A
470010	1	1	Winters, M. J. Laundry & Car Wash Hamburg Twp., Livingston Co.	Huron GW	*	A	A	A
080010	2	3	Wood, C. & Laughlin, M. Automatic Laundry - Delton	Grand GW	*	A	A	E
180008	1	2	Wortsell, H. O., Auto. Laundry Farwell	Saginaw GW	*	A	A	A
490010	2	5	Wyse, Ora, Automatic Laundry Naubinway	Lake Michigan GW		A	A	A
380026	1	1	Youth Recreation Center - Brooklyn	River Raisin GW	*	B	B	B
170019	2	5	Zambrowski, Anthony, Laundromat Trout Lake	Carp River	*			A
	1	1	Zimmermann, Gerhard - Laundry Washington	Clinton				B
140008	2	3	Zimmerman, L. F., Auto. Laundry Union	St. Joseph GW	*	A	A	A

5 15123

SUMMARY

COMMERCIAL

Ratings	YEAR 1969	1970	1971
A.	116	133	187
B.	57	62	147
C.	----	----	----
D.	17	12	8
E.	11	10	14
Total	201	217	356

bcc. Scoldie
Cole
Radt
file
Gen
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Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

November 18, 1972

Mr. John C. Soet
Chairman
Air Pollution Commission
3500 North Logan St.
Lansing, MI 48914

Dear Mr. Soet:

As background information, the Plainwell Paper Co., Inc. was acquired by Philip Morris, Inc. in a shut-down position from the Weyerhaeuser Co. in December, 1970. The facilities at Plainwell consist of three (3) four-drinier paper machines and associated equipment. The first paper machine was started in December of 1970, the second in March, 1971 and the last machine in October of this year.

At the time of acquisition, we were aware that our #1 and #2 boilers exceeded the limits established for particulate emissions. Our #3 boiler meets the requirements. As a result, we retained Hoad Engineers of Ypsilanti to determine a plan to meet the present state and federal standards. After considering the alternatives and working with Michigan Gas Utilities, we have decided to convert from coal to gas/oil firing.

Based on the above, we have arrived at a timetable for conversion, which is as follows:

December '72/January '73 - Finalization of the plan.

June '73/July '73 - Installation of oil tanks.

July '73/Aug. '73 - Conversion of #1 Boiler.

Aug. '73/Sept. '73 - Conversion of #3 Boiler.

Oct. '73/Nov. '73 - Conversion of #2 Boiler.

The gas line to the mill is presently under construction. We realize that the above timetable does not show specific dates. These can be presented to you when we receive approval from the board and the equipment is placed on order.

S 15125

Your Mr. Vande Bunt requested us to consider entering into a voluntary abatement agreement with the commission. We are very receptive to this idea and would appreciate knowing what our next step should be to formalize this agreement.

Please contact us if you have questions concerning our plans and timetable, or with information concerning the next step in the agreement.

Sincerely yours,

PLAINWELL PAPER CO., INC.

James M. Hays

James M. Hays
Manager-Product Development and
Technical Services

JMH:rc

MDPH USE ONLY
1___C___D___

MICHIGAN AIR POLLUTION REPORTING FORM

AP-100

One Copy of This Form with Supplements Must be Completed and Returned by October 30, 1972

Estab. No. ESTAB. NO. A0024

Owner's Name
Business Name PLAINWELL PAPER COMPANY INC
Street Address 200 ALLEGAN STREET
City PLAINWELL MICH 49080
State

Remove the address label from the cover page and place it in the space provided at left. If any of the information is incomplete or incorrect please make the necessary corrections.

Person to Contact Regarding this Report Carl A. Gren/Robert Goodrich Title Environmental Resource Dept.

No. of Employees 300 Phone No. 685-5851 (616)

GENERAL INSTRUCTIONS

1. Completion and return of this form with supplements is required by state law.
2. A separate report must be filed by each utility, industrial and commercial establishment, and municipality for each facility in Michigan.
3. Except where noted, information is to be provided on a yearly basis, representative of Calendar Year 1972 (January 1—December 31, 1972).

   NOTE: This will require reporting actual data for the period Jan. 1—Sept. 30, 1972 plus an estimated data for the last quarter of 1972. Actual data for the last quarter of 1971 may be used in lieu of an estimate if it is representative of the last quarter of 1972.
4. If records are not available, make the best estimate possible.
5. If adequate space is not provided, duplicate these forms or request additional forms.
6. Space has been provided on each form to provide pertinent additional information, general or specific comments, and the company's estimate of their air pollution emissions. Emission estimates are not required but will be considered if supplied.

QUESTIONS

Note! If answer to questions B, C, D and E are all NO, no additional forms need be completed and only this form (AP-100) need be returned

A. Describe your primary activity in specific detail, indicating your principal products.
We manufacture paper from wood sulfite pulp (purchased). Fourdrinier process.

B. Do you burn any portion of your solid or liquid waste?
1 ☐ yes 2 ☒ No
If yes, form AP-101 must be completed and attached.

C. Do you own or operate a boiler (steam or hot water) or a coal fired warm air furnace? Do not consider other warm air furnaces.
1 ☒ Yes 2 ☐ No
If yes, form AP-102 must be completed and attached.

D. Do you have any of the processes or materials listed in Part I on the reverse side of this form?
1 ☒ Yes 2 ☐ No
If Yes, Form AP-103 must be completed and attached.

E. Do you produce any of the materials listed in Part II on the reverse side of this form and/or do you have any other processes with actual or potential air pollution emissions?
1 ☐ Yes 2 ☒ No As per telephone discussion with Commission Enginec
If Yes, Form AP-104 must be completed and attached.

Certification Signature of Authorized Representative [signature] Title Manager Product Development & Technical Services

ONE COPY OF THIS FORM WITH SUPPLEMENTS MUST BE COMPLETED AND RETURNED BY OCTOBER 30, 1972

5 15127

INCINERATION FORM AP-1

I___ C___ D___

To be used for reporting information on material burned in open areas or incinerators, but not boilers

Establishment Name Plainwell Paper Co., Inc. City Plainwell Estab. No. A0024
See Address Label

ITEM 1

Type and Amount of Waste Burned

Waste Type Code
1. General paper cardboard garbage, etc.
2. Woodwaste
3. Pathological
4. Sewage Sludge
5. Organic Chemicals oils solvents paint sludge
6. None

A. Indicate the type of waste burned in column 2 and the amount of waste burned in column 3 that relate to each method of burning described in column 1. Use columns 4 and 5 to indicate units. Data to be representive of calendar year 1972.

(1) Incineration Method (List each incinerator separately)	(2) Type of Waste Burned in Each Incinerator (use code at left)	(3) Amount Burned (Select familiar units for amount and time)	(4) Amount Check One Only: TONS	POUNDS	CUBIC YDS	55 GAL DRUMS	20 Gal. Trash Cans or Plastic Bags	BUSHEL	Office Waste Baskets	GALLON	Per	(5) Time Check One Only: Day	Wk.	Mo.	Yr.
OPEN BURNING include: barrels, pits semi-enclosures open areas	Code No.	NOT									per				
	Code No.	APPLICABLE									per				
	Other (specify)										per				
INCINERATOR #1	Code No.										per				
	Code No.										per				
	Other (specify)										per				
INCINERATOR #2	Code No.										per				
	Code No.										per				
	Other (specify)										per				
INCINERATOR #3	Code No.										per				
	Code No.										per				
	Other (specify)										per				

B. What percentage of your total refuse is burned on your premises _____%

If one or more incinerators are used, the following information must be reported for each incinerator

	Use same number as in Item 1 ➔	INCINERATOR #1	INCINERATOR #2	INCINERATOR #3
ITEM 2 Incinerator Type and Sizes	A. Incinerator Type—Use Code Below 1. Single Chamber 5. Multiple Hearth 2. Multiple Chamber 6. Conical (teepee) 3. Flue Fed 7. Liquid Waste 4. Controlled Air 8. Other (specify) Note: If waste is burned in a boiler, report on Form AP-102	Code No.	Code No.	Code No.
	B. Incinerator Capacity (Check appropriate units)	☐ Lbs/Hr ☐ Gal/Hr.	☐ Lbs/Hr. ☐ Gal/Hr.	☐ Lbs/Hr. ☐ Gal/Hr.
	C. Grate and/or Hearth Area (Square Feet)	sq. ft.	sq. ft.	sq. ft.
ITEM 3 Incinerator Operating Schedule	NOT APPLICABLE Indicate how much of the time the incinerator is in operation	hrs/day days/yr.	hrs/day days/yr.	hrs/day days/yr.

Continue on reverse side

5 15128

Incineration Form AP-101
Continued

		INCINERATOR #1 Cont.	INCINERATOR #2 Cont.	INCINERATOR #3 Cont.
ITEM 4	A. Check if the incinerator has a primary burner which is used	☐	☐	☐
Control Equipment	B. Check if the incinerator has a second-burner or afterburner which is used	☐	☐	☐
NOT APPLICABLE	C. Incinerator Flyash Control Equipment—(Use Code Below) 1. Wetted baffles 2. Scrubber 3. Cyclone or Multi-cyclone 4. Electrostatic Precip. 5. Fabric Filter 6. Other (specify) 7. None	☐ Code No.	☐ Code No.	☐ Code No.
ITEM 5	A. Stack height measured from ground level to top of stack	ft.	ft.	f
Stack Data	B. Stack Diameter (at top)	ft. in.	ft. in.	ft. i
	C. Exit Gas Temperature (if known)	°F	°F	
NOT APPLICABLE	D. Gas Volume (if known)	CFM	CFM	CF

ITEM 6
Additional Information to be supplied by those who burn their waste

NOT APPLICABLE
A. Commercial Buildings (offices, stores, banks, etc.)_____ square feet floor area
B. Schools: No. of rooms _____, No. of pupils _____
C. Medical Institutions: No. of beds _____
D. Hotels: No. of rooms _____
E. Cafeterias and Restaurants: No. of meals served per day _____

FOR MDPH USE ONLY

0	1	2	3	4	5
1					
2					
3					

Use this space if you wish to provide additional information, comments or the company's estimate o emissions from the facilities described on this form. Please explain basis for all estimates of emissions if given.

MDPH USE ONLY
I.____ C.____ D.____

BOILER FORM AP-10

To be Used for Reporting Information on all Boilers, Including Standby, Regardless of Fuel Burned, and Coal Fired Warm Air Furnaces

Establishment Name Plainwell Paper Co.,Inc. City Plainwell Estab. No. A0024
See Address Label

ITEM 1 General Boiler Data	A. Boiler No. As you refer to it	Boiler #1	#2	#3	
	B. Dept. of Labor Boiler No. (if any)	State # M 1963 M M	M 1964 M M	M 83689 M M	M _____ M
	C. Rated Boiler Capacity Check appropriate units	45,000/hr ☐ Million Btu/Hr. ☒ Lbs. Steam/Hr. ☐ Horsepower	45,000/hr ☐ Million Btu/Hr. ☒ Lbs. Steam/Hr. ☐ Horsepower	45,000/hr ☐ Million Btu/Hr. ☒ Lbs. Steam/Hr. ☐ Horsepower	☐ Million Btu/Hr. ☐ Lbs. Steam/Hr. ☐ Horsepower
Report Information On Each Boiler Separately	D. Normal Operating Level Check appropriate units	30-40,000/hr ☐ Million Btu/Hr. ☒ Lbs. Steam/Hr. ☐ Horsepower	30-40,000 ☐ Million Btu/Hr. ☒ Lbs. Steam/Hr. ☐ Horsepower	30-40,000/hr ☐ Million Btu/Hr. ☒ Lbs. Steam/Hr. ☐ Horsepower	☐ Million Btu/Hr. ☐ Lbs. Steam/Hr. ☐ Horsepower
	E. Percent of Heat Input Used for space heating	In winter months 8 %	8 %	8 %	%
	F. Operating Schedule Hrs/Day	24	24	24	
	Days/Wk.	6-7	6-7	6-7	
	1972 Days/Year	365	365	365	
	G. Percent of Annual Fuel Consumption By Season Dec.-Feb.	30% of total	30% of total	30% of total	
	Mar.-May	25%	25%	25%	
	June-Aug.	20%	20%	20%	
	Sept.-Nov.	25%	25%	25%	
	H. Type(s) of Fuel Used Check all appropriate boxes	☐ Gas ☐ Oil ☒ Coal ☐ Other	☐ Gas ☐ Oil ☒ Coal ☐ Other	☐ Gas ☐ Oil ☒ Coal ☐ Other	☐ Gas ☐ Oil ☐ Coal ☐ Other
ITEM 2 Quantity and Analysis of Each Fuel Used in Each Boiler	A. Natural Gas 1000 cu. ft/yr.				
	B. #1 or #2 Fuel Oil Quantity 1000 gal/yr.				
	Sulfur content %				
	C. Residual or Waste Oil Quantity 1000 gal./yr.				
	Sulfur Content %				
	Heat Value (If Known) Btu/Gal.				
	Ash Content (If Known) %				
Code for Coal Firing Equip. 1. Hand Fired 2. Underfeed Stoker 3. Spreader Stoker 4. Other Stoker 5. Pulverized Corner-Fired 6. Pulverized—Other 7. Cyclone 8. Other (Specify)	D. Coal Quantity tons/yr.	4,200 30,000 T	~~30,000~~ T	~~30,000~~ T	
	Sulfur Content %	<1% (.89%)	<1% (.89%)	<1% (.89%)	
	Heat Value Btu/lb.	13,600 BTU	13,600 BTU	13,600 BTU	
	Ash Content %	6%	6%	6%	
	Type of Coal Firing Equipment See Code at Left	#3	#3	#3	
	E. Other Fuel Types (Wood waste, general refuse, etc.) Specify Type				
	Quantity tons/yr.				
	Sulfur Content %				
	Heat Value Btu/lb.				
	Ash Content %				

Continue on Reverse Side

5 15130

MDPH USE ONLY
I..... C..... D.....

BOILER FORM AP-102
(Continued)

Establishment Name Plainwell Paper Co., Inc. City Plainwell Estab. No. A0024

	Use the Same Number Listed in Item 1-A →	#1 Boiler No.	#2 Boiler No.	#3 Boiler No.	Boiler No.
ITEM 3 Particulate Collection Equipment	A. Type of collector used for each boiler (Use Code at Left)	Code No. / 2 Code No.	Code No. / 2 Code No.	Code No. / 2 Code No.	Code No. / Code No.
	B. Overall Collection Efficiency %	85 %	85%	96 %	%
Code for Type of Collector 1. None 2. Cyclone 3. Multicyclone 4. ESP 5. Wet Scrubber 6. Other	C. Basis for Efficiency Stated in B. 1. Stack test data 2. Design specs. 3. Estimate 4. Cannot estimate	1 Code No.	1 Code No.	1 Code No.	Code No.
	MDPH USE ONLY				
ITEM 4	A. Stack Height above Ground (Feet)	190'	190'	191'	
	B. Stack Dia. at Top (Feet and Inches)	4 Ft. 6 In.	4 Ft. 6 In.	5 Ft. 9 In.	Ft. In
	C. Stack Exit Gas Temperature	450 °F	450 °F	510 °F	°F
Stack Data	D. Exhaust Gas Volume at Rated Capacity (If Known)	Design Capacity 21,500 CFM	21,500 CFM	35,500 CFM	CFM
	E. Indicate Other Boiler Numbers this Stack Also Serves				

Use this space if you wish to provide additional information, comments or the company's estimate of emissions from the facilities described on this form. Please explain basis for all estimates of emissions—if given.

5 15131

PROCESS FORM AP-103

I___ C___ D___

Report information on these seven(7) specific process areas.
Other process information must be reported on Forms AP-104 or 105.

Establishment Name Plainwell Paper Co., Inc. City Plainwell Estab. No. A0024

ITEM 1

A. Report the amount of each of the following Organic Solvents *Consumed* in 1972 at this plant for the purpose of cleaning, degreasing, lubricating or any other purpose *except* for paint and ink thinning. (If type is not known give trade name)

Organic Solvent Usage

Type of Solvent	Quantity Consumed Gallons/Yr.	Type of Solvents	Quantity Consumed Gallons/Yr.
1. Perchloroethylene		6. Methyl Ethyl Ketone	
2. Trichloroethylene		7. Toluene, Xylene or Mixtures	
3. Methylchloroform (III—Trichloroethane)		8. Benzene	
4. Mineral Spirits, Naptha		9. Other (specify) Olium Spirits	200 gal/yr
5. Methanol, Ethanol and Isopropanol	5 gal/yr	10. Other (specify) Perm-ethane	200 gal/yr

B. Number of degreasing tanks --

ITEM 2

A. Report the amount of each of the following organic solvent based coatings, adhesives and liquid styrene *consumed* at this plant. Do not include water based paints or inks.

Solvent Based Coatings, Adhesives and Plastic Products

Type of Material (Solvent Based only)	Quantity Applied By Spray Coating Gallons/Yr.	Quantity Applied By All Other Methods Gallons/Yr.	Number of Spray Lines	Number of Spray Booths
1. Enamel		by hand 50	1 gal latex	
2. Lacquer		" " 20		
3. Stains		" " 2		
4. Varnishes		" " 4		
5. Under Coatings				
6. Liquid Styrene				
7. Plastic Coating of Wire	Wire insulating 1qt./yr			
8. Inks		by hand 1 gal.		
9. Adhesives		4600 yds (204 rls)		
10. Other (specify)				
11. Other (specify)				

B. Enter the number of units (spray booths, coating machines etc.) with each of the following types of control equipment.

Dry Filter ___ Water Wash ___ Afterburner (Including Catalytic) ___ Other (Specify type & No.) 1 Spray Rig

ITEM 3

Dryers and Ovens for Solvent Based Coatings

A. Enter the total number of dryers and ovens used for drying, curing or baking of solvent based coatings, adhesives and plastics products ___ No.

B. Enter the number of units fired as follows: NOT APPLICABLE

Gas or Oil Direct Heating ___ 2 Gas or Oil Indirect Heating ___

3. Electric ___ 4. Steam ___ 5. Other (Specify Type & No.) ___

C. Enter total quantity of each type of fuel used for firing all units:

1. Natural Gas ___ 1000 cu. ft. 2. No. 1, 2 or 3 Oil ___ Gallons ___ % Sulfur

3. No. 4, 5 or 6 Oil ___ Gallons ___ % Sulfur 4. Other ___ Type ___ Quantity

D. Enter the total number of units fired outside ___ Total

E. Enter the number of units with each of the following types of control equipment:

1. Afterburners (Including Catalytic) ___ No. 2. Others ___ No. ___ Specify Type

5 15132

Process Form AP-[illegible]
Continued

I___ C___ D___

Establishment Name Plainwell Paper Co., Inc. City Plainwell Estab. No. A0024

ITEM 4

Heat Treating (Include Forge Billet Furnaces)

A. Enter the number of heat treating furnaces, ovens and baths of all types NOT APPLICABLE

B. Enter the total quantity of each type of fuel used per year for firing all furnaces, ovens and baths.

1. Natural Gas _____ 1000 cu. ft. 2. No. 1, 2 or 3 Oil _____ Gallons _____ % Sulfur

3. No. 3, 4 or 5 Oil _____ Gallons _____ % Sulfur 4. Other _____ Type _____ Quantity

C. Enter the number of furnaces, ovens and baths with each of the following control equipment

1. Afterburner_____ Wet Scrubber_____ Other (Specify Type & No.)_____

D. Quench Medium	Quantity of Make up (Gallons/Yr)	Number of Tanks Unvented	Number of Tanks Vented Outside	Number of Exhaust Systems With Each Type of Control System		
				Afterburner	Wet Scrubber	Other
1. Oil						
2. Molten Salt (Cyanide etc.)						
3. Water						

E. For MDPH use only ☐ _____ ☐ _____ ☐ _____

ITEM 5

Grinding and Other Abrasive Cleaning Operations

A. Complete this item if you have any of the following manufacturing operations
NOT APPLICABLE
Grinding (Dry only) Buffing Polishing Sand Blasting (Dry Only) Shot Peening

	Number of Units Vented Outside	Number of Units Vented Inside or Unvented	Enter the Total Number of Each Type of Dust Collector Used to Control Emission from Each Type of Operation				
			Cyclone	Fabric Filter	Wet Scrubber	Other (Specify Type)	No Cont
Grinding, Buffing and Polishing							
Sand Blasting							
Shot Peening							
Estimate the Quantity of Dust Collected in each type of Collector			cu. ft.	cu. ft.	cu. ft.	cu. ft.	

B. For MDPH use only ☐ _____ ☐ _____ ☐ _____

ITEM 6

Metal Surface Treatment Operations (Acid Only)

NOT APPLICABLE

	Types of Acid Material			
	Chromic Acid	Pickling or Etching Acid	Other (Specify)	Other (Specify)
A. Enter Number of tanks with each specified solution				
B. Enter Number of tanks for each specified solution with exhaust ventilation				
C. Enter Number of wet scrubbers used to Control process emissions				
D. Enter number of other collectors used to control process emissions (specify type)				

E. MDPH use only ☐ _____ ☐ _____ ☐ _____

ITEM 7

Woodworking

A. Check each type of operation used ☐ Sawing ☐ Planing ☐ Routing ☐ Sanding

B. Enter the amount of raw materials purchased in 1972. _____ Board Feet NOT APPLICABLE

C. What percent of your purchased material becomes waste _____%

D. What percent of your waste is burned. 1. In incinerators_____% 2. In boilers_____%

E. Enter the total number of exhaust ventilation systems _____

	Cyclone	Fabric Filter	Other (Specify Type)
F. Enter the total number of each type of dust collector			
G. Enter the total amount of material collected in each type of dust collector. Note: Woodwaste density is approx. per cu. ft.	☐ cu. ft. ☐ tons	☐ cu. ft. ☐ tons	☐ cu. ft. ☐ tons

5 15133

GENERAL PROCESS FORM AP-104

I.....C.....D.....

Establishment Name Plainwell Paper Co.,Inc. City Plainwell Estab. No. A0024

IMPORTANT: Read all instructions starting on page 23 before completing this form.

ITEM 1 Process and Material Identification and Usage	A. Product or Materials (Refer to Table I, Column A)				
	B. Equipment Name (Refer to Table I, Column C)				
	C. Equipment Code No. (Refer to Table I, Column D)	Code No.	Code No.	Code No.	Code No.
	D. If the code No. in Item 1-C represents more than one piece of equipment enter number of similar pieces				
NOT APPLICABLE	E. Normal operating schedule of the equipment named in Item 1-B during 1972 — Hours per Day				
	Days per Week				
	Days per Year				
	F. Quantity of Material Handled or processed in 1972 (Refer to Table I, Column E) Check Units Box →	☐ Ton ☐ Gal. ☐ Bbl. ☐ Cu. Yd.	☐ Ton ☐ Gal. ☐ Bbl. ☐ Cu. Yd.	☐ Ton ☐ Gal. ☐ Bbl. ☐ Cu. Yd.	☐ Ton ☐ Gal. ☐ Bbl. ☐ Cu. Yd.
	G. Percent of Materials in Item 1-F processed by season during 1972 — Dec.–Feb.	%	%	%	%
	Mar.–May	%	%	%	%
	June–Aug.	%	%	%	%
	Sept.–Nov.	%	%	%	%
	H. Process Fuel Consumption For the Equipment Listed in Item 1-B During 1972 — Natural Gas 1000 Cu. Ft.				
	Distillate Oil 1000 Gal.				
	Residual or 1000 Gal.				
	Crude Oil % Sulfur	%	%	%	%
	Coal or Tons				
	Coke % Sulfur	%	%	%	%
	Other 1000 Million Btu/Yr.				
	I. Maximum Fuel Input Rate Million BTU/Hr.				
ITEM 2 Air Pollution Control Equipment	A. Identify by Code Number all Types of emission control devices serving the equipment of Item 1-B. (Use Code at Left) NOT APPLICABLE				
Emission Control Equipment Codes: 1. Uncontrolled or None; 2. Settling Chamber; 3. Cyclone; 4. Multi-Cyclone; 5. Other Centrifugal Type; 6. Packed or Spray Tower w/water; 7. Packed or Spray Tower w/Solution; 8. Venturi Scrubber; 9. Oil Filter; 10. Fabric Filter; 11. Afterburner; 12. Catalytic Burner; 13. ESP	B. Overall Particulate Collection Efficiency of Control Equipment. Note: If control equipment also reduces the emission of other pollutants, indicate % control for each pollutant on the reverse side of this form.	____%	____%	____%	____%
	C. Basis of Efficiency (Use Code Below) 1. Stack Test 2. Design Specs. 3. Estimate 4. Cannot Estimate	Code No.	Code No.	Code No.	Code No.
	D. Percent of the Total Process Operation Time Collector was in Service	%	%	%	%

Continued on Reverse Side

5 15134

MDPH USE ONLY
I.....C.....D.....

GENERAL PROCESS FORM AP-104
(Continued)

Establishment Name Plainwell Paper Co., Inc. City Plainwell Estab. No. A0024

ITEM 3

Stack Data

NOT APPLICABLE

Report the following information for each stack handling exhaust from the equipment in Item 1-B.

A. Stack Specifications	1	2	3	4	5
Height Above Ground	Ft.	Ft.	Ft.	Ft.	Ft.
Inside Diameter at Top	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft.
Exit Gas Temperature	°F	°F	°F	°F	
Volume Flow Rate (cfm)					
B. Number of Identical Stacks with specifications of Item 3-A.					
C. List all Code Nos. from Item 1-B of equipment that exhausts any part of its effluent gas through this stack or stacks.					

FOR MDPH USE ONLY

Use this space if you wish to provide additional information, comments or the company's estimate of emissions from the facilities described on this form. Please explain basis for all estimates of emissions, if given.

5 15135

Hays

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

October 6, 1972

Mr. James J. McKeown
Northeastern Regional Engineer
NCASI
Dept. of Civil Engineering
Tufts University
Medford, MA 02155

Dear Mr. McKeown:

We are writing in answer to your request for data involving our waste water treatment plant.

We are forwarding data as requested, and hope that it is sufficient to serve your needs.

BOD figures are arrived at through test procedures taken from "Standard Methods," 10th Edition, Pp. 260-66. Suspended solids test procedures are taken from "Standard Methods," 12th Edition, Pp. 424.

Sincerely,

PLAINWELL PAPER CO., INC.

Carl A. Gren

Carl A. Gren
Environmental Control Supervisor

CAG:rc

S 15136

SECONDARY CLARIFIER

JAN. 1971	COMMENTS:	FLOW (x 1000)	SUSP. SOLIDS (#/day)	B.O.D. #/day	TEMP F°	FEB. 1971	FLOW (x 1000)	SUSP. SOLIDS (#/day)	B.O.D. #/day	TEMP F°
1	No Sample						1135	604	1255	45
2	" "						1384	1075	2550	54
3	EST. FLOW	516	274	75	50		1150	303	1530	56
4		768	216	223	50		1231	64	1470	56
5		817	504	439	54		1250	246	1040	58
6	EST. FLOW	1254	1103	1103	50	EST. FLOW	721	192	325	64
7		1273	1470	1080	57	" "	473	340	68	50
8		1147	1306	750	61	" "	1147	195	—	52
9	No Sample						1113	401	1060	56
10		227	284	535	54		1274	596	1630	56
11		998	534	725	52		1367	726	1065	64
12		891	340	1235	54	EST. FLOW	1200	381	1240	59
13		1123	406	1630	54		476	175	318	63
14		1145	994	746	58		450	256	450	48
15	EST. FLOW	1200	500	460	56		1121	332	185	52
16	No Sample						1123	637	396	58
17	EST. FLOW	740	56	316	59		1288	323	750	61
18	" "	1420	416	1740	54		1140	480	441	62
19	" "	1421	420	1990	60		1163	530	705	64
20	" "	1420	1120	2540	60		559	234	300	60
21		1115	1550	1665	62		464	97	174	54
22		1142	1540	1665	61		1271	1000	305	58
23		1234	464	514	57		994	440	785	59
24		1215	1256	740	57	EST. FLOW	1420	970	2180	61
25		1238	434	446	57		1255	430	1540	65
26		925	552	1270	46		1143	1300	1100	61
27	AVE. PRODUCTION/DAY = 147,083#	925	1550	1255	48		907	970	750	54
28		1234	416	2340	59		659	353	550	60
29		1244	244	2022	57					
30		817	190	508	44	AVE. PRODUCTION/DAY = 127,234#				
31		929	114	232	40					
32	AVERAGE	1012	213	1030	53		1036	506	944	57

15137

SECONDARY CLARIFIER

MAR. 1971 COMMENTS:	x 1000 FLOW	#/DAY SUSP. SOLIDS	B.O.D. #/day	TEMP F°	APRIL 1971	x 1000 FLOW	#/DAY SUSP. SOLIDS	B.O.D. #/day	TEMP F°
	1331	1320	930	51		1314	1220	860	60
	1302	630	595	58		1199	526	1410	58
	1134	2580	505	58		1210	1230	1270	73
	937	1172	1410	59		1027	513	1325	62
	1342	573	750	61	EST FLOW	1200	2220	1190	63
	772	578	679	54		1300	728	1415	62
	634	298	590	68		1350	1406	970	63
	1007	470	574	47		1400	1106	1175	67
	1089	315	830	52		1400	1142	1160	66
	1232	578	936	59		1000	1415	745	67
	1015	270	1080	62		900	415	615	63
	1223	96	775	63		1300	1142	910	68
	1171	616	886	64		1300	1143	828	63
	1300	1145	1000	56		1300	1196	855	64
	1300	1000	1120	52		1200	2270	574	68
	1350	1136	940	63		1300	960	1080	68
	1032	115	655	60		1300	940	1025	68
	1372	546	1210	57		1521	790	1450	60
	1345	346	900	57		1350	750	1500	64
	1001	640	770	50		1328	754	1330	64
	1527	765	1030	62		1322	1171	—	63
	1300	369	583	60	EST FLOW	1352	318	1360	64
	1278	570	595	58		1350	1317	1350	59
	1030	505	635	57		1078	760	1310	60
	1325	420	914	60		1248	836	890	58
	1540	1415	1460	61		1436	645	914	63
Ave Production/day - 192,032#	1542	401	1320	61		1532	1110	1250	64
	1328	442	945	55		1671	1040	1340	64
	1081	602	596	57		1805	1750	1315	66
	1038	457	544	58		1489	1340	1340	66
	1300	321	1223	62	Ave. Production/day: 191,022#				
AVERAGE	1032	358	893	57		1343	440	1087	65

JAN-DEC. 1971 PAGE 2 OF 6

SECONDARY CLARIFIER

MAY 1971	COMMENTS:	x1000 FLOW	#/day SUSP. SOLIDS	B.O.D. #/day	TEMP F°	JUNE 1971	x1000 FLOW	#/day SUSP. SOLIDS	B.O.D. #/day	TEMP F°
		1545	368	922	73		1482	322	501	71
		1825	705	1545	66		2046	1500	765	78
		1425	1170	1300	65		2158	1950	1540	78
		1652	1080	1145	64		1215	570	1010	80
		1637	658	1375	68		1506	960	1310	83
		2040	920	1235	69		1497	502	1490	79
		2073	1245	1540	68		1565	260	1950	76
		1296	361	1340	70		1625	371	1890	77
		1586	302	1925	68		1812	1540	1925	74
		2063	670	1065	70		1689	845	1355	75
		1532	460	1640	65		1508	545	1780	80
		1664	1350	2000	63		1637	815	1490	78
		1799	478	1500	68		1689	1451	945	81
		1627	485	225	70		1561	725	945	80
		1776	545	225	71		1554	630	1520	82
		1779	673	1400	65		1277	737	1230	78
		1759	1190	1370	70		1237	657	1225	82
		1754	1425	6030	70		1589	508	1245	86
		1751	891	1950	70		1619	810	1135	80
		1822	705	2160	71		810	373	685	81
		1545	518	1540	70		1558	674	1215	82
		1553	618	1580	70		1577	790	1310	83
		1500	697	725	70		1507	1392	1740	80
		1800	225	840	67		1441	1100	757	80
		1786	1400	1470	66		1373	1182	1312	78
		1598	361	1218	70		1337	220	637	78
Ave. Production/day = 316,421#		1536	462	1050	60	Est. Flow	600	103	715	74
		1558	1390	925	70		1437	231	382	80
		1400	225	225	67		1565	845	719	80
		1400	—	225	70		1506	278	985	80
		1545	250	918	71	Ave. Production/day = 302,211#				
AVERAGE		1708	705	1321	69		1566	745	1054	79

15139

PLAINFIELD PAPER COMPANY JAN-DEC 1971 PAGE 402.6

SECONDARY CLARIFIER

JULY 1971	COMMENTS:	x1000 FLOW	#/day SUSP SOLIDS	B.O.D #/day	TEMP F°	AUG. 1971	x1000 FLOW	#/day SUSP SOLIDS	B.O.D #/day	TEMP F°
1		1422	237	885	80		1471	230	1051	72
2		1545	786	925	80		1725	460	805	76
3	No Sample	—					1848	465	575	74
4	" "	—					1718	575	1135	74
5		673	131	162	68		1740	1330	875	78
6		1432	573	191	74		1674	565	465	78
7		1404	2160	125	80		843	232	407	78
8		1232	575	925	80		632	42	68	72
9		1251	1340	674	80		1521	254	735	78
10		946	520	487	76		1612	762	1340	80
11		507	765	54	72		1704	2004	1435	76
12		1442	970	952	78		1447	1018	1335	78
13		1556	230	655	80		1812	1630	1780	78
14		1330	480	885	78		1724	970	500	76
15		1449	1320	1848	78		526	1123	1320	70
16		1699	874	2540	80		1699	936	885	74
17		755	1010	1285	78		1773	590	998	80
18		439	115	245	76		1613	835	1160	80
19		1487	465	510	76		1913	970	1350	78
20		1689	534	905	80		1747	462	2450	80
21		1813	510	1090	82		808	—	650	78
22		1447	1360	1440	80		606	67	150	72
23		1496	590	471	78		1447	530	607	76
24		836	—	243	77		1430	1430	510	80
25		509	134	116	78		1489	678	1566	80
26		1689	910	412	76		1505	785	1920	80
27	Ave. Production/day = 431,778#	1728	850	550	76	Ave. Prod/day 328,192#	1545	788	717	80
28		1489	206	220	76		1052	405	650	78
29		1335	219	152	76		1012	632	700	74
30		1490	1125	1405	76		1513	965	1320	78
31		1567	286	850	76		1447	990	1510	78
32	AVERAGE	1324	762	734	77		1318	595	985	76

SECONDARY CLARIFIER

SEPT 1971	COMMENTS:	x1000 FLOW	#/day SUSP SOLIDS	B.O.D. #/day	TEMP F°	OCT 1971	x1000 FLOW	#/day SUSP SOLIDS	B.O.D. #/day	TEMP F°
1		1684	735	2410	82		1401	1130	341	75
2		1812	1370	2900	80		1136	120	227	82
3		1231	575	1330	84		1215	1030	250	68
4		838	308	—	80		1878	377	429	74
5	EST. FLOW	000	—	—	—		1565	840	196	78
6		547	735	179	78		1565	1575	745	70
7		1295	940	415	76		1506	705	605	78
8		1611	1140	2100	84		1417	1210	755	74
9		1334	715	730	84		815	725	411	68
10		1306	605	900	84		709	251	156	70
11		963	251	1160	78		1611	815	490	68
12		563	112	140	70		1910	417	495	78
13		1407	1260	460	84		1654	734	580	76
14		1611	815	1130	84		1878	154	910	76
15		1604	636	635	78		1611	435	685	72
16		1611	2580	2500	78		1408	518	800	70
17		1502	2580	665	80		803	248	507	66
18		531	195	578	76		1468	478	596	70
19		500	150	188	70		1611	1630	660	78
20		1689	1170	595	68		1289	578	580	78
21		1461	1710	1115	75		1506	705	555	76
22		1849	1080	1545	75		1813	2430	1130	76
23		1594	1800	1570	74		1170	546	618	70
24		1463	725	760	73		1103	550	484	64
25		702	946	510	68		1689	1040	463	71
26		500	525	146	76		1611	1500	595	74
27	AVE. PRODUCTION/DAY = 409,483#	1565	567	587	76	AVE. PRO/DAY 358,657#	1401	358	715	74
28		1565	840	580	76		1689	735	875	74
29		1814	202	650	84		1170	403	546	76
30		1689	545	665	80		1000	—	231	76
31							1500	600	574	76
32	AVERAGE	1305	901	1008	77		1431	841	645	74

YLHINWELL PAPER COMPANY

SECONDARY CLARIFIER

			①	②	③	④		①	②	③	④	⑤		
			×1000	#/day					×1000	#/day				
OCT. Nov. 1971		COMMENTS	FLOW	SUSPSOLIDS	BOD #/day	TEMPF.		NOV. DEC	FLOW	SUSPSOLIDS	BOD #/day	TEMPF.		
			1659	435	905	74			1013	+	+	+		
			1700	403	516	76			1659	1300	396	70		
			1600	+	451	76			1787	645	764	58		
			1500	400	514	70			1373	594	438	62		
			1593	400	675	76			1721	662	765	64		
			1920	531	580	68			1908	0	+	66		
			1913	778	856	70			1594	+	+	+		
			2024	1125	1051	70			1674	540	270	72		
			1945	400	535	72			1700	1016	500	74		
			947	700	110	64			1945	658	396	72		
			1022	111	274	58			1840	915	551	74		
			1621	1020	515	69			1621	490	435	76		
			[illegible]	[illegible]	[illegible]	70			2354	2840	+	72		
			[illegible]	[illegible]	[illegible]	70			1635	+	+	+		
			[illegible]	[illegible]	[illegible]	72			[illegible]	112	770	58		
			1079	1195	250	74			1497	550	973	63		
			1570	576	444	72			1531	1720	1340	66		
			1655	444	580	72			1724	151	1390	64		
			742	445	315	68			1973	1060	1190	70		
			740	190	340	60			1703	635	592	+		
			1659	596	318	68			1500	+	+	+		
			1599	279	575	70			566	400	600	61		
			1745	400	285	72			1710	1070	590	62		
			1733	445	468	68			5003	1500	1150	72		
			1695	510	593	68			1551	1250	1435	70		
			1479	537	345	68			1410	400	1003	72		
AVG. PRODUCTION/DAY = 290,838			1431	796	770	68		AVG. PROD/DAY	763	548	615	+		
			1554	745	435	70		396,184	603	+	+	+		
			1835	440	1270	72			769	300	51	57		
			1743	550	455	64			1355	151	102	57		
			1555	555	745	64			1648	110	+	68		
AVERAGE			1486	767	652	71			1572	711	685	66		

15143

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

Sept. 26, 1972

Mr. F. B. Frost
Chief Engineer
Water Resources Commission
Stevens T. Mason Building
Lansing, MI 48926

Dear Mr. Frost:

We are writing in response to the latest draft of the proposed rules on spillage of oil and polluting materials.

We missed the public hearing held on these rules in the Law Building September 19, 1972. We understand the record will be open to written comment until September 29, 1972. We therefore wish to comment as follows:

We feel the rules too ill defined as to what must be diked or curbed, or otherwise enclosed (Rules 156 & 158). We use many different materials in bale form, in barrels and in bulk storage in our manufacturing process. Some of which may be hazardous and some not.

The cost could be enormous and excessive for all materials stored at our manufacturing facility to be curbed or otherwise enclosed.

Very truly yours,

PLAINWELL PAPER CO., INC.

Carl A. Gren/rc

Carl A. Gren
Environmental Resource Supervisor

CAG:rc

Haya

S 15143

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

Sept. 20, 1972

Mr. B. F. Frost
Chief Engineer
Water Resources Commission
Stevens T. Mason Building
Lansing, MI 48926

Dear Mr. Frost:

We would like to certify an additional operator for our waste treatment plant. Would you please send the necessary application forms to:

Robert Goodrich
Plainwell Paper Co., Inc.
200 Allegan Street
Plainwell, MI 49080

We would also like to know when the next test for certification will be given.

Yours truly,

PLAINWELL PAPER CO., INC.

James M. Hays/rc

James M. Hays
Manager Product Development and
Technical Services

JMH:rc

bcc: R. Goodrich
file

S 15144

CARL GREN
PLEASE HANDLE!
[illegible]

ncasi

NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC.
260 MADISON AVE. NEW YORK, N.Y. 10016 (212) 889-5416

Dr. Isaiah Gellman
Technical Director

September 11, 1972 9/25/72

Mr. James Hayes
Nicolet Paper Co.
200 Allegan St.
Plainwell, Michigan 49080

Dear Jim:

Since issuance of the EPA "Effluent Limitation Guidance" for the Refuse Act Permit Program in June to their Regional Offices we have received a growing number of questions from member mills concerning the ability of existing treatment and control systems to produce an effluent consistent in magnitude and uniformity of quality with that called for by Schedules A and B of that document. The National Council's Operating Committee has therefore asked that the National Council staff conduct a rapid review of currently available treatment plant performance records for selected facilities believed to produce a high quality effluent.

C Karlof
#Prod
[illegible]

The analysis will call for the use of effluent BOD and suspended solids data covering one calendar year where available so that differences in seasonal treatment efficiency can be considered. Where the treatment facility has not been in operation for 12 months please furnish those monthly records which are currently available. Please indicate treatment plant temperature where this is known.

Gross Prod
1 day
1971

% Reduction
NC
#Day
BOD
TSS

Since the guidance criteria are based on meeting a specified discharge level on a time frequency basis, data based on a daily composite analysis are desired. Recognizing that data based on this frequency of analysis may not be available we are soliciting available individual daily discharge data on BOD and suspended solids. For conversion into the appropriate units for comparison with the guidance criteria (i.e., lbs/ton), we need the type and rate of production associated with the reported discharge levels.

It is important that the method of suspended solids analysis be specified since it is implied that the guidance criteria are based on EPA or APHA standard methods. Should you have comparative data using EPA or Standard Methods gooch crucible analysis, and other suspended solids analysis techniques, or

S 15145

settleable solids data on the effluent, such information is also solicited.

The Northeast Regional Center staff has been given the assignment for this analysis. Your data should therefore be sent directly to

James J. McKeown
Northeastern Regional Engineer
NCASI
Dept. of Civil Engineering
Tufts University
Medford, Massachusetts 02155

We have asked the staff to have this task completed and reported on by October 15. Your expeditious handling of our request will be appreciated. Please be assured that the study report will omit reference to any specific mills, and that our usual confidentiality policies will be followed.

Very truly yours,

Isaiah Gellman

Isaiah Gellman
Technical Director

IG:cv

S 15146

T.S.S.
B.O.D. }

day / flow rates

J. Hays

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

July 19, 1972

Mr. George Taack
Hydrological Survey Division
Department of Natural Resources
3500 North Logan Street
Lansing, Michigan 48914

SUBJECT: FILE 71-12-166 PERMIT TO CONSTRUCT WASTE WATER OUTFALL

Dear Mr. Taack:

This is to notify you that we have completed our revision of our #5 outfall, secondary waste treatment as per print D2880 revision A.

We wish to thank you for your efforts on epiditing the approval of the change.

Sincerely,

E MacDonald

Edward F. MacDonald
Manager of Special Engineerir
Projects

EFMACD:ks

cc: Dick Saddler
Jim Hays

5 1

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

June 15, 1972

Ralph W. Purdy
Executive Secretary
Water Resources Commission
Department of Natural Resources
Stevens T. Mason Bldg.
Lansing, MI 48926

Dear Mr. Purdy:

Mr. Donald V. Martin is no longer an employee of Plainwell Paper Co., Inc. Would you please change your records to indicate that Richard L. Radt is now Vice President and General Manager of Plainwell Paper Co., Inc.

Very truly yours,

PLAINWELL PAPER CO., INC.

James M. Hays

James M. Hays
Manager-Product Development and
Technical Services

JMH:rc

S 15149

J. Hays

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

June 14, 1972

Mr. George Taack
Hydrological Survey Division
Department of Natural Resources
3500 North Logan Street
Lansing, Michigan 48914

SUBJECT: FILE 71-12-166 PERMIT TO CONSTRUCT WASTE WATER OUT FALL

Dear Sir:

We wish to change our proposed plan as shown on Print D 2880 proposed profile #5 out fall secondary waste treatment to as shown on print D 2880 Revision A.

As we discussed by phone the original plan was to do this work with the plant down and no waste water to the treatment plant.

The change we propose will enable us to make the change without the mill being down and keep the secondary clarifier in operation during construction and final hook up.

If you need more information please call us.

Sincerely,

E F MacDonald

Edward F. MacDonald

EMACD:ks
cc: Jim Cole
Jim Hays

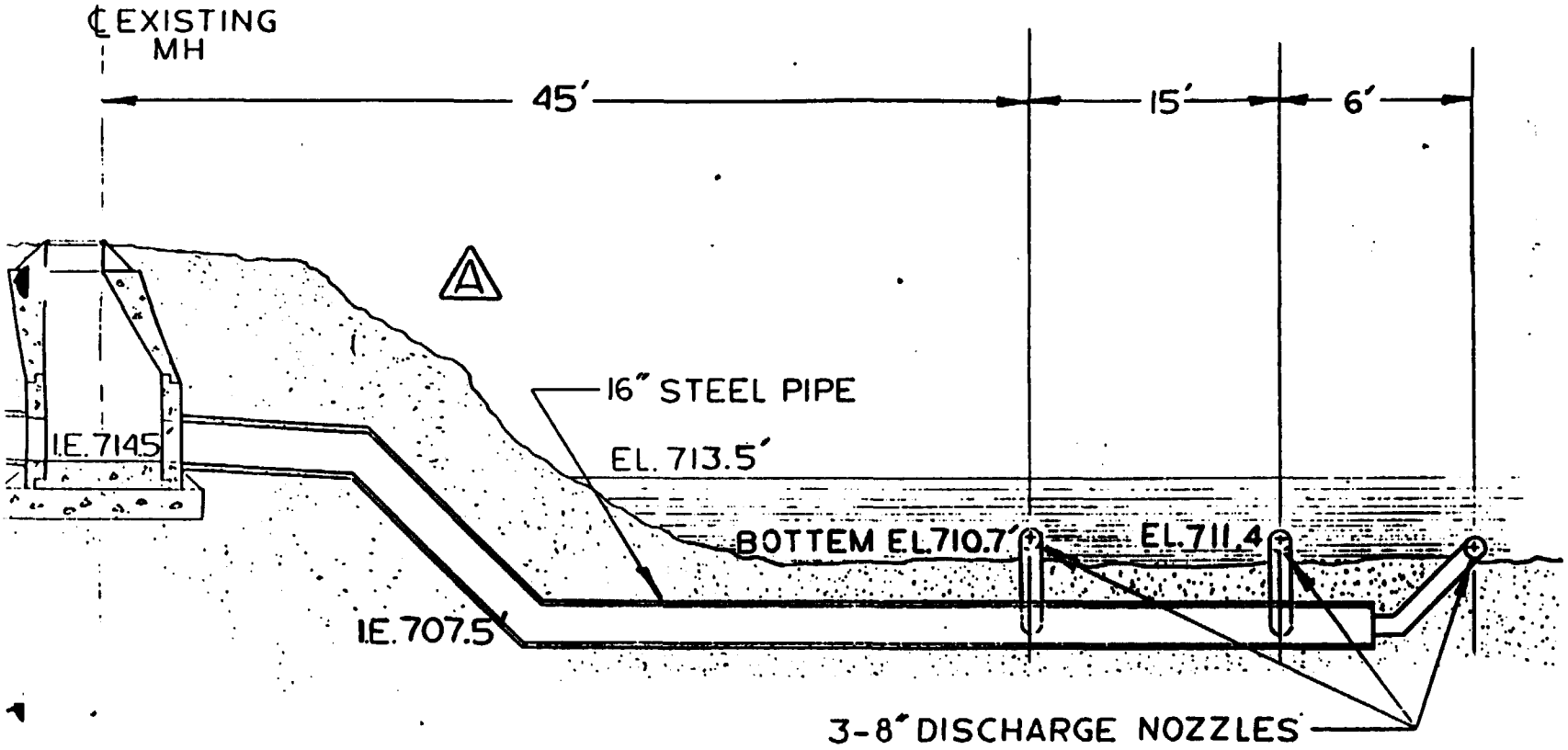
S 15150

D-2880 REV. A

15151

5

PROPOSED
PROFILE #5 OUTFALL
SECONDARY WASTE TREATMENT



A REV. A REMOVED 30 DIA STEEL MANHOLE 6-14-72 RLS

WRC-1972

Gentlemen:

At our informal meeting recently with the Water Resources Commission, we were advised of the proposed BOD standard for Plainwell Paper Co., Inc. It is our understanding that the commission is proposing a standard for four-day BOD loading that "should not exceed 1000 lbs. per day." At this time we would like to express our thoughts on this proposed standard for the commission's consideration.

As you may or may not know, Plainwell Paper Co., Inc. was purchased from Weyerhaeuser by Philip Morris in December, 1970, after being closed for four months. Philip Morris acquired only equipment and a dedicated work force. The company had no sales and was an unknown factor in the industry. On December 15, 1970, we started our first paper machine, No. 4, with an on-machine coater. As business grew and a sales force was added, we started our second machine. This occurred in March, 1971. We have been running two paper machines ever since. Future plans call for starting up the final paper machine in the fourth quarter of this year.

Our future plans also call for speeding up the present equipment. The possibility exists for adding converting equipment to increase our coating capacity, improve our product mix and to give us the flexibility required by small non-integrated mills in today's economy. Our objective is to become a viable business within the paper industry and in the community of Plainwell.

One aspect of remaining viable involved our ability to economically meet realistic and technologically feasable environmental standards established by state and Federal governments. We pride ourselves in our past record and achievements. Philip Morris, as did its predecessor, will continue to meet and exceed the various standards established.

In our opinion, the proposed standard for BOD is neither realistic, nor equitable. It is our understanding that discharges to the Kalamazoo River,both above and below us, are being reduced approximately thirty-three (33) percent from the present 1968 standard. Plainwell Paper Co., Inc. is being asked to reduce its BOD load by 55% from the 1968 standard. On the average, we have met this reduction even with three paper machines running. Our question is, is this a just reward for exceeding the present standard? We do not feel that it is. (Conversely, the punishment does not fit the crime.) Based on this inequity, we would propose a reduction of 33% to approximately 1500 lbs/day - BOD.

In addition, we feel the 33% reduction is more realistic in terms of the actual operation of our waste treatment system without the addition of nutrients or flocculants. The records show that our BOD loading has been averaging less than 1000 lbs/day since 1968. Statistically, the data show that we have been less than the standard 2260#/day approximately 99% of the time for the same period. The remaining 1% of the time has been due to unexpected major upsets of the system.

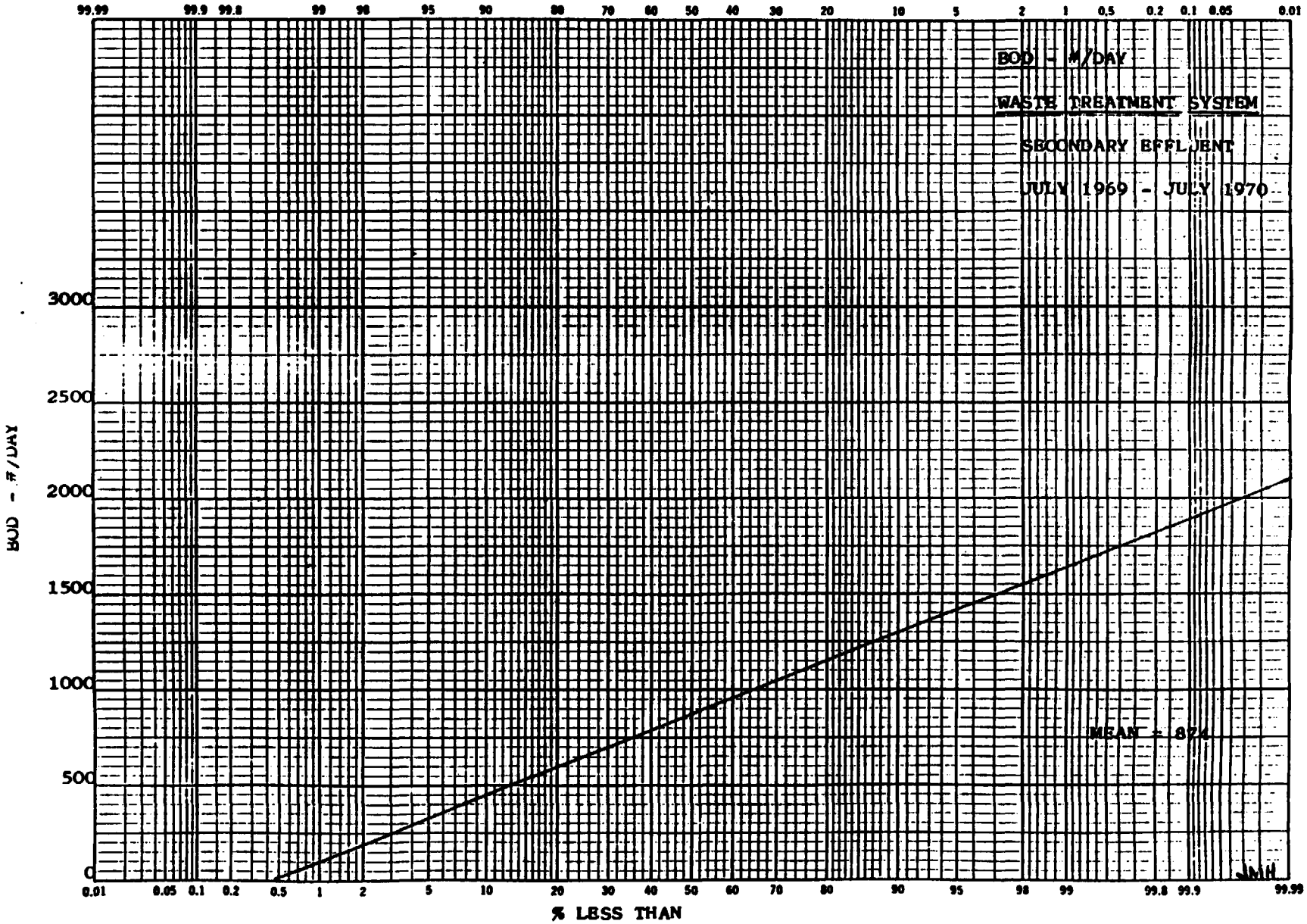
With a standard BOD loading "not to exceed 1000 lbs/day", we would be in violation approximately thirty-four (34) per cent of the time. To achieve our past record of 99%, under present upgrading conditions, we would be required to add nutrients and flocculants. In addition,capital investments may be required to close up the machine systems further to reduce losses to the waste treatment system. Even with these additions, we are not certain we can meet the proposed 1000 lbs per day 99% of the time.

With a standard BOD loading "not to exceed 1500 lbs/day", we would be in violation approximately three (3) percent of the time under present conditions. Even at this higher standard we would have to consider nutrients, flocculants, and capital expenditures as a means to achieving our past record of meeting the standard.

We have not mentioned the possible future expansions in capacity and equipment. Any decisions in these two areas will be influenced by what ever standard is established. Granted, we may petition the Water Resources Commission at that time for a new standard. However, the base loading from which we have to start will influence any decisions to pursue expansion. At the 1000 lbs./day standard, we may be at the designed capacity of the system with the addition of nutrients, flocculants and additional capital expenditures. At the 1500 lbs/day standard, we may be able to treat additional loads from expansion without exceeding the designed capacity.

Overall, the propsoed 55% reduction to 1000 lbs/day BOD is unrealistic and unjust. It will place an undue burden on Plainwell Paper Co., Inc. in the community and in the market place, locally and nationally.

K+E PROBABILITY X 90 DIVISIONS 46 8000 MADE IN U.S.A.
KEUFFEL & ESSER CO.



15155

WRC-1972

KALAMAZOO RIVER

Kalamazoo - Plainwell - Otsego

The Commissions' 1968 Water Quality Standards adopted for the Kalamazoo River established the reach from Kalamazoo (Michigan Avenue Bridge) downstream to the Otsego Dam below Otsego to be protected for warm water tolerant fish species. Included in this use designation also is the lower portion of Portage Creek from Cork Street Bridge in Kalamazoo to its confluence with the Kalamazoo River. In adopting this use designation the Commission stated that it would "apply only until January, 1974 by which time the waste disposal situations involved are to have been placed before the Commission for critical reconsideration, with a view toward the application of higher quality use designations".

The present standard requires maintenance of an average daily dissolved oxygen (D.O.) level of four (4) milligrams per liter (mg/l) with no single value to be less than three (3) mg/l. To protect warm water intolerant fish it would be necessary to improve water quality to assure maintenance of an average daily D.O. of five (5) mg/l with no value less than four (4) mg/l.

To comply with the standard, waste treatment must be designed to meet these minimum values at the 7-day 10-year drought flow. The standard requires that at greater stream flows dissolved oxygen be in excess of the minimum values.

Following is a discussion of water quality conditions and a summary of five-day biochemical oxygen demand waste loadings recommended to maintain water quality standards for the protection of warm water intolerant fish species.

Kalamazoo Area

Waste loadings in the Kalamazoo area exceed that necessary to maintain existing water quality standards in the Kalamazoo River and Portage Creek. To meet the present standard, our evaluation shows that the Kalamazoo area waste loadings (Cities of Kalamazoo and Parchment, Allied Paper Company and Brown Company) should be limited to a total of not

more than 6,050 lbs per day of five-day COD, 450 lbs of which can be accommodated in Portage Creek (Allied Paper Company) and the remainder, 5,600 lbs, in the Kalamazoo River.

To meet the higher standard (warm water intolerant fish) five-day BOD loadings need to be reduced to a total of 4,500 lbs per day; 300 lbs/day to Portage Creek and 4,200 lbs/day to the Kalamazoo River.

TOTAL = 25.6%
ALLIED - 33%

Plainwell Area

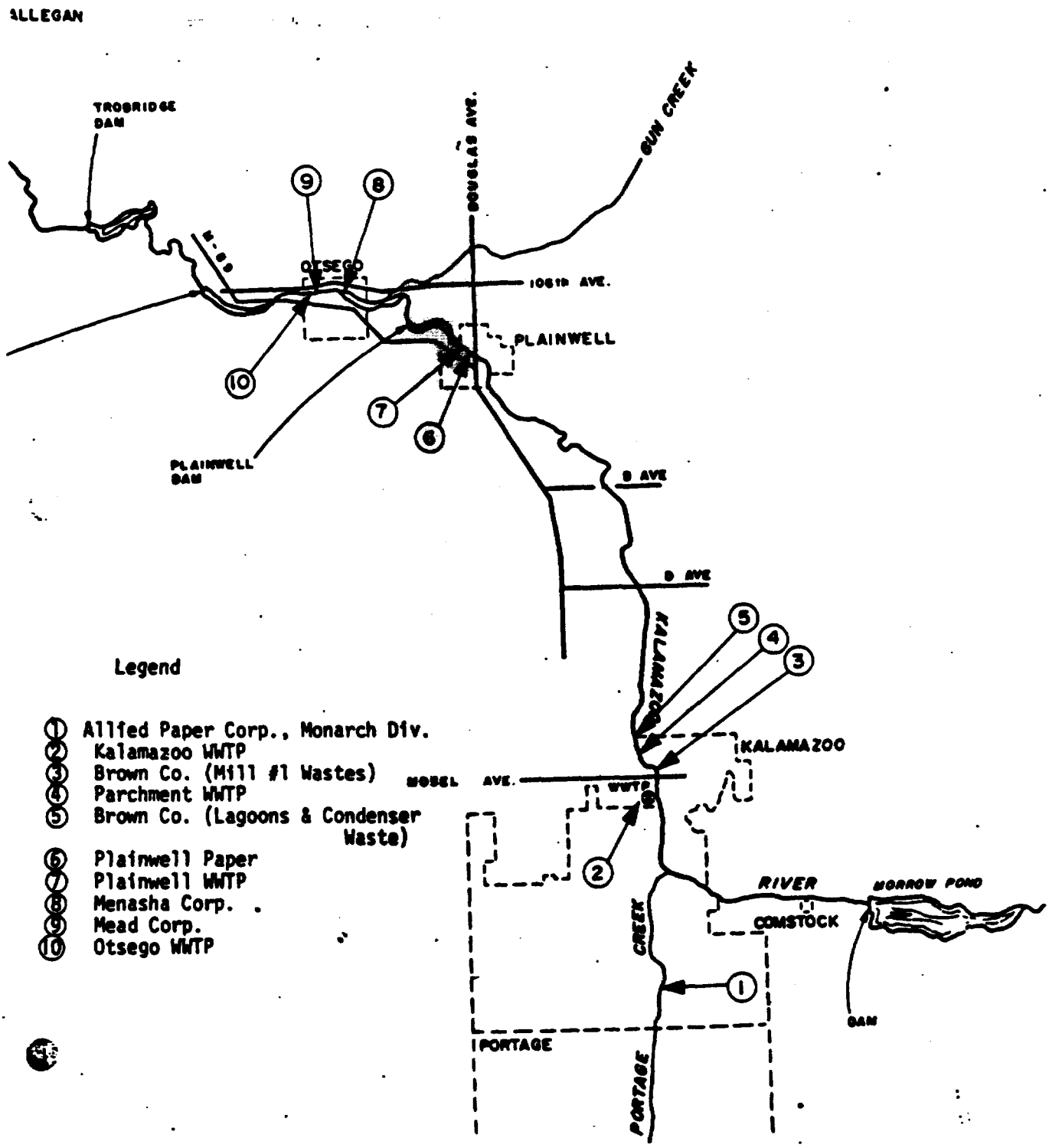
Existing five-day BOD waste loadings in the Plainwell area are adequate to protect warm water intolerant fish species (City of Plainwell < 200 lbs/day; Plainwell Paper Company < 1,000 lbs/day). To assure continuing compliance with the standard, the total area five-day BOD loading should not exceed 1200 lbs/day.

PLAINWELL - 55.7%
TOTAL =

Otsego Area

The total existing five-day BOD waste loading, ranging from 6,000 to 7,000 lbs/day, appears to be at the maximum permissable level for maintaining the present standard. To protect warm water intolerant fish this loading needs to be reduced to a total of not more than 4,500 lbs per day.

TOTAL = 33%


ALLEGAN
TROBRIDGE DAM
DOUGLAS AVE.
GUN CREEK
OTSEGO
106TH AVE.
PLAINWELL
PLAINWELL DAM
8 AVE
9 AVE
KALAMAZOO
MOSEL AVE.
RIVER
MORROW POND
COMSTOCK
CREEK
DAM
PORTAGE
PORTAGE
Legend
1 Allied Paper Corp., Monarch Div.
2 Kalamazoo WWTP
3 Brown Co. (Mill #1 Wastes)
4 Parchment WWTP
5 Brown Co. (Lagoons & Condenser Waste)
6 Plainwell Paper
7 Plainwell WWTP
8 Menasha Corp.
9 Mead Corp.
10 Otsego WWTP

S 15158

INTER-OFFICE CORRESPONDENCE

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company

May 4, 1972

TO: Jim Hays

FROM: Carl Gren

SUBJECT: PROPOSED DNR-WRC RULES ON SPILLAGE OF OIL AND OTHER POLLUTANTS

Items in the proposed changes which might affect us are as follows:

I. Rule 152

A. Polluting Material

1. We have possible materials listed in this section which could be spilled into our process and/or cooling water and cause an extreme polluting effect.

a. We use acids and caustics in small amounts now, but larger amounts could be problems.

b. Could cause trouble with our land fill area running into the Kalamazoo River during rains and/or thaws.

2. This will further necessitate the need for continuous monitoring of process and/or cooling water.

3. We have already looked into oil spill prevention equipment, etc.

II. Rule 154

A. On Land Facility

1. We could and would have problems with our oiling system and storage facilities.

a. We have some proposed changes in mind now. We will continue to work on the situation.

b. Have looked into the possible equipment to handle the above type of problem spills.

III. Rule 155 (2)

A. Surveillance

1. Again, this calls for continuous monitoring of equipment and systems.

IV. Rule 156 (1)

A. Diking of chemical and/or oil storage areas.

1. Ed MacDonald and I have already been thinking about this problem.

a. Some areas are diked.

b. Other areas have to be improved and/or diked initially.

V. Rule 156 (2)

A. Soiled polluting material

1. One area this would cover is sludge pit areas.

a. Only part of our pits are 50 feet from the river bank.

b. Some of this waste must seep to the Kalamazoo River.

VI. Rule 159

A. Pollution incident prevention plan

1. We have had some thoughts on this.

2. We will work towards a feasible prevention plan system.

VII. Conclusion

This overall proposal could cause many possible changes in the mill. Most of this would cost a considerable sum of money.

CAG:rc

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
HARRY H. WHITELEY
Chairman
CARL T. JOHNSON
E. M. LAITALA
HILARY F. SNELL

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926

RALPH A. MAC MULLAN, Director

WATER RESOURCES COMMISSION
JOHN H. KITCHEL, M.D.
Chairman
JOHN P. WOODFORD
Vice Chairman
CHARLES D. HARRIS
JOHN E. VOGT
STANLEY QUACKENBUSH
ALVIN R. BALDEN
THOMAS F. JAMES

May 3, 1972

Mr. James Hays
Plainwell Paper Company, Inc.
200 Allegan Street
Plainwell, Michigan 49080

Dear Mr. Hays:

During recent discussions of water quality and waste disposal problems in the Kalamazoo - Otsego area, several representatives of industrial firms requested copies of "Interstate and Intrastate Water Temperature Standards for Protection of Fish and Aquatic Life". These revised standards were adopted by the Michigan Water Resources Commission in August, 1971. Apparently copies were not sent to industries in your area.

A copy of these standards is enclosed for your information and use. A red check mark indicates the appropriate set of maximum monthly temperatures for the stream receiving your surface water discharge. If the current water use designation of tolerant fish, warm-water species is upgraded to intolerant fish, warm-water species, then the maximum monthly temperatures listed in Section II-B would apply rather than those listed in Section III.

Please contact us if you have any questions regarding these standards.

Very truly yours,

WATER RESOURCES COMMISSION

Karl Zollner, Jr.

Karl Zollner, Jr., P.E.
Assistant Regional Engineer

KZ:clp
Enclosure

MICHIGAN
THE GREAT LAKES STATE

S 15161

Interstate and Intrastate Water Temperature Standards for Protection of Fish and Aquatic Life

by the

Michigan Water Resources Commission
Department of Natural Resources
State of Michigan

August 1971

S 15162

Definitions and General Considerations

Temperature measurement - All temperatures are expressed in degrees Fahrenheit. In all receiving waters the points of measurement shall normally be in the surface one meter at such depth as to avoid thin layer surface warming due to extreme ambient air temperatures, but where required to determine the true distribution of heated wastes, and natural variations in water temperature, measurements shall be made at greater depths and at several depths as a thermal profile.

Natural water temperature - Natural water temperature is that temperature which would occur in a lake or stream that did not receive heat from an artificial source. If artificial-source heat alters the natural water temperature then a natural water temperature will be established by the Michigan Water Resources Commission on the basis of selection from an area as nearly representative of natural conditions as possible.

Exceptions for natural conditions - Natural water temperatures may, at times, be higher than the standard due to the method used in selecting the monthly standard (90 percentile value plus increase allowed at edge of mixing zone). These periods will generally occur very infrequently and will be of short duration. Thermal discharges will be allowed to exceed the standards in these instances.

Temperature fluctuations - The normal daily and seasonal temperature fluctuations that existed before the addition of artificial heat loads shall be preserved.

No injury allowed - No heat load shall be discharged so as to be injurious to fish, wildlife or other aquatic life or the growth or propagation thereof. The prime consideration in establishing temperature limitations for aquatic life is to prevent degradation of the aquatic life resources of the area or interference with other designated water uses. Regardless of the standards established, if environmental damage is measurable, then modifications must be made.

Streamflow conditions to which standards apply - The standards are applicable to all stream flow conditions including and in excess of the ten-year recurrence of the minimum low flow average of seven days duration.

Mixing zone - Mixing zones for thermal discharges will be established on a case by case basis and will be designed to minimize effects on the aquatic biota in the receiving waters and to permit fish migration at all times. Configuration will be based on the physical characteristics of the receiving water body and the biological importance of the area to be protected, such as spawning areas, migratory routes, etc. Within mixing zones other standards than those presented may be applicable but will not interfere with the designated water uses for the area.

Waste heat discharges in excess of 1/2 billion BTU/Hour - In recognition of the pre and post operational studies [illegible] underway at several large electric power generating stations on Michigan's shorelines of the Great Lakes and in anticipation that such studies will form the basis for a more definitive assessment of thermal discharge restrictions regarding mixing zones, all sources of waste heat in excess of 1/2 billion BTU/hour which plan to use water for cooling with discharge to

Lake Michigan, Lake Huron, Lake St. Clair and Lake Erie and which are planned for the start of construction after September 1, 1971 and prior to March 1, 1975; shall be restricted to cooling water discharges of that amount essential for blowdown in the operation of closed cycle cooling facilities.

Water intake & discharge design criteria - Water intakes shall be designed and located to minimize entrainment and damage to desirable aquatic organisms. Requirements may vary depending upon local situations but, in general, intakes are to have minimimum water velocity and shall not be in spawning or nursery areas of important fishes. Water velocity at screens and other exclusion devices shall also be at a minimum.

Discharge shall be such that geographic areas affected by thermal plumes do not overlap or intersect.

Table 1

Temperature Standards for Interstate and
Intrastate Waters, State of Michigan

GREAT LAKES AND CONNECTING WATERS

I. Great Lakes and connecting channels shall not receive a heat load which would warm the receiving water:

More than 3° F above the existing natural temperature at the edge of the mixing zone nor:

To temperatures higher than those listed below, at the edge of the mixing zone:

A. Lake Michigan

1. North of a line running due west from Pentwater

J	F	M	A	M	J	J	A	S	O	N	D
40	40	40	50	55	70	75	75	75	65	60	45

2. South of a line running due west from Pentwater.

J	F	M	A	M	J	J	A	S	O	N	D
45	45	45	55	60	70	80	80	80	65	60	50

B. Lake Superior and St. Mary's River

J	F	M	A	M	J	J	A	S	O	N	D
38	36	39	46	53	61	71	74	71	61	49	42

C. Lake Huron

1. North of a line running due east from Tawas point

J	F	M	A	M	J	J	A	S	O	N	D
40	40	40	50	60	70	75	80	75	65	55	45

2. South of a line running due east from Tawas point

J	F	M	A	M	J	J	A	S	O	N	D
40	40	40	55	60	75	80	80	80	65	55	45

3. Saginaw Bay

J	F	M	A	M	J	J	A	S	O	N	D
45	45	45	60	70	75	80	85	78	65	55	45

D. St. Clair River

J	F	M	A	M	J	J	A	S	O	N	D
40	40	40	50	60	70	75	80	75	65	55	50

E. Lake St. Clair

J	F	M	A	M	J	J	A	S	O	N	D
40	40	45	55	70	75	80	83	80	70	55	45

F. Detroit River

J	F	M	A	M	J	J	A	S	O	N	D
40	40	45	60	70	75	80	83	80	70	55	45

G. Lake Erie

J	F	M	A	M	J	J	A	S	O	N	D
45	45	45	60	70	75	80	85	80	70	60	50

INLAND LAKES

I. Inland lakes shall not receive a heat load which would:

Warm the thermocline or hypolimnion or decrease the volume of these strata nor:

Warm the receiving waters more than 3° F above the existing natural temperature at the edge of the mixing zone nor:

Warm the receiving water to temperatures higher than those listed below at the edge of the mixing zone:

J	F	M	A	M	J	J	A	S	O	N	D
45	45	50	60	70	75	80	85	80	70	60	50

II. Warm-water inland lakes which serve as principal migratory routes for anadromous salmonids shall not receive a heat load which would:

During periods of salmonid migration raise the receiving water temperature more than 3° F above the existing natural temperature at the edge of the mixing zone nor:

Warm the receiving water to a temperature of more than 70° F at the edge of the mixing zone.

III. The Water Resources Commission will determine whether a body of water will be considered as a lake or impoundment of a river. This determination will be based partly on the aquatic life resources to be protected. Stream standards will apply in impoundments.

RIVERS AND STREAMS

I. Rivers and streams naturally capable of supporting intolerant fish, cold-water species shall not receive a heat load which would warm the receiving water:

More than 2° F above the existing natural temperature at the edge of the mixing zone nor:

To temperatures higher than those listed below at the edge of the mixing zone:

J	F	M	A	M	J	J	A	S	O	N	D
38	38	43	54	63	68	68	68	63	56	48	40

II. Rivers and streams naturally capable of supporting intolerant fish, warm-water species shall not receive a heat load which would warm the receiving water:

More than 5° F above the existing natural temperature at the edge of the mixing zone nor:

To temperatures higher than those listed below at the edge of the mixing zone:

A. Rivers and streams north of a line between Bay City, Midland, Alma and North Muskegon:

J	F	M	A	M	J	J	A	S	O	N	D
38	38	41	56	70	80	83	81	74	64	49	39

B. Rivers and streams south of a line between Bay City, Midland, Alma and North Muskegon, except the St. Joseph River:

J	F	M	A	M	J	J	A	S	O	N	D
41	40	50	63	76	84	85	85	79	68	55	43

C. St. Joseph River:

J	F	M	A	M	J	J	A	S	O	N	D
50	50	55	65	75	85	85	85	85	70	60	50

√III. Rivers and streams supporting tolerant fish, warm-water species shall not receive a heat load which would warm the receiving water:

More than 5° F above the existing natural temperature at the edge of the mixing zone nor:

To temperatures higher than those listed below at the edge of the mixing zone:

J	F	M	A	M	J	J	A	S	O	N	D
45	45	50	63	75	85	87	85	80	70	55	45

IV. Non-trout rivers and streams that serve as principal migratory routes for anadromous salmonids shall not receive a heat load which would:

During periods of salmonid migration raise the receiving water temperature more than 5° F above the existing natural temperature at the edge of the mixing zone nor:

Warm the receiving water to a temperature of more than 70° F at the edge of the mixing zone.

NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC.
260 MADISON AVE. NEW YORK, N.Y. 10016 (212) 889-5416

April 27, 1972

reply to:
CENTRAL - LAKE STATES
REGIONAL CENTER
Department of Paper Technology
Western Michigan University
Kalamazoo, Michigan 49001
Phone: 616 383-0919

MEMO TO: Mr. James Hayes
Nicolet Paper Company

FROM: William J. Gillespie

SUBJECT: Proposed DNR-WRC Rules on Spillage of Oil and Other Pollutants

Public hearings were held at various locations around the State during the months of February and March, 1972 on numerous proposed rule changes by the Water Resources Commission. Among these was Rule 323.1151 through 323.1169 which pertained to the spillage of oil and other pollutants into the waters of the State. Since very little testimony was received from industry on these proposed rules, the Michigan State Chamber of Commerce Environmental Quality Committee was called into session to discuss and suggest changes on these proposed rules. Enclosed you will find copies of the original version of the rules and a revised draft as recommended by the Environmental Quality Committee. If your company feels any further amendments or changes are needed, you are urged to respond to F. B. Frost, Chief Engineer of the Water Resources Commission before May 5, 1972.

Enclosures 2

4/72-23b

Revised Draft

per MSCC

Environmental

Quality

Committee

DEPARTMENT OF NATURAL RESOURCES

WATER RESOURCES COMMISSION

SPILLAGE OF OIL AND OTHER POLLUTANTS

(By authority conferred on the water resources commission by sections 2 and 5 of Act No. 245 of the Public Acts of 1929, as amended, being sections 323.2 and 323.5 of the Compiled Laws of 1948.)

S 15170

PART 5. SPILLAGE OF OIL AND OTHER POLLUTANTS

R 323.1151. Definitions A to O.

Rule 151. As used in this part:

(a) "Boom" means a floating containment device which may be rapidly positioned around an oil or other floating polluting material spill or discharge to prevent the movement or spread of such oil or polluting material to adjacent water areas.

(b) "Oil" means oil of any kind or in any form, including but not limited to petroleum, gasoline, fuel oil, grease, sludge, oil refuse and oil mixed with wastes.

(c) "On-land facility" means a temporary or permanent land-based industry, plant, establishment, firm or other facility, except a marina, so situated that loss of oil or other polluting materials could directly or indirectly reach the surface or groundwaters of this state, and which receives, processes, manufactures, stores, discharges, or ships oil or other polluting materials.

R 323.1152. Definitions P to V.

Rule 152. As used in this part:

(a) "Polluting material" means a solid or liquid substance which, if lost or spilled directly or indirectly into or onto the waters of this state, may cause or contribute to pollution or degradation of water, including but not limited to salt, organic and inorganic chemicals, metal plating solutions, certain acids and alkalis, nutrient-laden substances, caustic compounds, and any material listed on the Critical Materials Register as prepared by the commission pursuant to section 6b of the commission act.

(b) "Spillage" means a discharge of oil or other polluting materials, either intentional or accidental, which is non-continuous and which is not in compliance with the commission act or the rules and regulations promulgated pursuant thereto.

(c) "Vessel" means a contrivance, except a recreational watercraft, used or capable of being used for navigation upon water, whether or not capable of self-propulsion, including a foreign or domestic vessel engaged in commerce upon the waters of this state, and any other cargo-carrying vessel or barge which transports oil or other polluting material.

R 323.1153. Vessels, booms for on-loading and off-loading oil and floating polluting materials.

Rule 153. Before oil or other floating polluting material is on-loaded or off-loaded through a conduit to or from a vessel on the waters of this state, except for vessel fueling operations, booms or other equipment as may be required or approved by the commission shall be positioned to prevent the movement or spread of any oil or other polluting material in case of spillage or discharge thereof. The booms or other equipment shall remain positioned until all on-loading or off-loading is completed.

R 323.1154. On-land facilities, booms for oil and other floating polluting materials.

Rule 154. The owner, operator or manager of an on-land facility, adjacent to a watercourse, which stores or in any way handles oil or other floating polluting materials, shall have an emergency spill prevention plan as required by Rule 159. Such plan shall include provisions for the use of an emergency boom system or other commission approved equipment. Immediately upon the detection of spillage of such oil or other floating polluting material, the emergency spill prevention plan shall be effectuated and action continued thereunder until all oil or other floating polluting material is removed or, in the judgment of the commission, such oil or other polluting material no longer poses a threat to the waters of this state.

R 323.1155. On-land facilities, surveillance.

Rule 155. (1) Upon any on-loading or off-loading of oil or other polluting material through a conduit to or from on-land facilities, vessels, or other means of transport, surveillance of the loading operations shall be maintained by the owner, operator or manager of an on-land facility until all such operations are completed, so that any discharge, spillage or leakage of oil or polluting material can be detected so as to prevent its reaching the waters of the state.

(2) An owner, operator or manager of an on-land facility shall maintain surveillance of all manufacturing processes, treatment systems, storage areas and other such areas so that any discharge or spillage of oil or other polluting material therefrom can be detected so as to prevent its reaching the waters of the state.

R 323.1156. Storage and use areas, emergency containment structures.

Rule 156. (1) A storage or use area at an on-land facility for oil or other polluting material in a liquid form shall:

(a) Be diked, curbed or otherwise structurally enclosed so as to be able to contain all oil or other polluting material stored or used; or

(b) Be provided with other means, as approved by the commission which will prevent oil or other polluting materials, stored or used, from directly or indirectly reaching the waters of the state.

(2) Runoff, seepage or leakage from solid polluting materials stored by an on-land facility shall be treated or otherwise controlled to prevent unlawful pollution of the surface or groundwaters of the state, in accordance with plans approved by the commission. Such solid polluting materials shall be stored not less than 50 feet from the shore or bank of any watercourse unless an alternative specific storage site is approved by the commission.

(3) This rule shall not prohibit discharges containing concentrations of oil or other polluting materials to sanitary sewer systems as permitted by a local ordinance which has been approved by the state department of public health, or other discharges in compliance with the commission act and rules and regulations promulgated pursuant thereto.

R 323.1159. Plans for prevention of pollution by spillage incidents.

Rule 159. The owner, operator or manager of an on-land facility shall file with the commission within 90 days after the effective date of these rules, or 30 days before the date of first use in case of new construction, a plan for prevention of pollution by spillage incidents setting forth:

(a) The procedures to prevent pollution of the waters of this state by spillage from storage and use areas and shipping of oil and other polluting materials.

(b) The type of surveillance employed for detection of spills.

(c) The emergency clean-up procedures to be used in case of a spillage, seepage, runoff or leakage of oil or other pollution material into the waters of this state.

R 323.1161. Spillage incident reports.

Rule 161. (1) The owner, operator or manager of a vessel or on-land facility which spills, or causes to be spilled, oil or other polluting material shall immediately notify the commission, and within 30 days after such spill, shall file a report with the commission outlining the cause, how it was discovered, and the procedures taken to remove the oil or other polluting materials from the waters of this state.

(2) These rules do not supersede, rescind or otherwise alter any other procedure, rule or statute pertaining to pollution of the waters of this state.

R 323.1169. Enforcement.

Rule 169. A person who violates any provision of this part is subject to the procedures and penalties prescribed in sections 7, 9 and 10 of the commission act.

Original

PART 5. SPILLAGE OF OIL AND OTHER POLLUTANTS

R 323.1151. Definitions A to O.

Rule 151. As used in this part:

(a) "Boom" means a floating containment device which may be rapidly positioned around an oil or other floating polluting material spill or discharge to prevent the movement or spread of such oil or polluting material to adjacent water areas.

(b) "Oil" means oil of any kind or in any form, including but not limited to petroleum, gasoline, fuel oil, grease, sludge, oil refuse and oil mixed with wastes.

(c) "On-land facility" means a temporary or permanant land-based industry, plant establishment, firm or other facility, except a marina, so situated that loss of oil or other polluting materials could directly or indirectly reach the surface or groundwaters of this state, including but not limited to a facility which discharges through a sewer system, and which receives, processes, manufactures, stores, discharges, or ships oil or other polluting materials.

R 323.1152. Definitions P to V.

Rule 152. As used in this part:

(a) "Polluting material" means a solid or liquid substance which, if discharged or spilled directly or indirectly into or onto the waters of this state, may cause or contribute to pollution or degradation of water, including but not limited to salt, organic and inorganic chemicals, metal plating solutions, certain acids and alkalis, nutrient-laden substances, caustic compounds, and any material listed on the Critical Materials Register as prepared by the commission pursuant to section 6b of the commission act.

(b) "Vessel" means a contrivance, except a recreational watercraft, used or capable of being used for navigation upon water, whether or not capable of self-propulsion, including a foreign or domestic vessel engaged in commerce upon the waters of this state, and any other cargo-carrying vessel or barge which transports oil or other polluting material.

R 323.1153. Vessels, booms for on-loading and off-loading oil and floating polluting materials.

Rule 153. Before oil or other floating polluting material is on-loaded or off-loaded through a conduit to or from a vessel on the waters of this state, except for vessel fueling operations, booms shall be positioned to prevent the movement or spread of any oil or other polluting material in case of spillage or discharge thereof. The booms shall remain positioned until all on-loading or off-loading is completed.

R 323.1154. On-land facilities, booms for oil and other floating polluting materials.

Rule 154. An on- land facility, adjacent to a watercourse, which stores or in any way handles oil or other floating materials, shall have available adequate emergency boom systems and associated equipment for containment of such oil or other floating polluting material in case of spillage or discharge thereof. Immediately upon spillage or discharge, such booms shall be positioned by the on- land facility until all oil or other floating polluting material is removed or, in the judgment of the commission, such oil or other polluting material no longer poses a threat to the waters of this state.

R 323.1155. On- land facilities, surveillance.

Rule 155. (1) Upon any on-loading or off-loading of oil or other polluting material through a conduit to or from an on- land facility, vessel or other means of transport, adequate surveillance of the loading operations shall be maintained by the on- land facility until all such operations are completed, so that any discharge, spillage or leakage of oil or polluting material can be immediately detected so as to prevent its reaching the waters of the state.

(2) An on- land facility shall maintain adequate surveillance of all manufacturing processes, treatment systems, storage areas and other such areas so that a discharge, spillage or leakage of oil or other polluting material therefrom can be immediately detected so as to prevent its reaching the waters of the state.

(3) Any person employed by an on- land facility for such surveillance shall be knowledgeable of operations and procedures necessary to prevent oil or other polluting material from reaching the waters of this state.

R 323.1156. Storage and use areas, emergency containment structures.

Rule 156. (1) A storage or use area at an on- land facility for oil or other polluting material in a liquid form shall be diked, curbed or otherwise structurally enclosed so as to be able to contain not less than 150% of oil or other polluting material stored or used. Such area shall be so constructed that no oil or other polluting material can escape therefrom by gravity through building sewers, drains, or otherwise directly or indirectly into any sewer system or to the surface or groundwaters of this state.

(2) Solid polluting material stored by an on- land facility shall be enclosed, covered or otherwise protected to prevent a runoff, seepage or leakage onto or into the surface or groundwaters of this state. Those materials shall be stored not less than 50 feet from the shore or bank of any watercourse unless a specific storage site is required or approved by the commission.

(3) The discharge of solutions containing limited concentrations of oil or other polluting materials to sanitary sewer systems as specified in orders of determination or final orders of determination made by the commission in accordance with the provisions of the commission act, or as permitted by a local ordinance which has been approved by the state department of public health, is not prohibited by this rule.

R 323.1159. Pollution incident prevention plan.

Rule 159. The owner, operator or manager of an on- land facility shall file with the commission within 30 days after the effective date of these rules, or 30 days before the date of first use in case of new construction, a pollution incident prevention plan setting forth:

(a) The procedures by which such person proposes to undertake the prevention of pollution of the waters of this state from storage and use areas, manufacturing processes, treatment systems, and shipping of oil and other polluting materials.

(b) The emergency clean-up procedures to be used in case of a spill, discharge, seepage, runoff or leakage of oil or other polluting material into the waters of this state.

(c) The type of surveillance employed by such person.

(d) The method by which such person inventories oil and other polluting materials from the time the oil or other polluting material is received or

manufactured by that person until such time it is treated and discharged or shipped out by the on- land facility.

R 323.1161. Pollution incident reports.

Rule 161. The owner, operator or manager of a vessel or on- land facility which discharges, spills, or causes to be discharged or spilled, oil or polluting material shall immediately notify the commission and within 10 days after such discharge or spill shall file a report with the commission outlining the cause, how it was discovered, and the procedures taken to remove the oil and polluting materials from the waters of this state. This rule does not supersede, rescind or otherwise alter any other procedure, rule or statute pertaining to pollution of the waters of this state.

R 323.1169. Enforcement.

Rule 169. A person who violates any provision of this part is subject to the procedures and penalties prescribed in sections 7, 9 and 10 of the commission act.

INTER-OFFICE CORRESPONDENCE

Mead Paper Company
PLAINWELL DIVISION

April 17, 1972

TO: R. Radt

FROM: J. Hays

SUBJECT: WATER RESOURCES COMMISSION MEETING

In May there will be a meeting held in Kalamazoo to discuss the various problems and standards for the Kalamazoo River.

The preliminary meeting with the WRC will be held in Plainwell on April 27 at 9:00 AM in the City Hall. Chet Harvey of the WRC called today and invited us to attend this meeting. Hope that you will be able to make it also.

JMH:rc

cc: C. Gren
B. MacDonald
file

5 15179

J Hays

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

April 4, 1972

TO: Water Resources Commission

SUBJECT: METHODS FOR DETERMINING PARAMETER RESULTS FOR REPORTS TO WATER RESOURCES COMMISSION

1) Parameter Name: pH

Parameter Number: 00400

a) Determined through use of Beckman Zeromatic pH Meter. Standard Methods.

2) Flow - MGD - No. 50050

a) Flows measured by weirs and recorded on Stevens Recorder flow charts daily.

→ b) Calculated flows from Francis formula $Q = 3.33\ (W-0.2H)H^{1.5}$
Where Q = flow/C.F.S.; W = width, ft.; H = head on crest, ft.

3) BOD - 5#/D (Lbs/Day) No. 85001

a) From Standard Methods, 10th edition, Pp. 260-266.

4) Sol. Sus. #D (Lbs/Day) No. 85002

a) From Standard Methods, 12th edition, P. 424.

5) Oil and Grease Severity - 01300

a) Determined by following procedure:

1) Method 25 - Oil and Grease
Reagents
Petroleum ether
Hydrochloric acid, concentrated

S 15180

2) Procedure:

Evaporate a suitable volume of the well-mixed sample, acidified with about 1 ml of hydrochloric acid, to about 100 ml on a steam bath, protecting against contamination during the evaporation. Transfer to a smaller Pyrex dish, rinsing the larger dish with a small volume of petroleum ether to dissolve the oil and grease. Filter through a filter paper, previously washed with petroleum ether, into a tared light weight dish or small flask. Evaporate the petroleum ether on a steam bath. Wipe the outside of the vessel, dry in a desiccator and reweigh. The difference in weight represents the oil and grease.

$$\frac{\text{mg of oil and grease} \times 1000}{\text{ml of sample}} = \text{mg/l oil and grease}$$

More precise methods are given in "Standard Methods".

[1]Lea, C., Journal of the Society of the Chemical Industry (London), Vol. 52, p. 245T (1933).

These tests are from Station Numbers 030027, 030049, and 030052.

Yours truly,

PLAINWELL PAPER CO., INC.
A Division of Nicolet Paper Co.

Carl A. Gren

Carl Gren - W483
Environmental Resource Supervisor

CAG:rc

Plainwell Paper Co., Inc.
Division of Nicolet Paper Company
Plainwell, Michigan 49080
Phone: 616/685-5851
Teletype: 810-277-4990

Sept. 26, 1972

Mr. F. B. Frost
Chief Engineer
Water Resources Commission
Stevens T. Mason Building
Lansing, MI 48926

Dear Mr. Frost:

We are writing in response to the latest draft of the proposed rules on spillage of oil and polluting materials.

We missed the public hearing held on these rules in the Law Building September 19, 1972. We understand the record will be open to written comment until September 29, 1972. We therefore wish to comment as follows:

We feel the rules too ill defined as to what must be diked or curbed, or otherwise enclosed (Rules 156 & 158). We use many different materials in bale form, in barrels and in bulk storage in our manufacturing process. Some of which may be hazardous and some not.

The cost could be enormous and excessive for all materials stored at our manufacturing facility to be curbed or otherwise enclosed.

Very truly yours,

PLAINWELL PAPER CO., INC.

Carl A. Gren/rc

Carl A. Gren
Environmental Resource Supervisor

CAG:rc

File

Warner
Cole
Restoration

5 15182

Form 878

8/31/71

Gave 5 gals sample of BP effluent to G. Flynn of Nalco today. Will run flocculated with

Also will send deformer sample. 5 gal ~~[illegible]~~ pail.

Will send info on anal. & anal. eqing for Army Corp of Eng. permit.

Recommended Penn Walt Corp. for Chlorination work.

Send Sludge Pit Report for 8/30/71 to Ed MacDonald

Stuck lever on #4 rejecting a lot of stock to the lever.

Check chemicals used in chem water in BOD Lab.