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DIAGRAM - RESPONSE TO QUESTION 20

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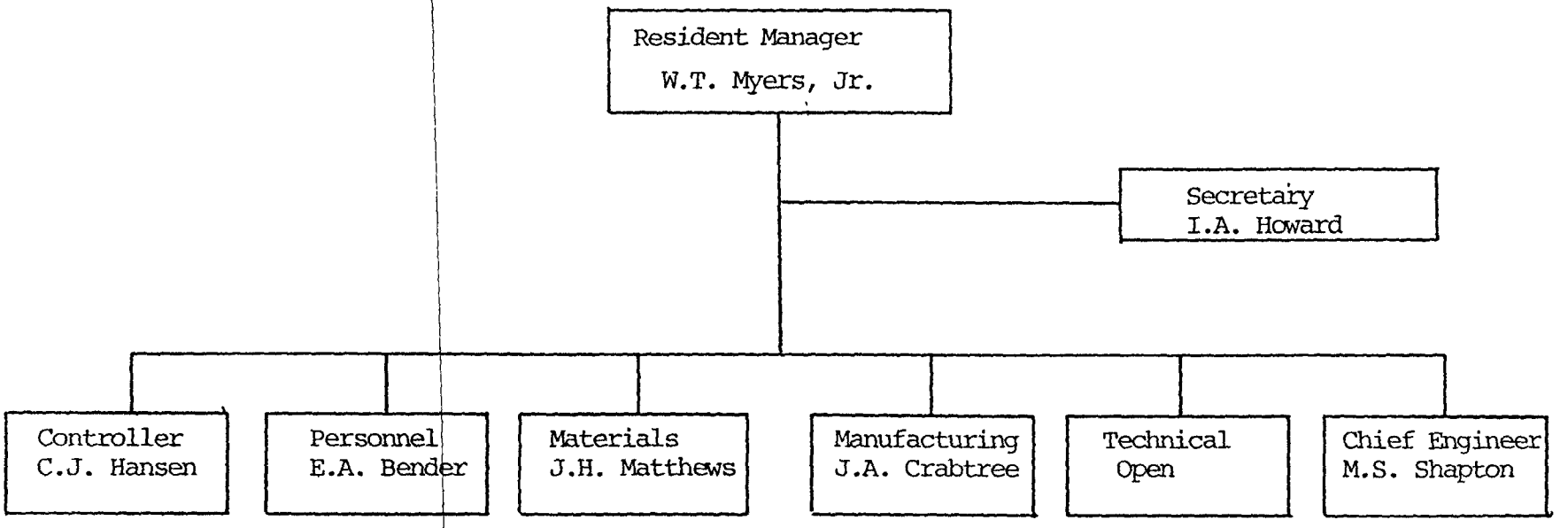
Rev. 07/10/02

QUESTION 3

ORGANIZATION CHART
ANGELL MILL 1984



1984 ORGANIZATION CHART
ST. REGIS CORPORATION
ANGELL STREET MILL

Position	Present Status 10/16/84
Resident Manager	W.T. Myers, Jr.
Secretary (N)	I.A. Howard
Controller	C.J. Hansen
Assistant Controller	Open
Sr. Payroll Clerk (N)	P.K. Rozell
Sr. Billing Clerk (N)	J.M. Head
Sr. Accounts Payable & Inventory Clerk (N)	M.J. Hendrickson
Accounts Payable Clerk (N)	P.A. Petrow
Computer Operator/ Programmer (N)	D.L. Bailey
Personnel Manager	E.A. Bender
Secretary (N)	I. Miller
Manager/Materials Logistics	J.H. Matthews
Traffic/Scheduling Supervisor	C.A. Hommerding
Shipping/Finishing Supervisor	R.L. Converse
Utility Foreman	P.R. Danis
Receiving/Skid Shop Foreman	O.R. Britton
Industrial Buyer	R.L. Bay
Receiving Clerk	Open
Manufacturing Manager	J. Alan Crabtree
Production Record Clerk (N)	J.E. French
Machine Supervisor	C.M. Roberts
Tour Foreman	Open
Tour Foreman	J.B. Adrianson
Tour Foreman	K.M. Buck
Tour Foreman	D.W. Blanchard
Plant Engineer	M.S. Shapton
~~Maintenance Superintendent~~	T.G. Thomas
Maintenance Foreman	N.H. Decker
Maintenance Supervisor	D. Opala
Project Engineer	J.L. Orns
Associate Project Engineer	E.D. Geibig
Associate Project Engineer	Open
Technical Superintendent	Open
Asst. Tech. Superintendent - Quality	M.D. Minger
Quality Assurance Inspector (N)	C.K. Lewis
Quality Assurance Inspector (N)	H.G. Markos
Quality Assurance Inspector (N)	B.E. Moore
Quality Assurance Inspector (N)	L.J. Payton
Asst. Tech. Superintendent - Process	P.H. Stofer

Organization Chart 10/16/84

Technical Shift Supervisor	T.G. White
Technical Shift Supervisor	M.D. Holt
Technical Shift Supervisor	Open
Sales Manager	R.M. Salvatore
Secretary (N)	V.A. Leonard
Sales Person	Open
Sales Person	Open
Sales Coordinator	G.E. Phillips
Sales Coordinator	C.S. Mackaluso

PERSONNEL COUNT

Exempt	26
Non Exempt	14
Open	8
Total	48

QUESTION 8

STATUS OF ENVIRONMENTAL COMPLIANCE

AIR

The boilers at Angell were converted from coal to gas and oil. As a result of this change, the Michigan DNR has given their tacit approval of the air quality. No tests have been run on the emissions from the boilers. Corporate Engineering has indicated that no permits are required to operate the boilers using the present fuels.

WATER

The Angell Mill discharges non-contact cooling water and the backwash from the sand filters to the Kalamazoo River through two outfalls. These outfalls are licensed under NPDES Permit M10029386 which expires February 28, 1988. The mill has been in compliance with the conditions of this permit as noted in the Technical Director's memo to the DNR dated May 3, 1984 with the exception of submitting some additional water analysis. This analysis is underway and the results will be submitted in the near future.

All process effluent is sent to the City of Battle Creek wastewater treatment plant. This plant is in the process of being upgraded and expanded and there is more than enough capacity for industrial expansion in the Battle Creek area. Until the end of March 1986, the Angell Mill has the contractual right to utilize the following capacities of the plant:

Flow	2.5 million gallons/day
Solids	5000 lbs/day
BOD	3250 lbs/day

After March 1986, the capacities reserved for the Angell Mill will be as follows:

Flow	5.0 million gallons/day
Solids	10,000 lbs/day
BOD	6,500 lbs/day

Because the mill does not require such capacities and their exclusive use costs about $144,000/year, negotiations are currently underway with the city to reduce the 1986 capacities by the amounts required by the Fountain street mill formerly owned by St. Regis.

Considerable efforts and capital have been expended by the mill personnel to reduce the effluent discharges and recycle process water. The progress achieved to date is shown in the attached figures. Average loadings achieved by the mill at this time are:

Flow	1.2 million gallons/day
Solids	8,000 lbs/day
BOD	3,200 lbs/day

The industrial contract rates for use of the City's treatment plant were implemented in September 1983 and are summarized below:

Fixed Capital Charge	$ 2,336.50/mo.
New Capital Charge	3,363.50/mo.
Monitoring	250/mo
Loading charges:	
Flows	$ .77/ccf
BOD greater than 300 ppm	.05/lb.
Solids " " "	.07/lb.
Penalty Charges for exceeding	
Capital allocations:	
Flow	$35.81
BOD	36.36/1000 lbs/day
Solids	29.81/1000 lbs/day

Additional reductions in effluent will require considerable capital expenditures. Some kind of holding system must be installed to provide for storage during upsets in the operation.

PERMIT TRANSFER

As with the Fountain Mill of St. Regis sold to Field Container, no problems are expected in transferring the permit to a new owner.

SOLID WASTE

The sludge from the fiber cleaning systems and other wastes from the mill are hauled to landfill by a local company by the name of Waste Management. The mill generates about 3840 cubic yards of material annually and the present disposal costs are $30,000/year. The installation of a sludge dewatering system will reduce the solid waste costs considerably.

Mac Sim Bar Paper Company, Division of United Biscuit Company of America, was formed and started in 1905. The Company was founded by three gentlemen: Mr. M. B. McClellan, Mr. S. W. Simpson and Mr. G. E. Bardeen. The name for the Corporation, Mac Sim Bar, was derived from the names of the three men. Mac Sim Bar became a subsidiary of United Biscuit Company of America in 1947.

At the start, only one board machine was bought, the small machine forming a sheet of board 115" wide. It was built by Beloit Iron Works, Beloit, Wisconsin. In 1909 the larger machine, trimming 128", was purchased, being built by Black-Clawson Company, Middletown, Ohio. After the close of World War Two, the 115" machine was completely rebuilt, new from one end to the other, and the 128" machine wet-end (paper forming section) was also completely revamped. With other changes meanwhile, each machine is up-to-date and modern in all respects.

The rated capacity for the two machines is 300 tons per 24 hour day, operations being continuous day and night throughout the week. We employ 400 people, all departments, including the office and sales.

The raw materials consist chiefly of waste paper, although most of our products require some virgin wood pulp. This wood pulp is bought principally from the U.S.A., with one grade coming from Scandinavia. It reaches us via the St. Lawrence and Great Lakes and is unloaded at South Haven, from which point it comes to us by rail. During each 24 hour day we use approximately 6 million gallons of water. Up until a year ago this supply was taken from the Kalamazoo river but now we use only well water.

Our three Springfield boilers, each rated at 100,000# of steam per hour, generate steam for our 4000 K.W. turbine which, in turn, produces our electrical requirements, the exhaust steam being used to dry the paperboard and to heat water for our beaters. Any two of the boilers are sufficient for our steam requirements, there always being one boiler in reserve. We burn approximately 160 tons of coal each 24 hours of operations. This would be sufficient to heat 25 average homes all winter.

The Company owns and operates its own fleet of Diesel, over the road trucks eighteen in number, and it also employs other contract carriers, all hauling paperboard outbound and waste paper inbound. A rail siding is enclosed in our shipping room, which is used for outbound rail shipments.

We have a full time nurse on duty daily; also, safety and plant protection men, with regular established meetings incidental thereto, including fire drills. A cafeteria is established for the convenience of our employees.

* In March, 1954, this Company had completed and in operation its waste water treatment plant, being one of the first mills in this area to be in compliance with the Water Resources Commission in its campaign to stop pollution of rivers and streams.

As previously noted, our paperboard is made up principally of waste papers of various descriptions, although most of our grades require some wood pulp, known as ground wood, sulphites or sulphates. A formula is followed for each grade of board we manufacture. Water is first admitted to beaters and hydrapulpers, then raw materials are added and also some chemicals, such as sizing and alum. After initial refining in these machines, further refining is done in hydrafiners and jordans. Before the pulp slurry goes to the board machines it is all screened to remove coarse or foreign particles. The pulp slurry contains about 3% fibres, the balance of the mix being water, as it goes to the board forming end of the machine, known as the "wet end".

A board machine is comprised of a series of vats, in each of which is a skeleton cylinder, 42" in diameter by whatever the width of the machine. Each cylinder is covered with a 40 to 50 mesh bronze wire cloth, known as a cylinder face. Our 115" machine has seven vats and cylinders and the 128" machine has eight vats and cylinders. Each cylinder is mounted in its respective vat so that the top of the cylinder will be higher than the pulp slurry which will flow into the vat. The board itself is formed on an endless woolen felt or blanket, known as a bottom felt. As the pulp slurry flows against the cylinder face, which is turning over in the vat, the water passes through the fine mesh wire cloth. The fibres remain on the cylinder face until they reach the uppermost top, as the cylinder turns, and where they are quickly transferred to the bottom side of the woolen felt, in the case of the first, or #1 cylinder, as the felt makes contact with the fibres.

The first layer of fibres, you will note, adheres to the nap on the underside of the felt and as the felt passes over each cylinder an added layer of fibres covers the layer last added until, on the 115" machine, seven layers go to make up the total board thickness. The 128" machine has eight cylinders, so eight layers of fibres comprise the total thickness on that machine. The board continues to the end of the machine where the felt carries it upward and over, the felt reversing its travel so that it moves towards the dry end of the machine. As it does this, another endless felt, known as the top felt, covers the top side of the board, the board now being in between the two felts. It continues its travel thusly through suction presses and press rolls, where much water is removed, after which it leaves the felts and travels by its own strength.

It continues onward a short distance to the driers, at about two-thirds moisture and one third dry. Driers are hollow cylinders, 42" in diameter and these are filled with exhaust steam from our turbine. There are 125 driers on the 115" machine and 160 driers on the 128" machine.

After the board completes its trip over the driers it passes through the calender stacks where it is ironed and smoothed, to give a smooth printing surface. Water is applied to each surface of the board to assist the smoothing process and other treatments may be applied at the calenders, if desired. There are three stacks of calenders for each machine,

following which are slitters and cutters. As the board passes through the last calender stack into the cutter, it is slit the proper width and cut to the proper length, as desired by the customer. There are also reel stands where the board may be wound into rolls, if the customer so specifies.

Sheet stock is shipped flat on skids, well banded. Rolls are prepared for shipment by fastening a steel band around each end of the roll.

It may be added that colored boards are made either by adding color to the fibre while in the beaters, or a surface coloring may be added as the board passes through the calenders.

Each machine is equipped to apply a coating of clay on the top side of the board, if desired. This is done about 1/3 way of its travel through the driers. Clay coating is desired on certain orders to increase brightness and printing surface.

We manufacture in the neighborhood of twenty principal grades of paperboard, with many various characteristics, colored boards and specialties. Thicknesses range from 16 to 54 points, one point being 1/1000 of an inch. This is written as .016 to .054. We also operate pasting or combining equipment, enabling us to supply Pasted Board up to and including .120.

Our paperboard is produced at the rate of between 200 and 300 lineal feet per minute. On the 115" machine the total length of paperboard from the first drier to the end of the cutter is 1200 feet and on the 128" machine the total length of the board is 1500 feet, or over a quarter mile.

Otsego Mill Lagoon Issue

1. The ealiest document that I could locate shows that what we now call Lagoon #2 and 3 were in existence prior to 1968 (See Att. 1)

2. Att. 2 and 3 shows what looks to be a proposal for what we call lagoon 1 in 1974. It looks like where Lagoon 1 now is stood two sludge ponds.

3. Att, 4 is the latest document I could find stating that there was only 1 lagoon in existence

4. Att 5 is from 1977 and shows that the 2 sludge ponds were converted into a lagoon. So some time between 1975 and 77 the lagoon which we call lagoon 1 was made

5. Att. 6 is from 1981 and shows that what we call lagoon 2 was lengthened.

MICHIGAN WATER RESOURCES COMMISSI

Report of
Wastewater Survey

PAGE 1

Mead Paperboard Products
(Mac Sim Bar Div.)
Otsego, Michigan

EARLIEST RECORD FOUND OF LAGOON # 1

May 20-22, 1968

Two consecutive 24 hour wastewater surveys were conducted at the Mead Paperboar Products, Mac Sim Bar Div., in Otsego starting May 20, 1968. The purpose of the survey was to determine the quality and quantity of waste water being discharged to the Kalamazoo River by the Company. The results of the survey will be compared with the conditions of the Order of Determination adopted by the Commission and the stipulations of the agreement between the Commission and the Company.

Operation and Wastewater Sources

The Mac Sim Bar Div. is a paper conversion plant with one 8 cylinder paper machine running 7 days per week producing laminated carton board. The company uses primarily well water for it's operation. Under certain conditions river water is used to supplement well water.

The treatment of the waste water from this plant consists first of a primary clarifier system followed by an oxidation-stabilization lagoon. The waste water goes to the primary system which consists of two circular clarifiers operating in parallel. Each clarifier has a 230,000 gallon capacity. The plant utilizes a water reuse program where a portion of the waste water from the primary system is reused. The excess waste water is pumped to the oxidation-stabilization lagoon for further biological reduction.

Final Order of Determination

The Final Order of Determination adopted by the Commission October 24, 1968 stipulated less than 10 lbs. of suspended solids per ton of paper produced would be discharged to the Kalamazoo River. One of the conditions of the agreement between the Company and the Commission dated June of 1961 are the oxygen consuming material measured as 5-day biochemical-oxygen-demand shall not exceed 2,085 pounds per day.

Survey Procedure and Results

The flow from the oxidation-stabilization lagoon was measured with the aid of the company's Parshall flume which is equipped with an integrating recorder. Previous checks indicate this device is reasonably accurate. An automatic sampler was installed at the approach channel to the flume. The sampler took samples at fifteen minute intervals proportional to the instantaneous flow and deposited them in a clean glass container to make up a 24-hour composite sample, representative of the total flow. The composite samples were transported to the WRC laboratory in Lansing for selected quantitative, chemical and physical ana

Pg. 2

THE MEAD CORPORATION

MEAD research
ENVIRONMENTAL GROUP
CENTRAL RESEARCH LABORATORIES
CHILLICOTHE, OHIO 45601
TELEPHONE (614) 772-3503

PROJECT: OTSEGO MILL

RECOMMENDATIONS TO PROCEED

DATE: 2-18-74 BY: R. Green

SHEET ____ OF ____

PURCHASE IMMEDIATELY BALANCE W/SENSITIVITY & ACCURACY ± 0.3 mg.; DESSICATOR; CRUCIBLES; IMHOFF CONES & RACK, USE STD. METHODS W/FIBER GLASS FOR TSS TEST.

MAKE SOME CROSS CHECKS W/ANOTHER LAB. ON BOD.

PLACE ON ORDER PROMPTLY A 40 OR 50 HP FLOAT T. H.S. AERATOR. ON DELIVERY MOUNT SAME IN ONE OF SLUDGE PONDS. DIRECT INFILCO EFF. TO THIS POND & THEN TO EXISTING ASB. EVALUATE EXTENSIVELY DURING SUMMER, FALL & WINTER OF 1974.

BUDGET IN 1975 TO PLACE SECOND SLUDGE POND ON LINE PARALLEL W/FIRST SLUDGE POND W/EITHER A NEW 40 OR 50 HP AERATOR OR IF '74 INDICATE PRACTICAL RELOCATE EXISTING 40 HP. EVALUATE EXIST. ASB PERFORMANCE IN 1975 & POSSIBLY RELOCATE 2 OF 20 HP AERATORS IN INFLUENT END OF ASB.

NOTE: CHANGES ETC. IN EXIST. ASB SHOULD BE MADE IN COLD WEATHER ONLY TO MINIMIZE ODOR POTENTIAL.

THIS LOOKS LIKE A PROPOSAL IN 1974 FOR AN ADDITIONAL LAGOON.

RT 104143

August 30, 1973

To: Mr. R. R. Deem

From: J. R. Stafford

Re: Aerated Lagoon Study - Otsego Paperboard Mill

Over a period of six weeks, July 2 to August 14, this mill's aerated lagoon indicated zero dissolved oxygen throughout its entirety. The plant was visited on August 22 and 23 in an attempt to determine the reason for this abnormal oxygen deficiency. The program included Dissolved Oxygen-Temperature Profiles, Sludge Deposits, oxygen uptake rates and analyses for Biochemical Oxygen Demand, Suspended Solids and various Nitrogenous compounds.

The mill's record for the lagoon showed an average daily flow of 1.03 million gallons for the period of August 1 through the 18th. However, due to operational difficulties the average flow was only 0.2 million gallons per day for August 19 through the 23rd. Due to low loadings to the lagoon just before and during this survey, the results contained in this report can be interpreted only as background data. When flows are stabilized, should oxygen deficiencies again be noted, a subsequent study of this nature is recommended.

The results of this study are listed in the attached pages as follows:

TABLE 1 Summary data except D.O.-Temp and Sludge profiles. Note discrepancies in D.O.-Winkler vs. YSI. This indicates interference to the Winkler test by some sulfur reducing compound in the lagoon water.

TABLE 2 D.O. Temp. profile

TABLES 3 & 3A Detailed data for oxygen uptake rates

FIG. 1 Diagram of the aerated lagoon showing locations of aerators and sampling points.

FIG. 2 Sludge Profile - sludge deposit in inches.

I wish to express my sincere thanks to Messrs. Dave Keith and Ward Fritz for their assistance during this survey.

J. R. Stafford

JRS/sc

cc: See Next Page

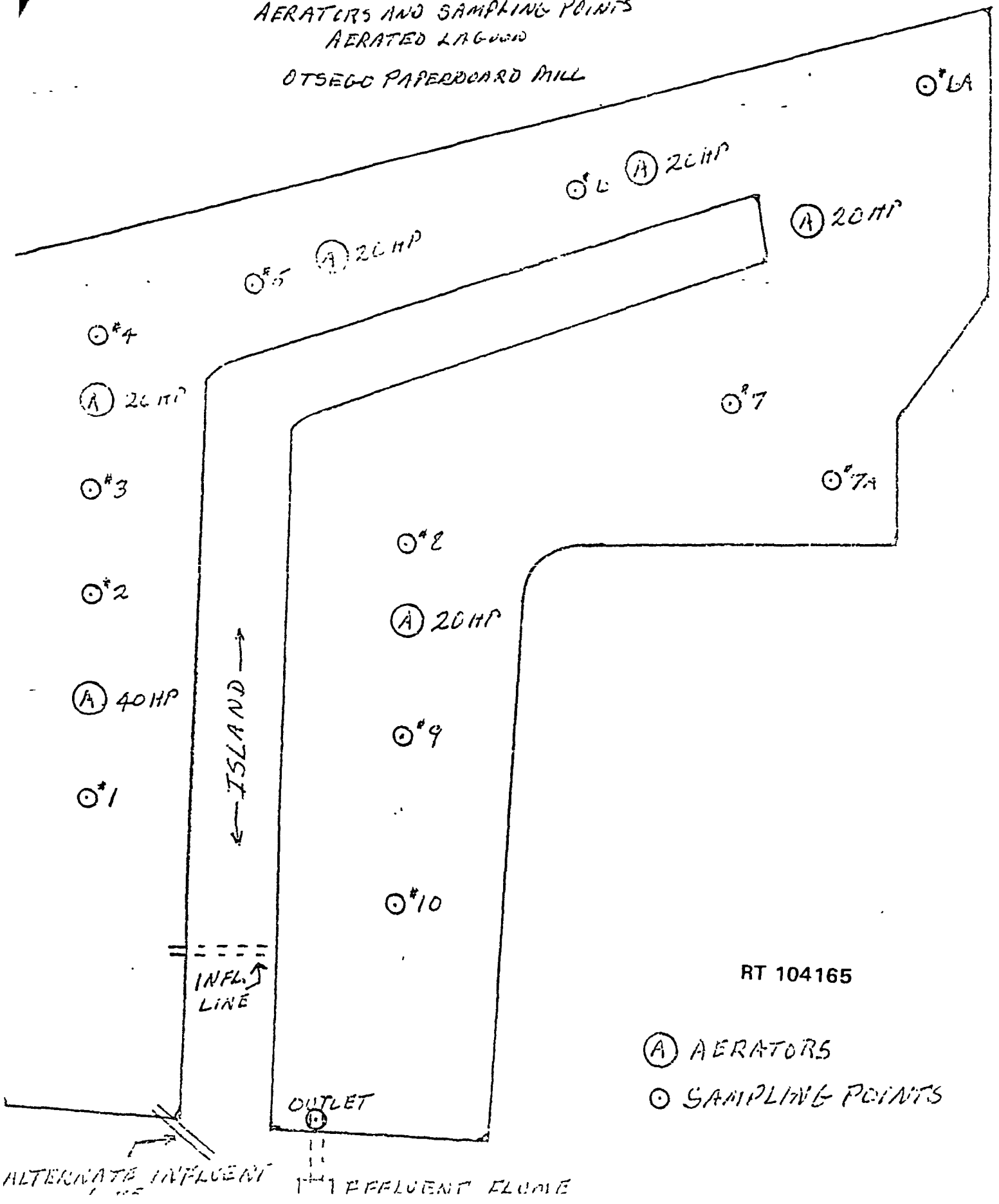
Project [illegible]

REDRAWN FROM MILL DIAGRAM BY J. STAFFORD Date AUGUST 23, 1973 / 1

FIG. 1

AERATORS AND SAMPLING POINTS
AERATED LAGOON

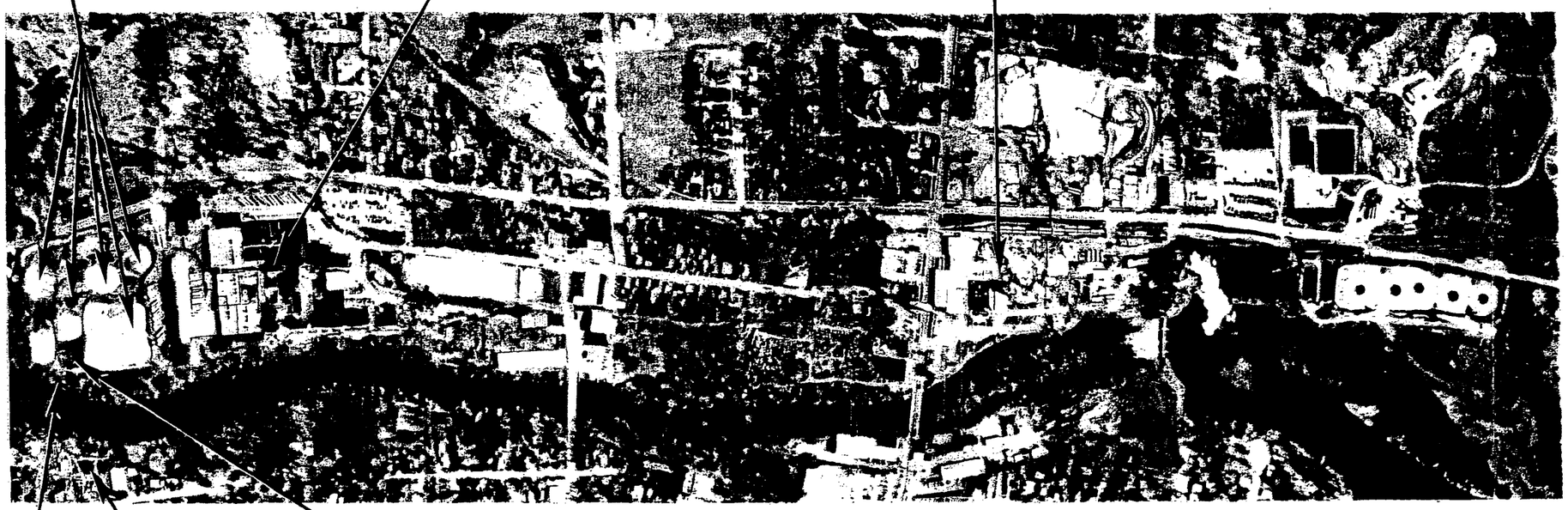
OTSEGO PAPERBOARD MILL



RT 104165

FIGURE 2

EXISTING ARRANGEMENT



NOTE: OUTFALL LOCATION IS APPROXIMATE

RT 104548

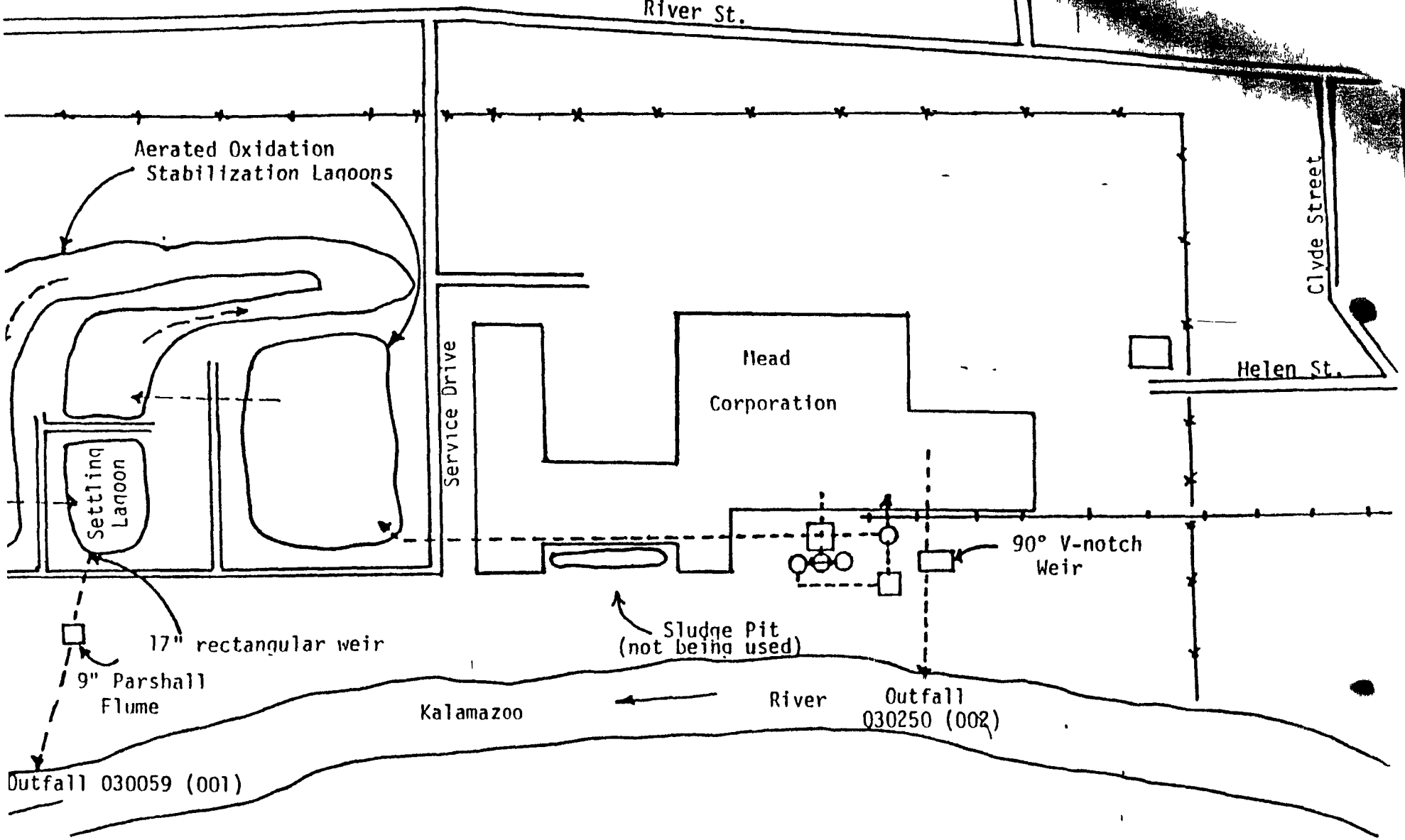
KALAMAZOO RIVER
STUDY GROUP

IDENTIFICATION OF OTHER PRPs

ROCK-TENN COMPANY
1991 AERIAL PHOTOGRAPH

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & GEOSCIENTISTS

NOVEMBER 1992
645.02.01



RT 104263

Pg. 6

TER 12-10-81

ble 6 Sample Preservation

rameter	Preservative
)D	10 drops conc. H_2SO_4/250 ml (to pH <2).
tal Metals	2 ml 1:1 HNO_3/250 ml (to pH <2).
l & Grease	10 drops conc. H_2SO_4/250 ml (to pH <2).

l 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: David Keith, Certified Operator
Jerome Stoltz

Hydrocarbon Analyses by: Environmental Protection Bureau Laboratory

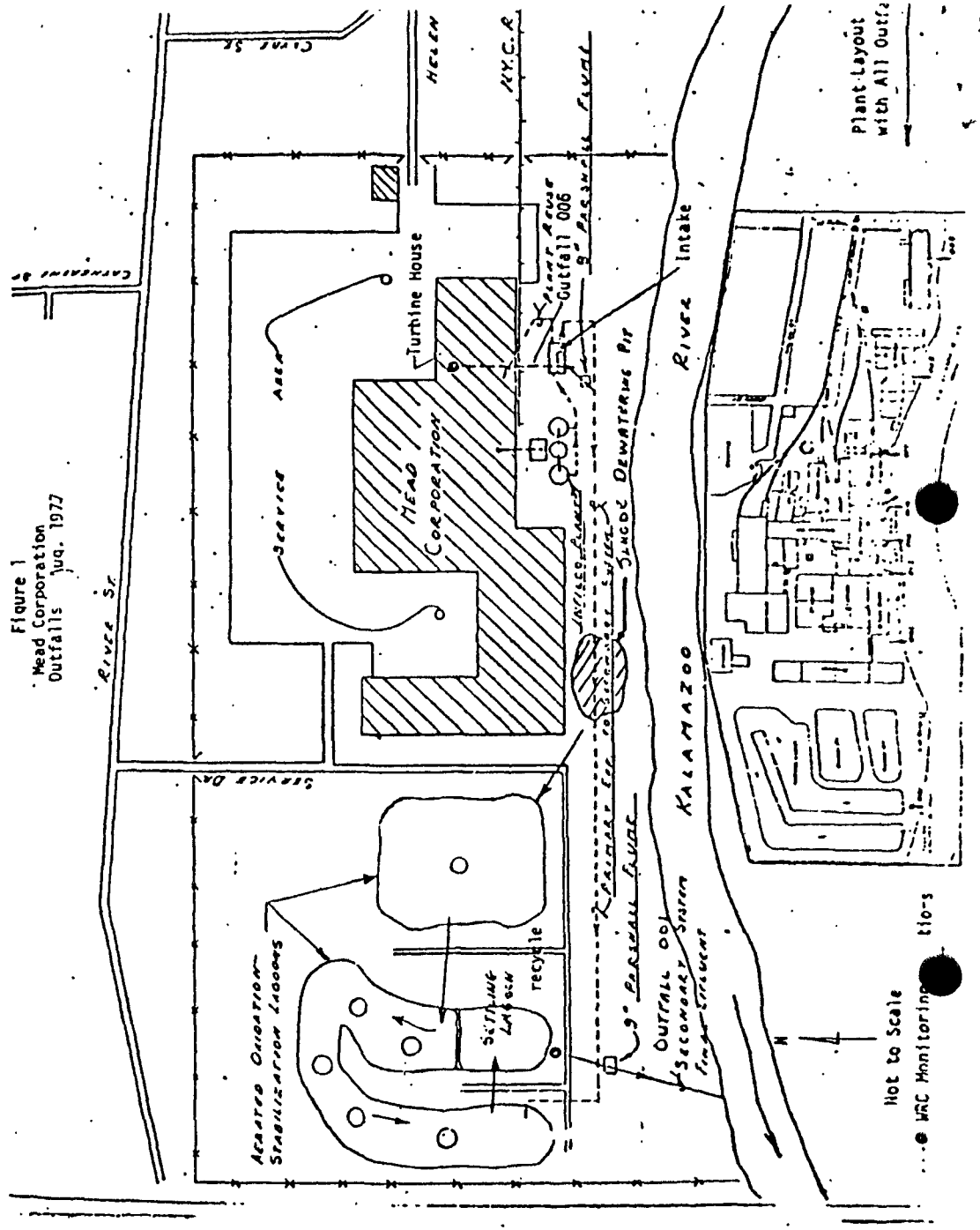
Physical & Chemical Analyses by: Environmental Protection Bureau Laboratory

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

stribution "A"

Pg. 5

RT 104281



MAP FROM 1977

1970 P0.4
LATEST DOCUMENT FOUND
-3- STATING THAT THERE IS ONLY
1 LAGOON

60% of the primary effluent. This effluent enters a water supply chest which supplemented with river water supplies the process water for stock preparation and equipment clean-up.

The remaining 40% of the primary effluent is pumped to secondary treatment. The secondary treatment system consists of a 3.5 acre aerated, oxidation-stabilization lagoon. The lagoon illustrated on Figure 1 contains 5 aerators. The influent enters the lagoon's southwest section where anhydrous ammonia and a polyphosphate are added. The feed rate of these nutrients equal 30 pounds of ammonia and 35 pounds of phosphorus per day. After an average of 5 days retention the treated secondary effluent is discharged through the company's 9-inch flume to the Kalamazoo River.

Biomass from the settling section of the aerated lagoon is pumped back to the aerating section at a rate of 800 gpm.

Sanitary wastewater from the plant is discharged to the city system.

Survey Procedure

A 17" rectangular weir located on outfall 001, 030059, was utilized by staff for monitoring the treated effluent from the aeration lagoon.

The 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 the weir on a head versus time graph for the duration of each survey period. The total volume of wastewater over the weir during the survey period was computed from the graph. The automatic sampler obtained samples proportional to the instantaneous flow over the weir at 13-minute intervals. These individual samples were deposited in a clean container to make up a composite sample representative of the total flow over the weir during the survey period.

Flow from outfall 006, 030159, was minimal (< 1000 gpd) during the survey and hence a 24-hour grab composite sample was collected from this discharge. This composite consisted of 5 grab samples.

A 24-hour grab composite sample was collected from outfall 001 for chlorinated hydrocarbon analyses by periodically depositing grabs of the discharge into a clean glass container.

Three individual grab samples were collected from each outfall for selected physical, chemical and bacteriological analyses.

RT 104665

All samples collected were preserved according to Table 5.

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.

0012584

The results of the physical, chemical and bacteriological analyses are presented in Tables 1 - 3.

MEAD CORPORATION
MEAD research
ENVIRONMENTAL GROUP
CENTRAL RESEARCH LABORATORIES
CHILLICOTHE, OHIO 45601
TELEPHONE (614) 772-3503

PROJECT: FLOW DIAGRAM - WASTE TREATMENT
OTSEGO, MICHIGAN MILL

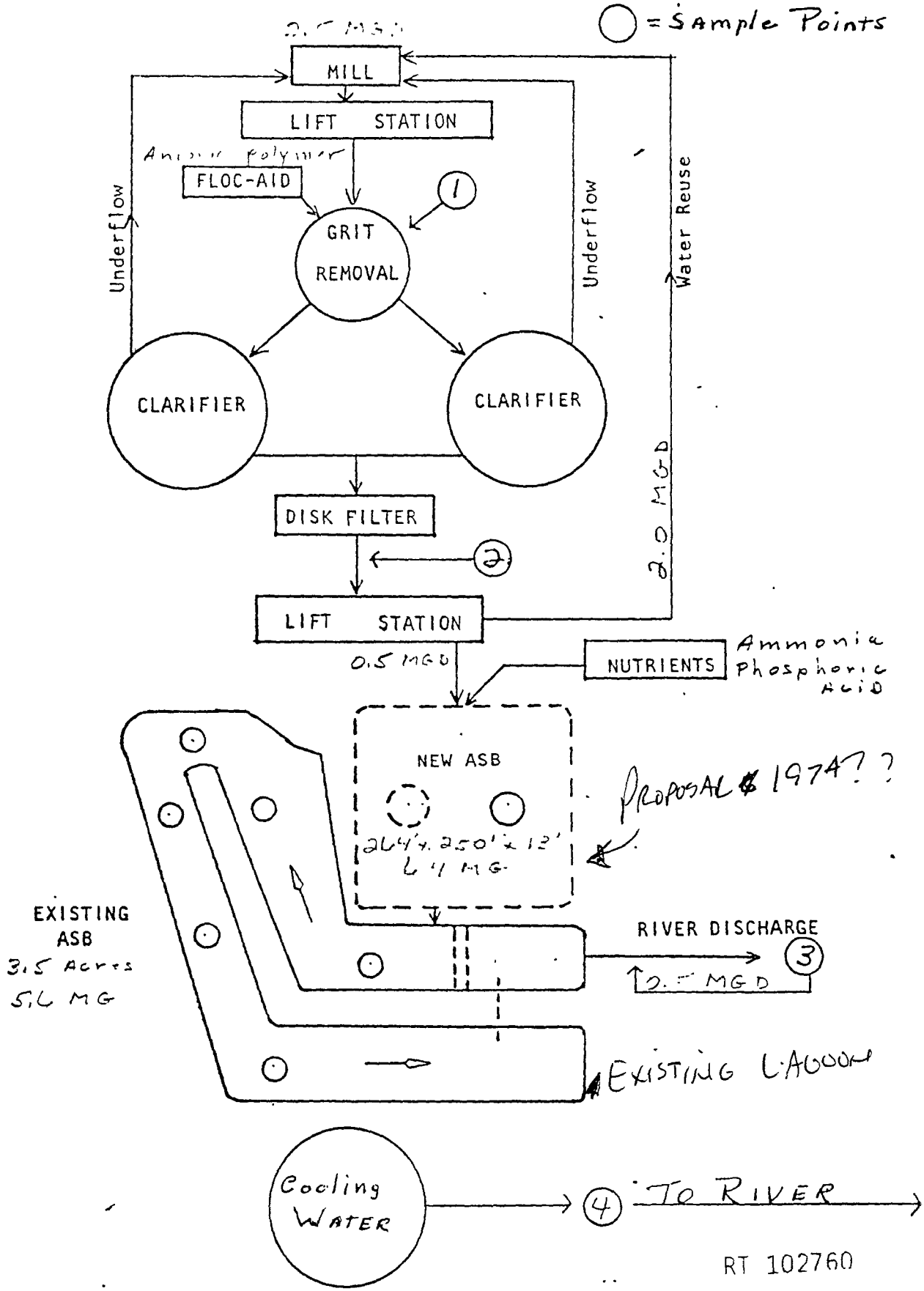
DATE: 10-30-74 BY:

SHEET 5 OF

Pg. 3

~~PROPOSED~~

○ = Sample Points



RT 102760

RECEIVED APR 1 1974

NATURAL RESOURCES COMMISSION
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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
JOHN P. WOODFORD
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Vice Chairman
CHARLES D. HARRIS
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STANLEY QUACKENBUSH
THOMAS F. JAMES
JOHN H. KITCHEL, M.D.

April 10, 1974

CERTIFIED MAIL

Mead Corporation, Paperboard Products Div.
431 Helen St.
Otsego, Michigan

Re: NPDES Permit No. MI 0000787

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
Comp. Studies
Planning
Files
T. K. Wu
C. Oden
R. Schaffer

RTMY 016684

mi 0000787

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"),

The Mead Corporation, Paperboard Products Division

is authorized to discharge from a facility located at

431 Helen St.
Otsego, 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 the date of issuance.

This permit and the authorization to discharge shall expire at midnight, February 28, 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.

This permit is based on the company's application numbered MI 070 0X5 2710101, dated as amended on November 22, 1971.

Issued this 10 day of [illegible], for the Michigan Water Resources Commission.

W. G. Turney
Assistant Executive Secretary

RTMY 016685

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Initial Effluent Limitations Process Wastes

During the period beginning upon the issuance of this permit and lasting until September 30, 1976, the permittee is authorized to discharge treated process wastes from outfall (s) 001 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
Outfall 001						
Flow M³day (mgd)	-	-	-	-	Continuous	Report to daily flow
BOD_5	591 (1300)	955 (2100)	-	-	Daily	24-hr. Composite
Total suspended solids	386 (850)	910 (2,000)	-	-	Daily	"
Settleable solids	-	-	-	-	"	grab
Phenol*	-	-	-	-	Twice Monthly	24-hr. Composite
Polychlorobiphenyls*	-	-	-	-	Twice monthly	24-hr. Composite

Polychlorobiphenyls and phenol shall be monitored for a period of one year starting thirty (30) days from the issuance of this permit after which time the Michigan Water Resources Commission shall determine if a limitation shall be imposed. It a limitation is necessary, this permit shall be revised in accordance with the provisions of Part II, Section B, Paragraph 4c of this permit.

a. The pH shall not be less than 6.0 nor greater than 9.5. The pH shall be monitored as follows: 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. Effluent Limitations -cooling water and storm water

During the period beginning upon the issuance of this Permit and lasting until the expiration of this permit, the permittee is authorized to discharge non contact cooling water and storm water from outfall (s) 006. 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
Flow M^3/day (MGD)	-	-	-	-	Weekly	-
Total suspended solids	-	-	-	-	Weekly	grab
Oil & grease	-	-	-	-	Daily	Visual observation
Temperature	-	-	-	-	Weekly	Reading

The discharge shall not increase the temperature of the Kalamazoo River at the edge of a mixing zone located within the right 1/4 of the river a distance of 400 feet downstream of the discharge more than 5° Fahrenheit above the existing natural temperature nor above the following maximum monthly temperature:

J	F	M	A	M	J	J	A	S	O	N	D
41	40	50	63	76	84	85	85	79	68	55	43

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: 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.

4. Final Effluent Limitations Process Wastes

During the period beginning October 1, 1976 and lasting until the expiration of this permit, the permittee is authorized to discharge treated process wastes from outfall (s) 001 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
Outfall 001						
Flow M^3/day (mgd)	-	-	-	-	continuous	Report total daily flow
Settleable solids	-	-	-	-	Daily	Grab
Phenols*						
Pholychlorobiphenyls*						
May 15 to Oct. 15						
BOD_5	295 (650)	455 (1000)	-	-	Daily	24-hr. Comp
Total Suspended solids	295 (650)	455 (1000)	-	-	Daily	24-hr. Comp
Oct. 15 to May 15						
BOD_5	295 (650)	591 (1300)	-	-	Daily	" "
Total Suspended solids	295 (650)	591 (1300)	-	-	Daily	" "

* In the event it is found necessary during the initial effluent limitation period to limit and monitor these parameters, the permit shall be revised in accordance with the provisions of Part II, Section B of this permit.

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

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.

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) 001, _____ in accordance with the following schedule:

a. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before September 30, 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 November 30, 1974.

c. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before N/A.

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 March 31, 1975

e. Commence construction of said facilities on or before May 31, 1975.

f. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before November 30, 1975.

g. Complete construction of said facilities on or before May 31, 1976.

h. Attain operational level necessary to meet the limitations specified herein on or before October 1, 1976.

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 September 30, 1974.

b. The permittee shall comply with the requirements of items 9a or 9b contained in Part II on or before September 30, 1975. 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. 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, U.S., E.P.A., 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

RTMY 016693

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-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 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.

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

June 8, 1979

CERTIFIED MAIL

Mead Paperboard Products
Otsego Mill
P. O. Box 187
Otsego, Michigan 49078

Re: MI 0000787

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. Courchaine
Data Center
Files
T. K. Wu
C. Odin
A. Howard
F. Baldwin
C. Harvey
West Michigan Regional Planning Commission

MICHIGAN
THE GREAT LAKE STATE
R1026 10/76

Permit No. MI 0000787

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"),

Mead Corporation - Paperboard Products Division

is authorized to discharge from a facility located at

431 Helen St.
Otsego, Michigan 49078

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 _____, dated August 24, 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 7th day of June, 1979 for the Michigan Water Resources Commission, superseding NPDES Permit No. MI 0000787 expiring February 28, 1979.

Robert J. Courchaine

Robert J. Courchaine
Executive Secretary

RTMY 017499

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations - During a period beginning with the issuance of this permit & lasting until expiration of this permit, the permittee is authorized to discharge an average of six hundred fifty six thousand (656,000) gallons per day of process wastewaters thru outfall 001 to the Kalamazoo River, such discharge shall be limited & 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	report to daily fl
Solids, Settleable (mg/l)	-	-	-	-	daily	grab
June 1 to October 31						
Solids, Total Suspended (lb/day)	295(650)	455(1000)	-	-	daily	24 hr. co
BOD-5 (lb/day)	295(650)	455(1000)	-	-	daily	24 hr. co
November 1 to May 31						
Solids, Total Suspended (lb/day)	295(650)	591(1300)	-	-	daily	24 hr. co
BOD-5 (lb/day)	295(650)	591(1300)	-	-	daily	24 hr. co

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: 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 with the issuance of this permit and lasting until expiration of this permit, the permittee is authorized to discharge an average of six hundred thousand (600,000) gallons per day of non contact cooling waters from outfall 002 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)	-	-	-	-	Weekly	Total Daily Flow
Oil & Grease	-	-	No visible film		Daily	Visual Observation
Temperature	-	-	-	-	Weekly	Reading

The discharge shall not increase the temperature of the Kalamazoo River at the edge of a mixing zone located within the right 1/4 of the river a distance of 400 feet downstream of the discharge more than 5° Farenheit above the existing natural temperature nor above the following maximum monthly temperature:

J	F	M	A	M	J	J	A	S	O	N	D
41	40	50	63	76	84	85	85	79	68	55	43

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 6.0 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.

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.

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."

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.

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 continue to operate the installed facilities to achieve the effluent limitations specified for outfall(s) 001, 002.

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 N/A.

b. The permittee shall comply with the requirements of items 10a or 10b contained in Part II on or before N/A. 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.

Mead Corp.
Otsego, MI.
MI 0000787

To determine compliance with Michigan Water Quality Standards at the edge of the mixing zone, the mixing zone shall be described as follows:

Outfall 001: The area defined as the right 1/4 of the Kalamazoo River downstream 400 feet from the discharge (001).

Outfall 002: The area defined as the right 1/4 of the Kalamazoo River downstream 400 feet from the discharge (002).

Permit No. MI 0000787

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"),

The Mead Corporation
Paperboard Products Division

is authorized to discharge from a facility located at

431 Helen Street
Otsego, Michigan 49078

to receiving water named Kalamazoo River

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

This permit takes effect immediately on the date of issuance. Any person who feels aggrieved by this permit must file a sworn petition with the Commission, setting forth the grounds for the complaint, and specifying the conditions of the permit which are being challenged. The Commission may reject any petition filed more than 60 days after issuance for being untimely. Upon granting of a contested case hearing by the Commission, the Commission shall review the permit to determine which contested terms, if any, shall be stayed until the Commission takes its final action. If a stayed condition is a modification of a previous permit condition, then such previous condition is in full force and effect until the Commission takes its final action.

This permit and the authorization to discharge shall expire at midnight March 31, 1989. 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 an application dated December 16, 1980 and updated June 26, 1981, and January 17, 1984, and shall supersede any and all Orders of Determination, Stipulation, Final Orders of Determination, or NPDES Permits previously adopted by the Michigan Water Resources Commission.

Issued this 24th day of May 1984, by the Michigan Water Resources Commission, superseding NPDES Permit No. MI 0000787 issued June 6, 1979 with an expiration date of March 31, 1981.

Paul D. Zugger

Reissuance

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Initial Effluent Limitations

During the period beginning upon issuance of this permit and lasting until September 30, 1985, the permittee is authorized to discharge up to one million seventy thousand (1,070,000) gallons per day of treated process wastewater from outfall 001 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) Monthly Average	Discharge Limitations kg/day (lbs/day) Daily Maximum	Other Limitations Monthly Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow, M^3/Day (MGD)					Daily	Report total daily flow
Biochemical Oxygen Demand (BOD_5)						
(May 1-October 31)		454(999)			Daily	24-Hr. Composite
(November 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Total Suspended Solids (TSS)						
(May 1-October 31)		454(999)			Daily	24-Hr. Composite
(November 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Settleable Solids (ml/l)					Daily	Grab
Total Phosphorus (as P)					Weekly	24-Hr. Composite
Outfall Observation*					Daily	Visual

*Any unusual characteristics of the discharge which would not be expected from the above authorized discharge (e.g., turbidity, discoloration, oil film, suspended matter, etc.) shall be reported immediately to the District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: 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, measurements and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

e. In the event the permittee shall require the discharge of water treatment additives, the permittee shall notify the Chief of the Surface Water Quality Division. The permittee shall obtain written approval from the Chief of the Surface Water Quality Division to discharge such additives at a specified level. The permit may be modified in accordance with the requirements of Part II, Section B-4 if a constituent of the additive or additives requires limiting.

2. Final Effluent Limitations

During the period beginning October 1, 1985, and lasting until expiration of this permit, the permittee is authorized to discharge up to one million seventy thousand (1,070,000) gallons per day of treated process wastewater from outfall 001 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) Monthly Average	Discharge Limitations kg/day (lbs/day) Daily Maximum	Other Limitations Monthly Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow, M^3/Day (MGD)					Daily	Report total daily flow
Biochemical Oxygen Demand (BOD_5)						
(May 1-Sept. 30)		454(999)			Daily	24-Hr. Composite
(Oct. 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Total Suspended Solids (TSS)						
(May 1-Sept 30)		454(999)			Daily	24-Hr. Composite
(Oct. 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Settleable Solids (ml/l)					Daily	Grab
Total Phosphorus (as P)					Weekly	24-Hr. Composite
Outfall Observation*					Daily	Visual

*Any unusual characteristics of the discharge which would not be expected from the above authorized discharge (e.g., turbidity, discoloration, oil film, suspended matter, etc.) shall be reported immediately to the District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: 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, measurements and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

e. In the event the permittee shall require the discharge of water treatment additives, the permittee shall notify the Chief of the Surface Water Quality Division. The permittee shall obtain written approval from the Chief of the Surface Water Quality Division to discharge such additives at a specified level. The permit may be modified in accordance with the requirements of Part II, Section B-4 if a constituent of the additive or additives requires limiting.

3. Final Effluent Limitations

During the period beginning upon issuance of this permit and lasting until expiration of this permit, the permittee is authorized to discharge up to five hundred eighty thousand (580,000) gallons per day of noncontact cooling water from outfall 002 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) Monthly Average	Daily Maximum	Other Limitations Monthly Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow, M^3/Day (MGD)					Weekly	Report total daily flow
Temperature (^oF)					Weekly	Direct reading
Outfall Observation*					Daily	Visual

*Any unusual characteristics of the discharge which would not be expected from the above authorized discharge (e.g., turbidity, discoloration, oil film, suspended matter, etc.) shall be reported immediately to the District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

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 6.0 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, measurements and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

e. In the event the permittee shall require the discharge of water treatment additives, the permittee shall notify the Chief of the Surface Water Quality Division. The permittee shall obtain written approval from the Chief of the Surface Water Quality Division to discharge such additives at a specified level. The permit may be modified in accordance with the requirements of Part II, Section B-4 if a constituent of the additive or additives requires limiting.

4. Special Condition - Phosphorus Study

The permittee shall conduct a study to identify and quantify the source of phosphorus contributing to the total phosphorus loading in the mill's process wastewater discharge from outfall 001.

The permittee shall comply with this special condition in accordance with Part I, C-2, Schedule of Compliance.

If, upon review of the results of the study, it is determined that the phosphorus loading from outfall 001 discharge to the Kalamazoo River requires limiting to protect the receiving waters in accordance with applicable water quality standards, the permittee will be so informed. The permit will then be modified in accordance with Part II, B-4.

5. Special Condition - Dissolved Oxygen Monitoring Study

As a condition of this permit, beginning upon issuance of this permit and before October 31, 1985, the permittee shall monitor* outfall(s) 001 & 002 for dissolved oxygen at a frequency and duration specified below. This monitoring is required to demonstrate that the water quality based effluent limit of 3.0 mg/l minimum for dissolved oxygen is consistently being met. The results of the monitoring program shall be submitted by December 31, 1985, to the Chief of the Surface Water Quality Division. If, upon review of the data, it is determined that dissolved oxygen needs to be monitored and/or limited any further to protect the receiving waters in accordance with applicable Water Quality Standards, the permittee will be so informed. The permit will then be modified in accordance with Part II, B-4.

CONSTITUENT	SAMPLE TYPE	SAMPLE FREQUENCY	SAMPLE DURATION
Dissolved Oxygen (mg/l)	Grab	Twice Monthly	12 Months

*The permittee shall submit a monitoring, sampling, and analysis plan to the Chief of the Surface Water Quality Division and receive approval thereof in accordance with Part I, C-3 Schedule of Compliance.

6. Special Condition - Program for Effective Residuals Management (PERM)

In addition to the requirements in Part II, Section A-11 herein, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or groundwaters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee. The program shall include but is not limited to the following:

1.) a management plan (treatment, transportation, storage, disposal, contingency plans);

2.) an inventory of residuals production, storage, and disposal for a period of at least one year;

3.) an analysis of the residuals;

4.) a monitoring program;

5.) if land application is proposed, site maps, soil analyses, application rates, proposed vegetation, and other pertinent information; and,

6.) if groundwater degradation potential exists, a hydrogeologic study.

The program shall be submitted to and receive the approval of the Plainwell District Supervisor of the Surface Water Quality Division in accordance with the Schedule of Compliance Part I, C-4 of this permit. Subsequent to approval, disposal of residuals resulting from treatment of wastewater shall be in accordance with the program. If the permittee desires to make any substantial changes in the program, such proposed changes shall be submitted to and be approved by the Plainwell District Supervisor of the Surface Water Quality Division prior to implementation. Substantial changes shall include but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

7. Special Condition - Notification Requirement

The discharger shall notify the Chief of the Surface Water Quality Division in writing, within 10 days of knowing, or having reason to believe, that any activity has occurred or will occur which would result in the net* discharge of:

1. Detectable levels** of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in CFR 40, Vol. 45, No. 98, Part 122.53, Appendix D, pp. 33454-33455 which were not listed in the application*** or listed in the application at less than detectable levels.

2. Detectable levels** of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information.

3. Any chemical at levels greater than five times the average level reported in the application***.

Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the schedule of compliance.

*The term net shall be defined as the difference between the intake and discharge levels.

**Detectable levels.

For Organic Chemicals:

The analytical level of detection (L.O.D.) shall be defined as three times the peak to peak noise measured on the baseline in an area close to the actual or suspected analyte peak as described in "Guidelines for Data Quality Evaluation in Environmental Chemistry", Analytical Chemistry, Vol. 52, No. 14, December, 1980.

The permittee may substitute the Method Detection Limit (M.D.L.) as described in "Trace Analyses for Wastewaters", Environmental Sciences and Technology, Vol. 15, No. 12, December, 1981, pp. 1426-1435, for the L.O.D.

For Inorganic Chemicals:

Detection levels are established in approved analytical procedures pursuant to Section 304(h) of the Clean Water Act, as amended.

***The application dated December 16, 1980 and updated June 26, 1981 and January 17, 1984.

8. Special Condition

This permit may be modified, or, alternatively revoked and reissued to comply with any applicable standard(s) or limitation(s) promulgated under Section 301(b)(2)(c)(d), 304(b)(2) and 307(a)(2) of the Act, if the effluent standard(s) or limitation(s) so promulgated:

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

(b) control(s) any pollutant not limited in the permit.

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: [A] = applicable to your facility; [NA] = not applicable to your facility

[A] a. MOR Submittal Requirements - The permittee shall submit Monthly Operating Report (MOR) forms to the Data Center of the Michigan Department of Natural Resources for each calendar month of the authorized discharge period(s). The MOR's shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

[NA] b. Retained Self-Monitoring Requirements - The permittee shall maintain a year-to-date log of retained self-monitoring results and provide such log for inspection to the staff of the

- ☐ (1.) Surface Water Quality Division/Groundwater Quality Division of the Michigan Department of Natural Resources.
- ☐ (2.) Environmental Health Services Division, Michigan Department of Public Health
- ☐ (3.) Northern Peninsula Division, Michigan Department of Public Health
- ☐ (4.) Division of Health Facility Licensing & Certification, Michigan Department of Public Health

upon request.

The permittee shall certify in writing to the Chief of the Surface Water Quality Division/Groundwater Quality Division of the Department of Natural Resources, in accordance with the Schedule of Compliance Part I, C- N/A, that:

(1.) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained.
(2.) the flow rate(s) (if part of retained self-monitoring results) from all outfalls have been substantially the same as the flow rate(s) authorized by this permit or if
(3.) the flow rate(s) (if part of retained self-monitoring results) is (are) substantially different from the flow rate(s) authorized by this permit and the permittee shall provide reasons for the difference in flow rates.

[NA] c. Groundwater Monitoring - The permittee shall submit Monthly Operating Report (MOR) forms to the Data Center of the Michigan Department of Natural Resources in accordance with the monitoring requirements set forth in Part I, A- N/A The MOR's shall be postmarked no later than the 10th day of the month following each completed report period.

[NA] d. First Permit - Existing or Proposed Facility - Upon issuance of the first permit for an existing or proposed facility the permittee is exempt from submitting MOR's for a period of ninety (90) days from the date the permit is issued.

[A] e. Permit Reissuance or Modification - For any parameter added to the monitoring requirements as a result of permit reissuance or modification of the current permit, the permittee will be exempt from submitting MOR data for that parameter for a period of ninety (90) days from the date the permit is issued.

3. Definitions

a. The monthly average discharge is defined as the total discharge by weight, or concentration if specified, during the reporting month divided by the number of days in the reporting month that the discharge from the production or commercial facility occurred. When less than daily sampling occurs, the monthly average discharge shall be determined by the summation of the measured daily discharges by weight, or concentration if specified, divided by the number of days during the reporting month when the samples were collected, analyzed and reported.

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 60606.

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 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 continue to operate the installed facilities to achieve the effluent limitations specified for outfalls 001 and 002.

2. The permittee shall achieve compliance with the Phosphorus Study special condition of Part I, A-4 in accordance with the following schedule. All submittals shall be to the Chief of the Surface Water Quality Division.

a. On or before August 31, 1984, submit and receive approval of a study plan detailing the monitoring, sampling, analysis, and quantification plans.

b. On or before February 28, 1985, the permittee shall submit a progress report.

c. On or before April 30, 1985, the final results of the phosphorus study shall be submitted.

3. The permittee shall achieve compliance with the Dissolved Oxygen Monitoring Study special condition of Part I, A-5 in accordance with the following schedule. All submittals shall be to the Chief of the Surface Water Quality Division.

a. On or before October 31, 1984, submit and receive approval of a monitoring, sampling, and analysis plan.

b. On or before December 31, 1985, the permittee shall have completed all monitoring as required.

c. On or before February 28, 1986, the results of the analysis of such monitoring shall be submitted.

4. The permittee shall achieve compliance with the PERM requirements of Part I, A-6 of this permit in accordance with the following schedule. All submittals shall be to the Plainwell District Supervisor of the Surface Water Quality Division.

a. On or before October 31, 1984, submit and receive approval of a "PERM".

b. On or before April 30, 1985, certify in writing that the approved "PERM" has been implemented.

5. 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 statement of compliance or noncompliance. In the latter case, the statement shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next schedule requirement. Failure to submit the written statement is just cause to pursue enforcement action pursuant to the Commission Act and the Part 21 Rules.

ICE APP DUE
JAN 1, 1994
SEP 1 1989

NATURAL RESOURCES COMMISSION
THOMAS J ANDERSON
MARLENE J FLUHARTY
GORDON E GUYER
KERRY KAMMER
ELLWOOD A MATTSON
O STEWART MYERS
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J BLANCHARD Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING
P O BOX 30028
LANSING MI 48909

DAVID F HALES Director

September 1, 1989

CERTIFIED MAIL

Rock-Tenn Company
P.O. Box 4098
Norcross, Georgia 30091

Gentlemen:

SUBJECT: NPDES Permit No. MI0000787
Otsego, Michigan Facility

Your National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the Michigan Department of Natural Resources and the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, Discharge Monitoring Report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, or questions regarding the attached permit or NPDES program should be directed to the following address:

Fred Morley, District Supervisor
621 North Tenth Street
P.O. Box 355
Plainwell, Michigan 49080
Telephone: (616) 685-9886

R1026
3/89

NOTE: All references within this permit made to the Water Quality Division or Chief of the Water Quality Division are to refer to the Surface Water Quality Division or Chief of the Surface Water Quality Division, respectively.

Sincerely,

William E. McCracken

William E. McCracken, P.E.
Chief, Permits Section
Surface Water Quality Division
517-373-8088

Enclosure: Permit

cc: EPA-Region V (2)
208 Agency - West Michigan Regional Planning Commission
Planning and Special Programs Section
Mr. Fred Morley - Plainwell District (2)
Mr. Paul Blakeslee, Regional Supervisor, Region III
Compliance and Enforcement, SWQD
Data Entry, SWQD
Point Source Studies (Grand Rapids District Office)
Files

PERMIT NO. MI0000787

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"),

Rock-Tenn Company
P.O. Box 4098
Nocross, Georgia 30091

is authorized to discharge from a facility located at

431 Helen Street
Otsego, Michigan 49078

designated as Rock-Tenn Co

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit takes effect on November 1, 1989. Any person who feels aggrieved by this permit may file a sworn petition with the Commission, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Commission may reject any petition filed more than 60 days after issuance as being untimely. Upon granting of a contested case to the applicant, the Commission shall review the permit to determine which contested term shall be stayed until the Commission takes its final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Commission determines the contested condition shall be stayed, then such previous condition remains in effect until the Commission takes final action. During the course of any administrative proceeding brought by a person other than the applicant, the conditions of this permit will remain in effect, unless the Commission determines otherwise.

This permit and the authorization to discharge shall expire at midnight June 30, 1994. 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 an application submitted on December 21, 1988. On its effective date this permit shall supersede NPDES Permit No. MI0000787, expiring March 31, 1989.

Issued this 17th day of August, 19 89, by the Michigan Water Resources Commission.

Paul D. Zugger
Executive Secretary

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations, Outfall 001

During the period beginning on the effective date of this permit and lasting until the date of expiration, the permittee is authorized to discharge a maximum of two million (2,000,000) gallons per day of treated process wastewater and stormwater from outfall 001 to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations lbs/day Monthly Average	Discharge Limitations lbs/day Daily Maximum	Discharge Limitations Other Limitations Monthly Average	Discharge Limitations Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	Monitor				Daily	Report Total Daily Flow
Biochemical Oxygen Demand (BOD_5)						
May 1-Sep 30	—	999	--	--	Daily	24-Hr Composite
Oct 1-Apr 30	650	1300	--	--	Daily	24-Hr Composite
Total Suspended Solids						
May 1-Sep 30	—	999	--	--	Daily	24-Hr Composite
Oct 1-Apr 30	650	1300	--	--	Daily	24-Hr Composite
Total Phosphorus (as P)	16.7	--	--	--	Weekly	24-Hr Composite
Outfall Observation	Monitor				Daily	Visual
			Daily Minimum	Daily Maximum		
pH (Standard Units)			6.5	9.0	Daily	Grab

a. The receiving stream shall contain no unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits as a result of this discharge.

b. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

PART I

Section A.

c. Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids or deposits) shall be reported immediately to the Plainwell District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

d. In the event the permittee shall require the discharge of water treatment additives in addition to any previously approved by the Chief of the Surface Water Quality Division, the permittee shall notify the Division Chief. Written approval from the Chief of the Surface Water Quality Division to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. The permit will be modified in accordance with the requirements of Part II.B.4 if a constituent of the additive or additives requires limiting.

PART I

Section A.

2. Final Effluent Limitations, Outfall 002

During the period beginning on the effective date of this permit and lasting until the date of expiration, the permittee is authorized to discharge a maximum of one million (1,000,000) gallons per day of noncontact cooling water from outfall 002 to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations				Monitoring Requirements	
	lbs/day		Other Limitations			
Effluent Characteristic	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor				Daily	Report Total Daily Flow
Total Phosphorus (as P)	1.0 mg/l				Weekly	Grab
Outfall Observation	Monitor				Daily	Visual

a. The receiving stream shall contain no unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits as a result of this discharge.

b. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

c. Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids or deposits) shall be reported immediately to the Plainwell District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

d. In the event the permittee shall require the discharge of water treatment additives in addition to any previously approved by the Chief of the Surface Water Quality Division, the permittee shall notify the Division Chief. Written approval from the Chief of the Surface Water Quality Division to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. The permit will be modified in accordance with the requirements of Part II.B.4 if a constituent of the additive or additives requires limiting.

e. 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.

PART I

Section A.

3. Special Condition - Program for Effective Residuals Management (PERM)

In addition to the requirements in Part II.A.11 herein, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or groundwaters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee. The program shall include but is not limited to the following:

1) a management plan (treatment, transportation, storage, disposal, contingency plans);

2) an inventory of residuals production, storage, and disposal for a period of at least one year;

3) an analysis of the residuals;

4) a monitoring program;

5) if land application is proposed, site maps, soil analyses, application rates, proposed vegetation, and other pertinent information; and,

6) if groundwater degradation potential exists, a hydrogeologic study.

The program shall be submitted to and receive the approval of the Plainwell District Supervisor of the Surface Water Quality Division in accordance with the Schedule of Compliance Part I.C.2 of this permit. Subsequent to approval, disposal of residuals resulting from treatment of wastewater shall be in accordance with the program. If the permittee desires to make any substantial changes in the program, such proposed changes shall be submitted to and be approved by the Plainwell District Supervisor of the Surface Water Quality Division prior to implementation. Substantial changes shall include but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

PART I

Section A.

4. Special Condition - Reopener Clause

This permit may be modified or, alternatively, revoked and reissued to comply with any applicable standard(s) or limitation(s) promulgated under Section 301(b)(2)(c)(d), 304(b)(2) and 307(a)(2) of the Act, if the effluent standard(s) or limitation(s) so promulgated:

a. is(are) either different in condition or more stringent than any effluent limitation in the permit; or

b. control(s) any pollutant not limited in the permit.

5. Special Condition - Notification Requirement

The discharger shall notify the Chief of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of:

a. Detectable levels* of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, which were not acknowledged in the application** or listed in the application at less than detectable levels.

b. Detectable levels* of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information.

c. Any chemical at levels greater than five times the average level reported in the application**.

Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the schedule of compliance.

*The detectable level shall be defined as the Method Detection Limit (MDL) as given in Appendix B to Part 136, Federal Register, Vol. 49, No. 209, October 26, 1984, pp. 43430-31.

**The application submitted on December 21, 1988.

6. Discharge to the Groundwaters

The reissuance of this permit does not authorize any discharge to the groundwaters. Such discharge must be authorized by a groundwater discharge permit issued pursuant to Act 245, Public Acts of 1929, 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:

a. DMR Submittal Requirements - The permittee shall submit Discharge Monitoring Report (DMR) forms to the Michigan Department of Natural Resources, Surface Water Quality Division, Data Entry Unit, P.O. Box 30028, Lansing, Michigan, 48909, for each calendar month of the authorized discharge period(s). The DMRs shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

3. Definitions

a. The monthly average discharge is defined as the total discharge by weight, or concentration if specified, during the reporting month divided by the number of days in the reporting month that the discharge from the production or commercial facility occurred. When less than daily sampling occurs, the monthly average discharge shall be determined by the summation of the measured daily discharges by weight, or concentration if specified, divided by the number of days during the reporting month when the samples were collected, analyzed and reported.

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 P.O. Box 30028, Lansing, Michigan, 48909.

e. The Chief of the Surface Water Quality Division's mailing address is P.O. 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.

PART I

Section B.

5. Recording 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 Discharge Monitoring 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.

PART I

C. SCHEDULE OF COMPLIANCE

1. The permittee shall continue to operate the installed facilities to achieve the effluent limitations specified for outfalls 001 and 002.

2. The permittee shall achieve compliance with the "Program for Effective Residuals Management" (PERM) requirements specified in Part I.A.3, in accordance with the following schedule. All submittals shall be to the Plainwell District Supervisor of the Surface Water Quality Division.

a. On or before January 31, 1990, submit and receive approval of a "PERM".

b. On or before April 30, 1990, certify in writing that the approved "PERM" has been implemented.

3. Reapplication

If the discharges authorized by this permit are expected to continue beyond the expiration date of this permit, the permittee is required to submit an application for reissuance to the Chief of the Surface Water Quality Division on or before January 1, 1994.

4. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit to the Chief of the Surface Water Quality Division either a report of progress or, in the case of specific actions being required by identified dates, a written statement of compliance or noncompliance. In the latter case, the statement shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement. Failure to submit the written statement is just cause to pursue enforcement action pursuant to the Commission Act and the Part 21 Rules.

PART II

A. MANAGEMENT REQUIREMENTS

1. Duty to Comply

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.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of Public Acts 245, of 1929, as amended, and/or PL 92-500, as amended, and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

2. Change of Conditions

Any anticipated facility expansion, production increases, or process modification which will result in new, different, or increased discharges of pollutants must be reported by submission of a new application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Chief of the Surface Water Quality Division. Following such notice, the permit may be modified to specify and limit any pollutant not previously limited.

3. Containment Facilities

The permittee shall provide 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. This requirement is included pursuant to Section 5 of the Michigan Water Resources Commission Act 245, P.A. of 1929, as amended, and the Part 5 Rules of the General Rules of the Commission.

4. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified by the Michigan Water Resources Commission, as required by Section 6a of the Michigan Act.

5. 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 Chief of the Surface Water Quality Division 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 the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

PART II

Section A.

6. 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 waters or groundwaters of the state by calling the Department of Natural Resources 24-hour Emergency Response telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-8166); 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. This requirement is included pursuant to Section 5 of the Michigan Water Resources Commission Act 245, P.A. of 1929, as amended.

7. Facility Operation

The permittee shall at all times properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

8. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

9. 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, personal injury, 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.

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".

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.

PART II

Section A.

11. 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.

12. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Chief of the Surface Water Quality Division by telephone within 24 hours of becoming aware of such conditions and within five (5) days, provide in writing, the following information:

a. That an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. That the permitted wastewater treatment facility was, at the time, being properly operated;

c. That the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

13. Any requirement of this permit which is included under the unique terms of the Water Resources Commission, Act 245, P.A. of 1929, as amended, and rules promulgated thereunder, is not enforceable under the Federal Clean Water Act regulations.

PART II

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 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 emanates, 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.

PART II

Section B.

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.9, pursuant to 40 CFR 122.41(m)) and "Upset" (Part II.A.12, pursuant to 40 CFR 122.41(n)), 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 except as are exempted by federal regulations.

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 violation of any 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, if 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 (Miss Dig)

The issuance of this permit does not exempt the permittee from giving notice to public utilities and complying with each of the requirements of Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws, when constructing facilities to meet the terms of this permit.

QUESTION 9

CHAMPION/ST. REGIS MERGER TEAM VISIT
BATTLE CREEK MILL
OCTOBER 18, 1984

AGENDA

			Page
8:00 - 8:15	MILL RIDING TOUR		
8:15 - 9:30	MILL WALKING TOUR		
	OPERATION DATA SHEET		1-2
9:30 - 9:40	ORGANIZATION/PERSONNEL	WIM	3-8
9:40 - 9:45	SALES/MANUFACTURING INTERACTION	RMS & WIM	9
	BATTLE CREEK HISTORY		10-16
9:45 - 10:15	PRODUCTS OF BATTLE CREEK	WIM & RMS	17-38
	PERFORMANCE OF THE ANGELL MILL	WIM	39-47
	COMPETITIVE ANALYSIS		48-53
10:15 - 10:30	MANUFACTURING	JAC	
	. Organization		54-55
	. Major Problems		56-58
	. Strategy for Improvement		
10:30 - 10:45	CONTROLLER'S DEPARTMENT	CJH	
	. Organization		59
	. Product Profitability		60-61
	. 1985 Projected Performance		62-64
10:45 - 11:00	ENGINEERING MAINTENANCE	MSS	
	. Organization		65-71
	. Capital Procedures		72
	. Water Availability		73
	. Bricks, Mortar & Hardware		74-75
	. 1985 Capital Needs		76-77
	. Future Capital Needs		78
	. Appendices		
	1973 Appraisals & Update		79-101
	Machine Schematic		102
	Beater Room Flow Sheets		103-10

			Page
11:00 - 11:10	PERSONNEL	EAB	
	. Organization		109
	. Labor Management Climate		110
	. OSHA - Safety		111-118
11:10 - 11:25	MATERIALS MANAGEMENT	JHM	
	. Organization		119-120
	. Materials		121-135
	. Transportation		136
	. Cost Reduction Opportunities		137-138
11:25 - 11:30	TECHNICAL	WIM	
	. Organization		139-140
	. Environmental		141-150
11:30 - 12:00	SALES	RMS	
	. Organization		151-152
	. Comments		153-154

DATA SHEET

Mill - Battle Creek, MI 49016
616 963-5511

Products - 10 mil (32lbs/MSF) to 26 mil (99 lbs/MSF) Recycle Board.

Production - 1984 Plan - 250T/D Total
235T/D Prime
1984 YTD (9 mos.) - 228.5T/D Total
208.5T/D Prime

RAW MATERIALS

Recycled News, CPO, Manifold Ledger, Double Lined Corrugated, Boxboard and various printed and unprinted Bleached Krafts.

POWER HOUSE

2 Springfield Boilers - installed in 1948, capacity 70,000 lbs/hr. each, 400 lbs. steam, 525 degree superheat and gas or oil fired.

1 Elliott Turbine Generator, installed in 1948.

Mill generates 20-24% of own power. Capacity about 50%.

STOCK PREP

Top Liner

1 16' Hydropulper - Black Clawson
2 High Density Cleaners - Escher Wyss
1 Deflaker - Bird
1 Barrier Screen - Bird
2 Refiners - (1 - 24" Beloit & 1 - 20" Sprout)

Back Liner

1 14' Hydropulper - Black Clawson
2 High Density Cleaners - Black Clawson
1 Seprafiner - Lodding
1 Refiner - 24" Beloit
1 Deflaker - Bird

Filler System

1 20' Hydropulper - Black Clawson
1 Float Purge System - Custom Design (1984), Hi Density Cleaner, Seprafiner and Johnson Screen.
3 High Density Cleaners - Bird
2 Pressure Screens - Bird
1 Deflaker - Bird
2 Johnson Screens (1-RPM 1 - Johnson)
4 Thickners - Shartels
2 Refiners (1-Beloit 34" 1 - Sprout 24")

BOARD MACHINE - 130" Trim

Manufacturer - Beloit, 146" wire. Rebuilt in 1978.
Maximum Current Speed 946 ft./minute.
Design production with current feed system 350 TPD, Nominal 250T/D.
5 Head Boxes - (1- Strataflow, 4 - single flow)
5 Bel Bond dewatering units
6 Pressure screens

Board Machine continued

Dryer Section

82 - 60" dryers - Beloit
1 Drive - Westinghouse turbine, 1200 H.P.
3 Calender Stacks - Beloit design

Coating Section

1 Trailing Blade Coater - Rice Barton
1 Air Knife Coater - Black Clawson
1 Drying oven - Ross

Winder

1 Beloit, 1948, 130" max. trim.

Rewinder

1 Beloit, 1948, two drum, max. speed 2400 ft./minute.

Auxiliary Equipment

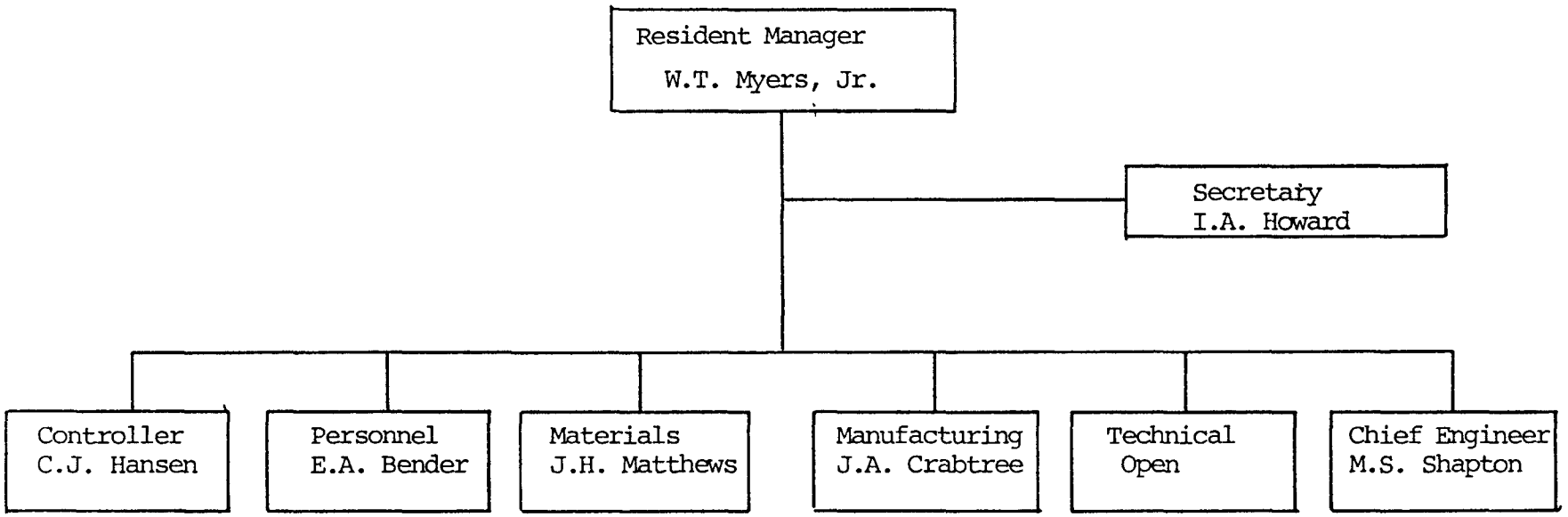
1 Clark Aiken sheeter

Fiber Recovery

1 1200 gpm Sveen Pedersen

1 800 gpm Sveen Pedersen

ORGANIZATION CHART
ANGELL MILL 1984



1984 ORGANIZATION CHART
ST. REGIS CORPORATION
ANGELL STREET MILL

Position	Present Status 10/16/84
Resident Manager	W.T. Myers, Jr.
Secretary (N)	I.A. Howard
Controller	C.J. Hansen
Assistant Controller	Open
Sr. Payroll Clerk (N)	P.K. Rozell
Sr. Billing Clerk (N)	J.M. Head
Sr. Accounts Payable & Inventory Clerk (N)	M.J. Hendrickson
Accounts Payable Clerk (N)	P.A. Petrow
Computer Operator/ Programmer (N)	D.L. Bailey
Personnel Manager	E.A. Bender
Secretary (N)	I. Miller
Manager/Materials Logistics	J.H. Matthews
Traffic/Scheduling Supervisor	C.A. Hommerding
Shipping/Finishing Supervisor	R.L. Converse
Utility Foreman	P.R. Danis
Receiving/Skid Shop Foreman	O.R. Britton
Industrial Buyer	R.L. Bay
Receiving Clerk	Open
Manufacturing Manager	J. Alan Crabtree
Production Record Clerk (N)	J.E. French
Machine Supervisor	C.M. Roberts
Tour Foreman	Open
Tour Foreman	J.B. Adrianson
Tour Foreman	K.M. Buck
Tour Foreman	D.W. Blanchard
Plant Engineer	M.S. Shapton
Maintenance Superintendent	T.G. Thomas
Maintenance Foreman	N.H. Decker
Maintenance Supervisor	D. Opala
Project Engineer	J.L. Orns
Associate Project Engineer	E.D. Geibig
Associate Project Engineer	Open
Technical Superintendent	Open
Asst. Tech. Superintendent - Quality	M.D. Minger
Quality Assurance Inspector (N)	C.K. Lewis
Quality Assurance Inspector (N)	H.G. Markos
Quality Assurance Inspector (N)	B.E. Moore
Quality Assurance Inspector (N)	L.J. Payton
Asst. Tech. Superintendent - Process	P.H. Stofer

Technical Shift Supervisor	T.G. White
Technical Shift Supervisor	M.D. Holt
Technical Shift Supervisor	Open
Sales Manager	R.M. Salvatore
Secretary (N)	V.A. Leonard
Sales Person	Open
Sales Person	Open
Sales Coordinator	G.E. Phillips
Sales Coordinator	C.S. Mackaluso

PERSONNEL COUNT

Exempt	26
Non Exempt	14
Open	8
Total	48

HISTORY

TAKEN FROM BATTLE CREEK ENQUIRER & NEWS PUBLISHED April 19, 1974

The St. Regis Paper Co., one of the nation's largest papermakers, is seeking to acquire the Michigan Carton Co. through a stock exchange.

The board of directors of Michigan Carton, a 65-year-old Battle Creek firm, has recommended to stockholders that the proposed offer of exchange be accepted.

The merger would be effected with the transfer of 80 percent of the Michigan Carton stock. The exchange will be 1.35 shares of common stock of St. Regis for each share of Michigan Carton stock.

The St. Regis offer is good until May 6, the next date the firm will pay a dividend to stockholders of record.

Negotiations between Michigan Carton and St. Regis officials have continued since mid-December.

Lawrence G. Fell, chairman of the board of Michigan Carton, has informed stockholders that all the board members have indicated they intend to deposit their stock in acceptance of the St. Regis offer.

The Michigan National Bank is serving as the depository of the Michigan Carton stock.

Dan Int-Hout, Michigan Carton Co. president, said that the directors hold approximately 50 per cent of the outstanding 400,000 shares being sought by St. Regis.

Fell said that combining the ownership of the two companies should result in economic benefits to both companies.

If the exchange is consummated, St. Regis will operate Michigan Carton as a subsidiary under the present Michigan Carton management.

Included in the package is the acquisition of Litho Services, Inc., a wholly owned subsidiary of Michigan Carton.

The local company employs approximately 850 persons. The firm operates two paper mills here. Michigan Carton is one of the nation's leading independent manufacturers of boxboard and folding cartons.

St. Regis is one of the world's largest manufacturers of pulp, paper and paperboard, packaging and converted products and construction products. St. Regis has a plant in Marshall.

St. Regis ended 1973 with net sales of $1.13 billion.

Fell said that exchanging Michigan Carton shares for St. Regis stock will give the stockholder a more widely diversified investment in an integrated company on an international scope.

Each Michigan Carton stockholder is to receive a letter from George J. Kneeland, chairman of the St. Regis board and chief executive officer.

Also included is a prospectus of the St. Regis organization. It is a detailed financial statement and introduces the St. Regis management and directors.

St. Regis has investments in 20 companies operating in 30 counties. The corporation has 111 operating plants worldwide. The companies employ 29,000 persons, of whom 26,000 are in the United States. The prospectus said that 73 per cent of St. Regis employes are unionized, the majority represented by the United Paperworkers International Union.

St. Regis common stock closed on the New York Stock Exchange Thursday at $32½ a share. Michigan Carton stock, inactive for more than 90 days, had been selling for between $13 and $15 a share, Int-Hout said.

TUESDAY

B.C. schools name two lead teachers /B-1

Bearcats get varsity soccer /C-1

Your Neighbors: Pivotal time for Camp Fire /D-1

Battle Creek Enquirer

January 17, 1984

Battle Creek, Mich. A Gannett Newspaper 25 cents

St. Regis may sell Fountain plant

By STAN KAUFMAN
Staff Writer

St Regis Paper Co has reach tentative agreement to sell its Fountain Street paperbox mill and folding carton operation to Field Container Corp of Elk Grove Village, Ill

The proposed sale does not involve St Regis' Angell Street boxboard mill, where 200 persons are employed

If the sale is not consumated by March 16, the Fountain Street mill and folding carton plant would be closed indefinitely, said Albert M Predmore, a corporate vice president

Completion of the sale is contingent on Field Container obtaining a new labor agreement with the four unions that represent the 375 production workers at the Fountain Street plant and approval by the St Regis Board of Directors

Predmore said an agreement can be reached on other unresolved issues between the company and the proposed buyers. He did not elaborate

After Predmore met this morning with union leaders to explain the sale, Rolland Frasts, president of Local 705 of the Graphic Communications International Union, said his group is eager to discuss the future of the union and the company with the Field representatives

Today's announcement of the pending sale also was made to employees, customers, suppliers, Battle Creek officials and Gov James J. Blanchard.

Details of the sale and the amount of money involved have not been made public

Field Container is a 40-year-old family-owned operation, founded by Eli Field, the company chairman, in Chicago

Larry Field, president of the company, said today that if the sale goes through his company plans to spend about $5 million over a five year period to upgrade the facilities

Field Container employs [illegible] persons at five plants in four states

"We plan to meet with the union people as soon as possible" [illegible] said "Yes we will ask some concessions We plan to meet th

See SELL, A-2

Sell

Continued from A-1

Thursday with the salary people."

"We're very excited about this proposed buy," Field said. "The Battle Creek plant is under utilized and we can throw a lot of volume to it.

"St. Regis' decision to sell the carton operation," Predmore said, "is based on the lack of profitability, an assessment of capital dollars required to bring these facilities to a competitive level and forecasts which project little growth in future demand for the products of the two facilities coupled with excess industry capacity."

He said that St. Regis has studied alternatives for its Battle Creek operation with a careful analysis of the economics for the continued operation of all three facilities.

"The negative findings of these studies, plus extensive 1983 operating losses, have forged decisions leading to today's announcement," Predmore said.

Resident Manager W. Thomas Myers and Predmore said that progress on production efficiency, product quality and customer acceptance at the Angell Street plant — where recycled boxboard is manufactured —has been encouraging.

"We're convinced that our new multi-ply forming technology can be highly competitive and that markets for the product are there," Predmore said. "We now need to devote more attention to increasing saleable production levels and to containing manufacturing costs.

"But our announcement today is that the Angell Street mill can be a success and that we know how to accomplish that success," he said.

Predmore said that if the sale to Field Container is not completed, St. Regis will establish a comprehensive program to assist laid off workers. He said counseling sessions, a regional job fair and local and state employment agencies would be used to help workers find new jobs.

"We feel this is a logical move (to sell the Fountain Street operations) and it is being made at the right time," said John Gould Jr., St. Regis corporate manager of public affairs.

"We're not out of the woods yet," he said. "But we are encouraged that we will have a continued presence in Battle Creek We're very enthused with the products coming out of the (Angell Street) mill.

"We're also very excited for Field Container which has a good product mix," he said.

Predmore said that at the Angell Street plant "productivity, product quality and acceptance in the marketplace have increased steadily over the last six months.

"Conversely, the profit and production results from the last several years at the Fountain Street mill and folding carton plant, plus limitations of the existing equipment, led St. Regis to conclude there is no future within the company for the two (Fountain Street) facilities.

Battle Creek is the only place that St. Regis produces cartons for many of the nation's top industries, including Battle Creek cereal makers.

The three other St Regis divisions make kraft products, printing papers and newsprint at eight plants. The Angell Street mill is St Regis' only plant producing recycled boxboard.

79 E. Fountain Street
Battle Creek, Mich. 49016 963-5511

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FOR IMMEDIATE RELEASE
JANUARY 17, 1984

BATTLE CREEK (MICH) - ST. REGIS CORPORATION TODAY ANNOUNCED THAT IT HAS REACHED A TENTATIVE AGREEMENT TO SELL ITS FOUNTAIN STREET PAPERBOARD MILL AND FOLDING CARTON PLANT IN BATTLE CREEK, MICHIGAN TO FIELD CONTAINER CORPORATION, ELK GROVE VILLAGE, ILLINOIS. IN MAKING THE ANNOUNCEMENT, THE COMPANY SAID IT WOULD CONTINUE TO OPERATE THE ANGELL STREET PAPERBOARD MILL IN THAT SAME CITY.

COMPLETION OF THE SALE IS NOW MAINLY CONTINGENT ON FIELD CONTAINER OBTAINING A NEW LABOR AGREEMENT WITH THE FOUR UNIONS REPRESENTING HOURLY EMPLOYEES. IT APPEARS THAT AGREEMENT CAN BE REACHED ON OTHER UNRESOLVED ITEMS BETWEEN THE PARTIES, ST. REGIS SAID. THE FINAL SALE WILL REQUIRE APPROVAL BY THE ST. REGIS BOARD OF DIRECTORS.

-MORE-

THE COMPANY'S ANNOUNCEMENT WAS MADE TO EMPLOYEES, CUSTOMERS, SUPPLIERS AND BATTLE CREEK OFFICIALS BY ALBERT M. PREDMORE, VICE PRESIDENT, RECYCLED FIBER DIVISION, AND W. THOMAS MYERS, RESIDENT MANAGER. NO FURTHER DETAILS ON THE PENDING SALE ARE AVAILABLE.

AT THE SAME TIME, PREDMORE SAID THAT IN THE EVENT THE SALE IS NOT COMPLETE ON OR BEFORE MARCH 16, THE FOUNTAIN STREET MILL AND FOLDING CARTON PLANT WILL BE PERMANENTLY CLOSED.

THIS DECISION WAS BASED ON ITS LACK OF PROFITABILITY, AN ASSESSMENT OF THE CAPITAL DOLLARS REQUIRED TO BRING THESE FACILITIES TO A COMPETITIVE LEVEL AND FORECASTS WHICH PROJECT LITTLE GROWTH IN FUTURE DEMAND FOR THE PRODUCTS OF THE TWO FACILITIES COUPLED WITH CONTINUED EXCESS INDUSTRY CAPACITY.

ACCORDING TO PREDMORE, OVER THE PAST YEAR ST. REGIS HAS STUDIED MANY ALTERNATIVES FOR BATTLE CREEK AND CAREFULLY ANALYZED THE ECONOMICS OF THE CONTINUED OPERATION OF ALL THREE FACILITIES. THE NEGATIVE FINDINGS OF THESE STUDIES, PLUS EXTENSIVE 1983 OPERATING LOSSES, HAVE FORCED DECISIONS LEADING TO TODAY'S ANNOUNCEMENT.

IN COMMENTING ON THE PLAN TO CONTINUE TO OPERATE THE ANGELL STREET MILL, PREDMORE AND MYERS NOTED THAT CONTINUED PROGRESS ON PRODUCTION EFFICIENCY, PRODUCT QUALITY AND CUSTOMER ACCEPTANCE AT THE ANGELL STREET MILL HAVE BEEN ENCOURAGING. AT ANGELL STREET, THE COMPANY MANUFACTURES RECYCLED BOXBOARD ON A PAPER MACHINE WHICH WAS REBUILT IN 1979 AND FEATURES A NEW MULTI-PLY FORMING TECHNOLOGY.

-MORE-

"WE'RE CONVINCED THAT THIS TECHNOLOGY CAN BE HIGHLY COMPETITIVE AND THAT MARKETS FOR THE PRODUCT ARE THERE," PREDMORE SAID. "WE NOW NEED TO DEVOTE MORE ATTENTION TO INCREASING SALABLE PRODUCTION LEVELS AND TO CONTAINING MANUFACTURING COSTS. BUT OUR ANNOUNCEMENT TODAY IS THAT THE ANGELL MILL CAN BE A SUCCESS AND THAT WE KNOW HOW TO ACCOMPLISH SUCH SUCCESS."

OF THE 575 PEOPLE EMPLOYED IN BATTLE CREEK, APPROXIMATELY 200 ARE AT ANGELL STREET, AND THE REMAINING 375 ARE AT THE FOUNTAIN STREET COMPLEX.

PREDMORE SAID THAT IN THE EVENT THE SALE IS NOT ACCOMPLISHED, ST. REGIS WILL PUT IN PLACE A COMPREHENSIVE PROGRAM TO ASSIST LAID OFF EMPLOYEES.

"WE'LL HOLD COUNSELING SESSIONS, SPONSOR A REGIONAL JOB FAIR AND WORK WITH LOCAL AND STATE EMPLOYMENT AGENCIES TO EASE THE BURDEN THE EMPLOYEES FACE IN FINDING NEW WORK," PREDMORE SAID.

COMMENTING ON THE ANGELL STREET OPERATIONS, HE SAID: "PRODUCTIVITY, PRODUCT QUALITY AND ACCEPTANCE IN THE MARKETPLACE HAVE INCREASED STEADILY OVER THE LAST SIX MONTHS."

"THIS IMPROVEMENT, COUPLED WITH AN ANALYSIS OF THE CHANGES IN DEMAND BY THE FOLDING CARTON INDUSTRY FOR AN IMPROVED RECYCLED BOXBOARD PRODUCT, HAS LED ST. REGIS TO CONCLUDE THAT THE FUTURE FOR PRODUCTS OF THE ANGELL MACHINE IS VERY STRONG. THERE IS AN EXCELLENT POTENTIAL FOR THE COMPANY'S CONTINUED INVOLVEMENT."

-MORE-

CONVERSELY, HE SAID, THE PROFIT AND PRODUCTION RESULTS FOR THE LAST SEVERAL YEARS AT THE FOUNTAIN STREET MILL AND THE FOLDING CARTON PLANT PLUS THE LIMITATIONS OF THE EXISTING EQUIPMENT LED ST. REGIS TO CONCLUDE THERE IS NO FUTURE WITHIN THE COMPANY FOR THESE TWO FACILITIES.

-#-

ST. REGIS CORPORATION ANGELL MILL
AND ITS PRODUCTS
OCTOBER 18, 1984

The products which are produced at the St. Regis Corporation Battle Creek Mill are different from those manufactured by other mills in the Kraft/ Recycled Division and this paper describes Angell products and how they are produced.

Fig. 1 The Mill is located in Battle Creek. The aerial photograph shows the layout of the buildings. The newer ones in the front housing the machine were constructed around 1948; while the older ones in the rear were built around the turn of the century. The older buildings store raw materials and finished goods. Note that the City of Battle Creek surrounds the Mill and the river in the background provides the water for the operation. This mill is located on a street by the name of Angell and over the years has picked up the name of the Angell Mill.

Fig. 2 Sales has capitalized on this name and the products are known as Angel Board,® denoting product whiteness and purity.

What is Angel Board? Angel board is a packaging material which is constructed of multiple (4-6) layers of recycled fibers which are wet bonded together. Angel board can be coated with a trailing blade, and air knife and/or calender stack wet boxes.

In order to understand the unique properties of Angel board, one must know what people in the carton industry are interested in with respect to recycled board characteristics.

Fig. 3 The next figure lists the major properties by which recycled board is characterized. Mileage relates to the weight of the product per caliper and just like customers in the bag or printing industry, recycled board customers are interested in using the lightest weight paperboard that will protect their product. Stiffness governs carton compressability, bulge and case strength, and as a result it is almost always specified. Ring crush, corner crush, and carton compressability all relate to the performance of a board in a packaging line and in the final package.

Figure 1

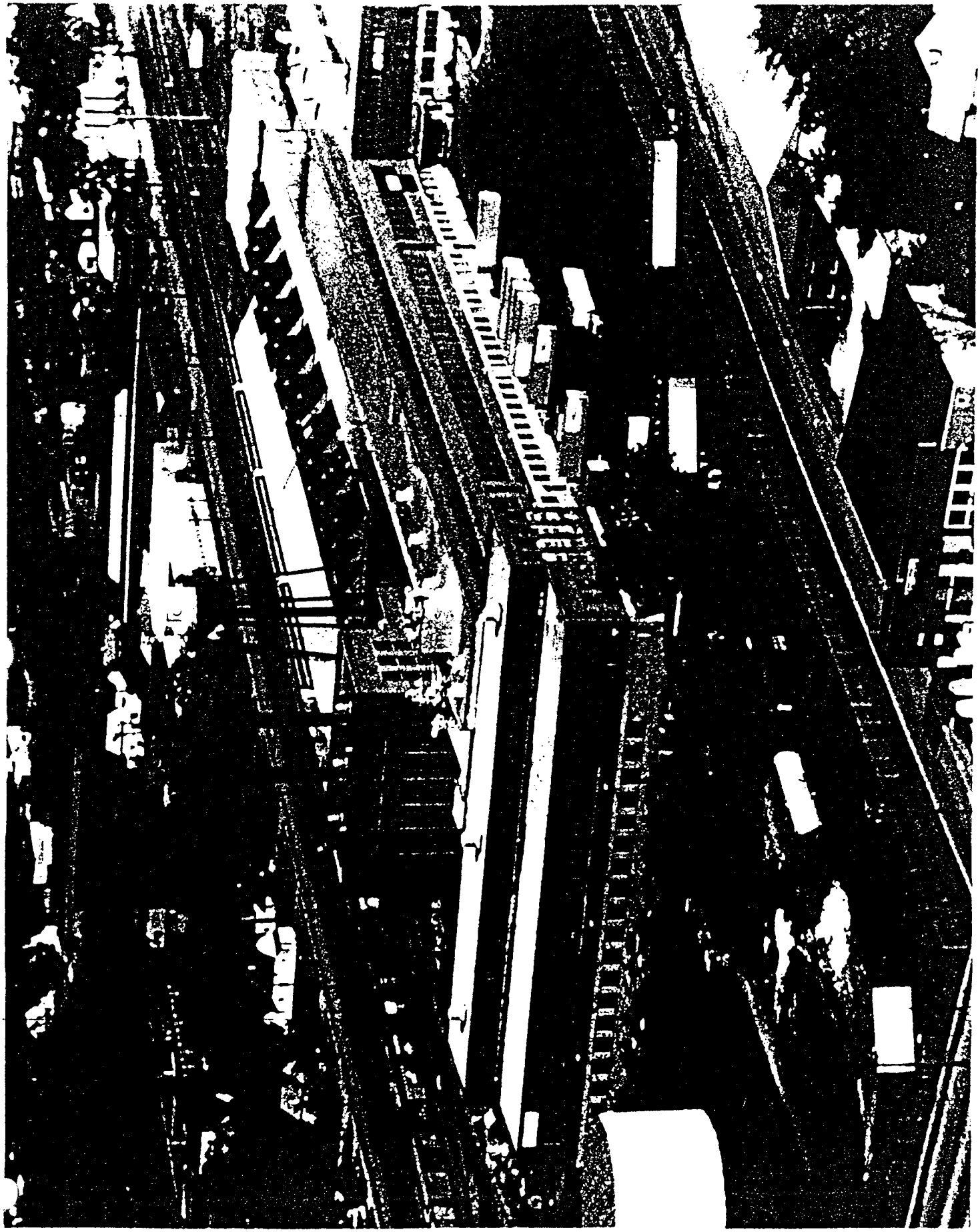


Figure 2

ST REGIS INTRODUCES...
RECYCLED FIBER DIVISION
ANGELITE®
ANGELBRITE®
100% RECYCLED FOLDING BOXBOARD

PROPERTIES REQUIRED OF RECYCLED BOARD

- Mileage
- Stiffness
- Ring Crush
- Corner Crush
- Pick Resistance
- Gloss Ink
- Printability
- Glueability
- Ply Bond Strength
- Carton Compressability
- Flatness

Figure 3

Printing properties such as printability, pick resistance, and gloss ink holdout determine how well the board advertises the customer's product. Plybond strength is also important in printing as too little strength between the plys will result in delamination on offset presses where high-tack inks are used.

Flatness and gluability are somewhat subjective tests, but they govern the productivity which a customer can achieve on his packaging line. Curl in the wrong direction can cause serious jam ups on the lines; whereas poor gluability and curl can cause cartons to spring open after gluing in the packaging operation.

Angel board can be produced with very low density compared to other recycled boards. The products from the Angell mill which compete with other recycled boards are called Angelite and are characterized by a clean gray back surface and a very bright (68-70 G.E.) glossy top surface. In the next figure, the weight of Angelite is compared with
Fig. 4 that of Clay Coated News, the standard product in the Recycled Board Industry.
Note that at any given caliper the basis weight of Angelite measured in pounds per thousand square feet is about 10% lower than the weight of the competitive product. You will note that when the industry puts additional kraft in the back liner the weight or density of the board increases even further.

If customers could use Angelite on a caliper for caliper basis with conventional board, they would obtain a substantial savings (more than 10%) in basis weight. This is not always possible because the stiffness of the Angell board at a given caliper is not quite comparable to that
Fig. 5 of the competition. Because stiffness is a function of caliper to the third power, the fact that the Angel board is lighter than the competitive boards does not result in a drastic difference in stiffness. Actual packaging studies have been carried out by several of our customers and they have found a strong correlation between package protection and board stiffness. Such a correlation is shown in the
Fig. 6 next figure. As a result of these studies, Angelite normally is specified in calipers 2 mils higher than the competition for calipers over 16 pt. Under 16 pts., in many cases, the customers have found that our product can compete on a caliper for caliper basis. As

Figure 4

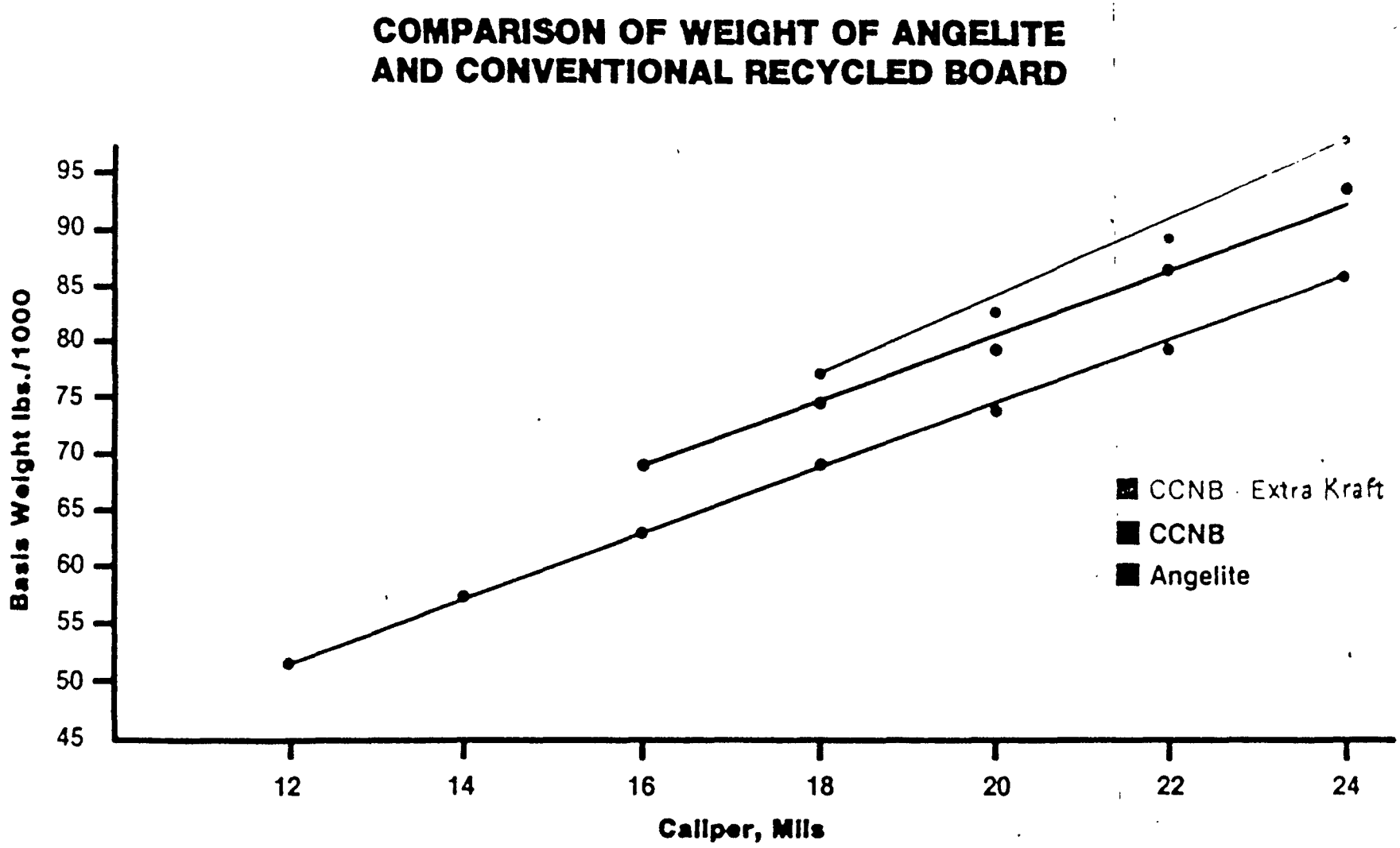

COMPARISON OF WEIGHT OF ANGELITE
AND CONVENTIONAL RECYCLED BOARD
Basis Weight lbs./1000
95
90
85
80
75
70
65
60
55
50
45
12
14
16
18
20
22
24
Caliper, Mils
CCNB · Extra Kraft
CCNB
Angelite

Figure 5

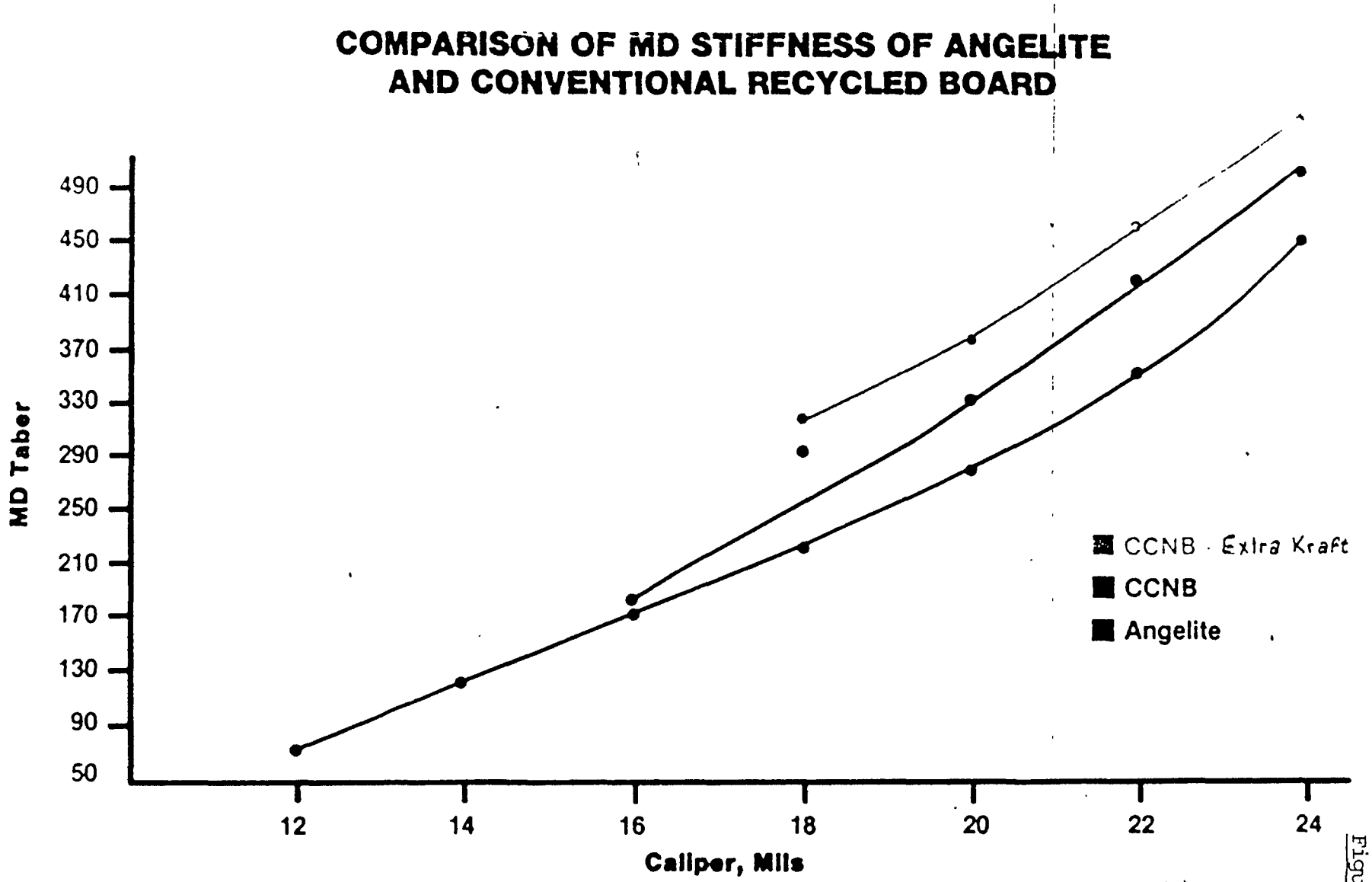
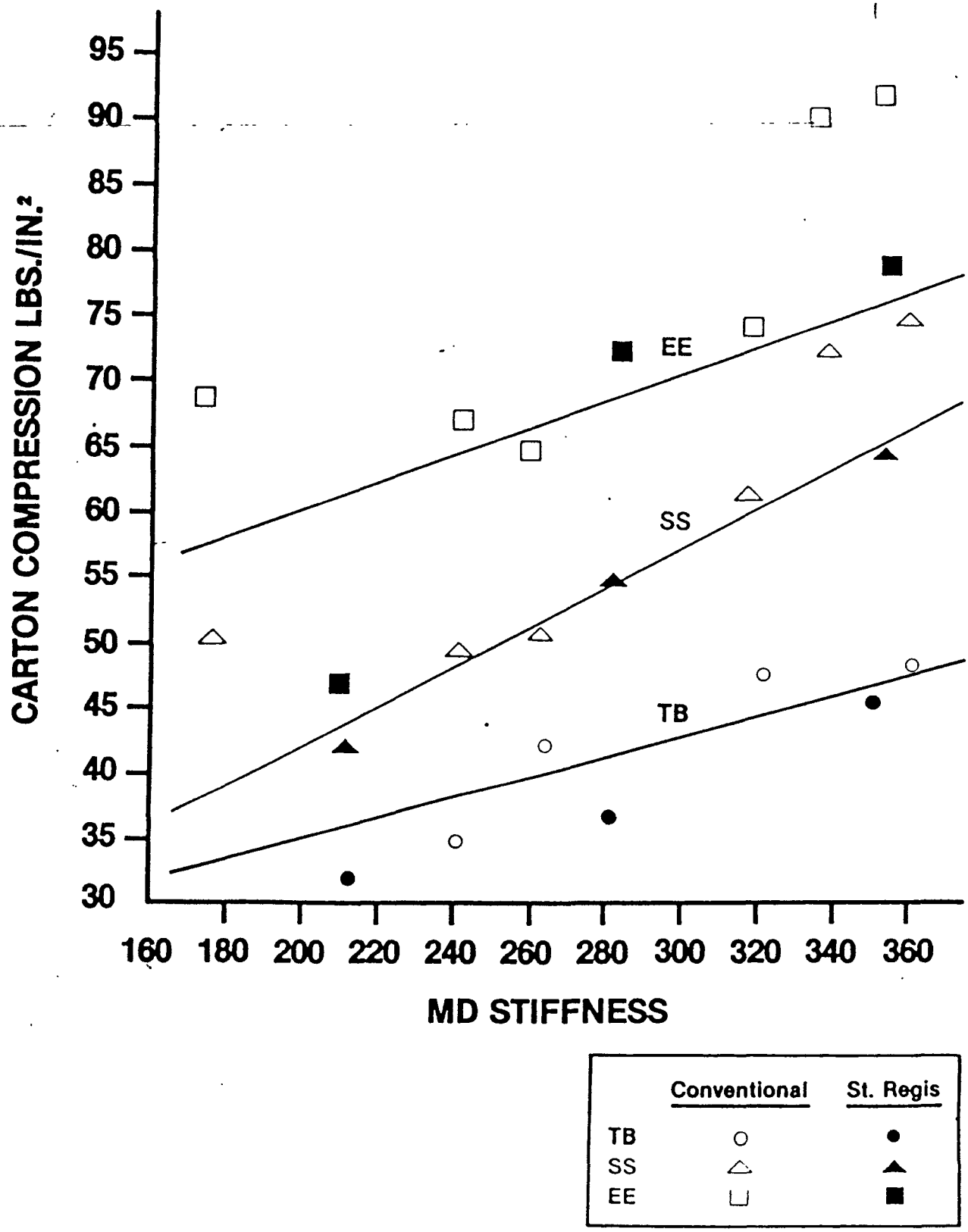

COMPARISON OF MD STIFFNESS OF ANGELITE
AND CONVENTIONAL RECYCLED BOARD
MD Taber
490
450
410
370
330
290
250
210
170
130
90
50
12
14
16
18
20
22
24
Caliper, Mils
CCNB · Extra Kraft
CCNB
Angelite

Figure 6

CARTON COMPRESSION VERSUS MD STIFFNESS



a result of this work, at the lower calipers, savings in basis weight can reach up to 14% while at the higher calipers the savings are in the 6-7% range.

A product has also been developed which competes with virgin fiber board. This product is called Angelbrite.® There are two variations of Angelbrite, the first is called Angelbrite 70® and a white furnish has been applied as the back layer to give a brightness of 70. The second variation known as Angelbrite 50® uses a less bright newsblank furnish on the backside so the brightness is 50. Newsblanks are simply newspapers which have no printing on them and as a result, Angelbrite 50 has the same sort of bulk and stiffness characteristics as our Angelite grades.

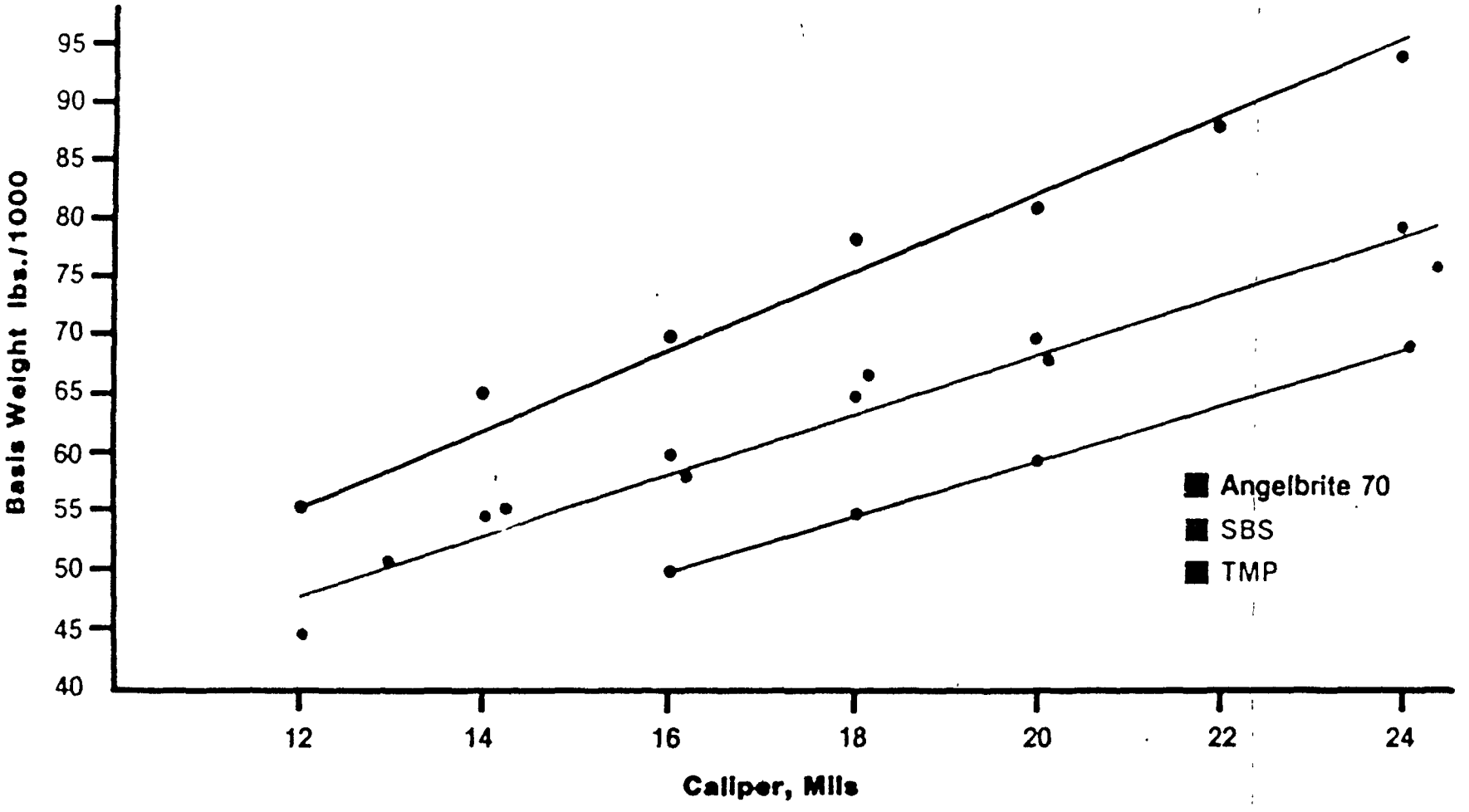
Angelbrite 70, however, is a product which was developed to compete with virgin fiber boards composed entirely of kraft fibers or boards which are constructed of TMP in the filler portion with kraft fibers in the outer layers. In figure 7, you will note that at any given

Fig.7 caliper, Angelbrite is more dense than the competitive virgin fiber boards. This means that Angelbrite competes with virgin fiber boards on a price basis with a yield disadvantage. The fact that we use fibers which have an average cost of $150/ton versus the competition where we estimate their cost of fiber to be over $300/ton gives us an advantage and we are able to sell into these markets. This is now a developmental area for the Angell Mill and we have not achieved widespread success though we believe it will come with time and increased virgin fiber prices.

Fig. 8 In figure 8 the stiffness of Angelbrite 70 is compared with virgin fiber boards and you will note that all products fall on the same machine direction stiffness curve. Angelbrite boards have lower cross

Fig. 9 direction stiffness (figure 9) than the competitive virgin fiber boards at calipers above 18 points, Producers of virgin fiber boards make a much squarer sheet than is currently made with Bel Bonds at Battle Creek.

Figure 7


COMPARISON OF WEIGHT OF ANGELBRITE 70
AND SBS AND TMP
Basis Weight lbs./1000
95
90
85
80
75
70
65
60
55
50
45
40
12
14
16
18
20
22
24
Caliper, Mils
Angelbrite 70
SBS
TMP

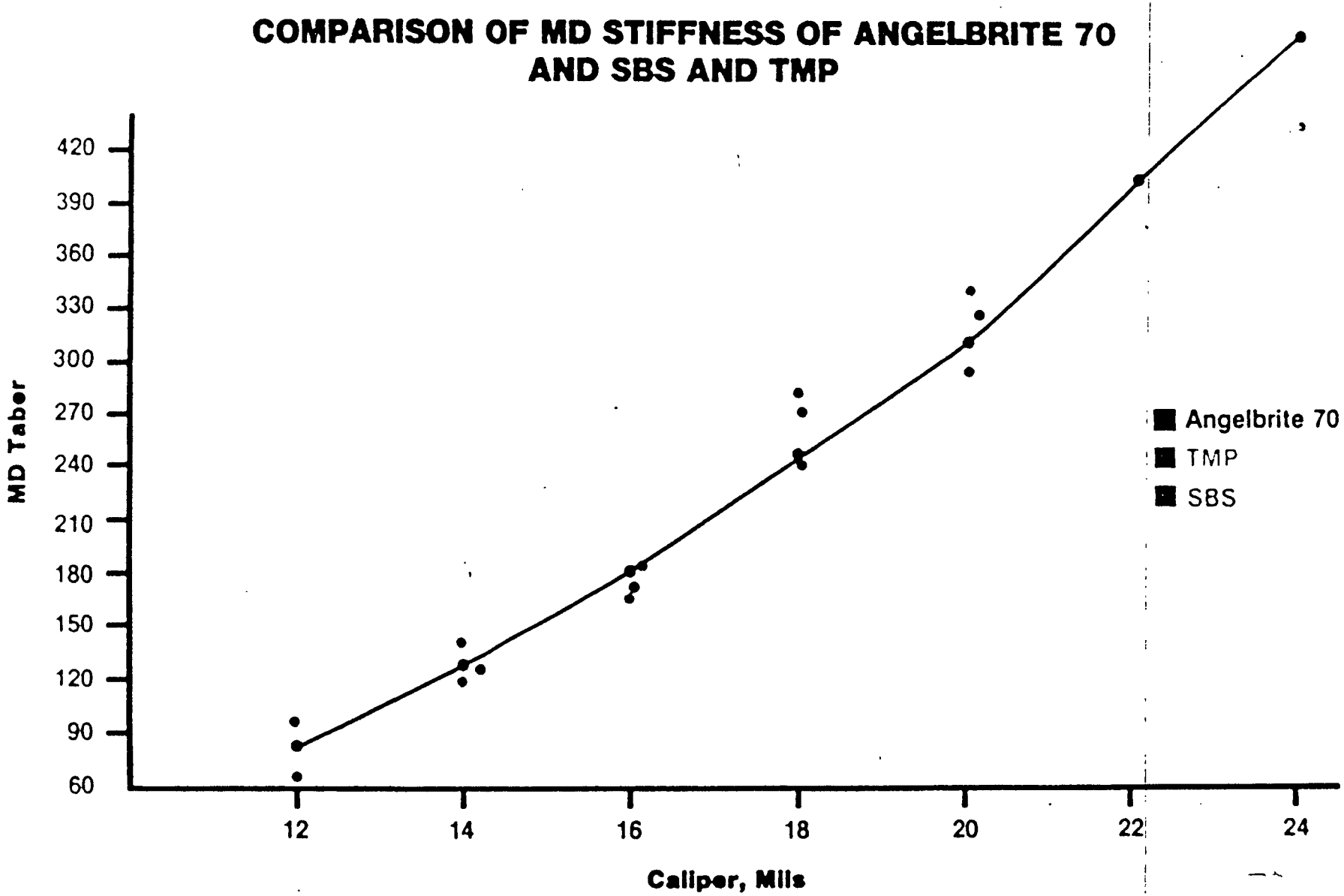
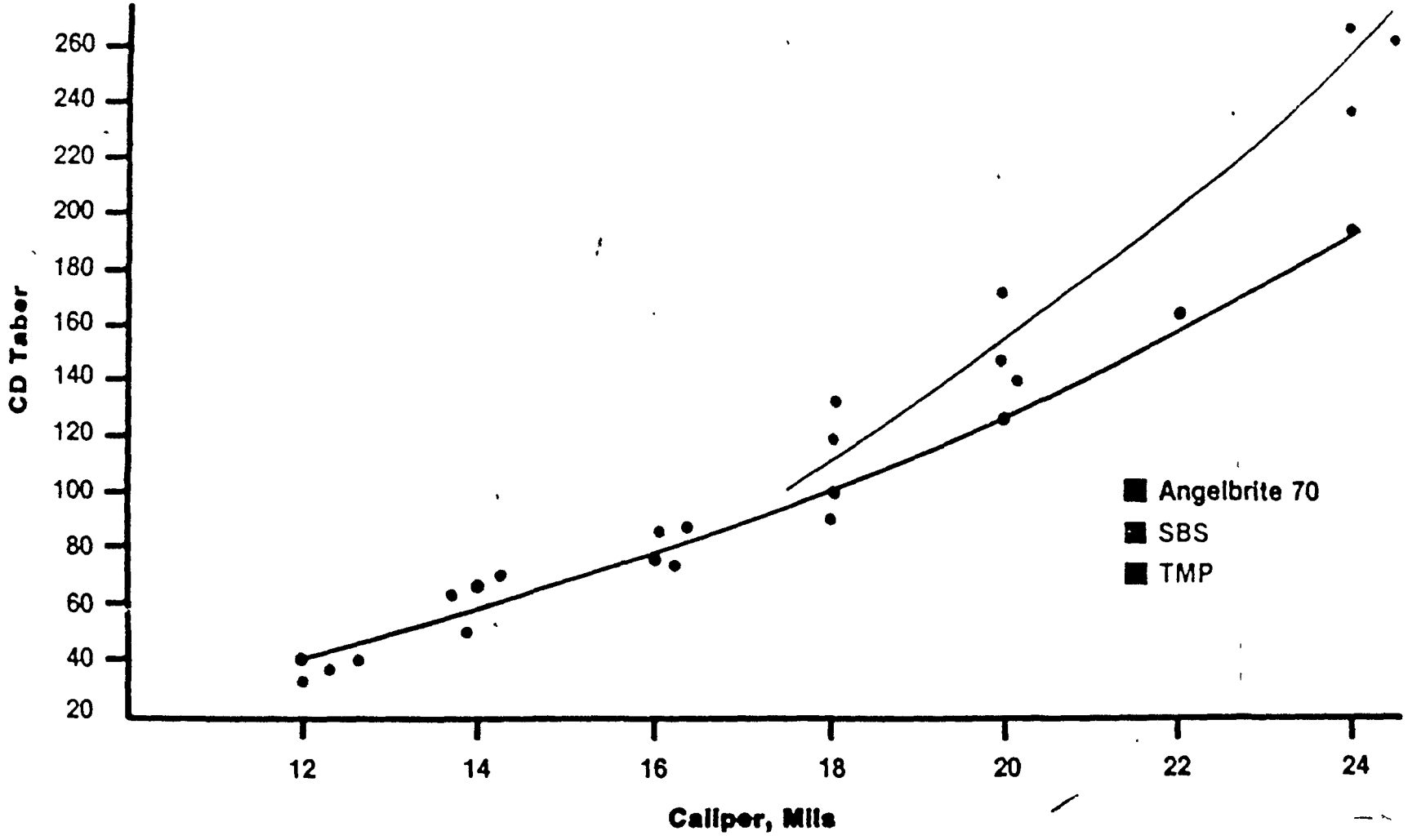

COMPARISON OF MD STIFFNESS OF ANGELBRITE 70
AND SBS AND TMP
MD Taber
420
390
360
330
300
270
240
210
180
150
120
90
60
12
14
16
18
20
22
24
Caliper, Mils
Angelbrite 70
TMP
SBS

Figure 8

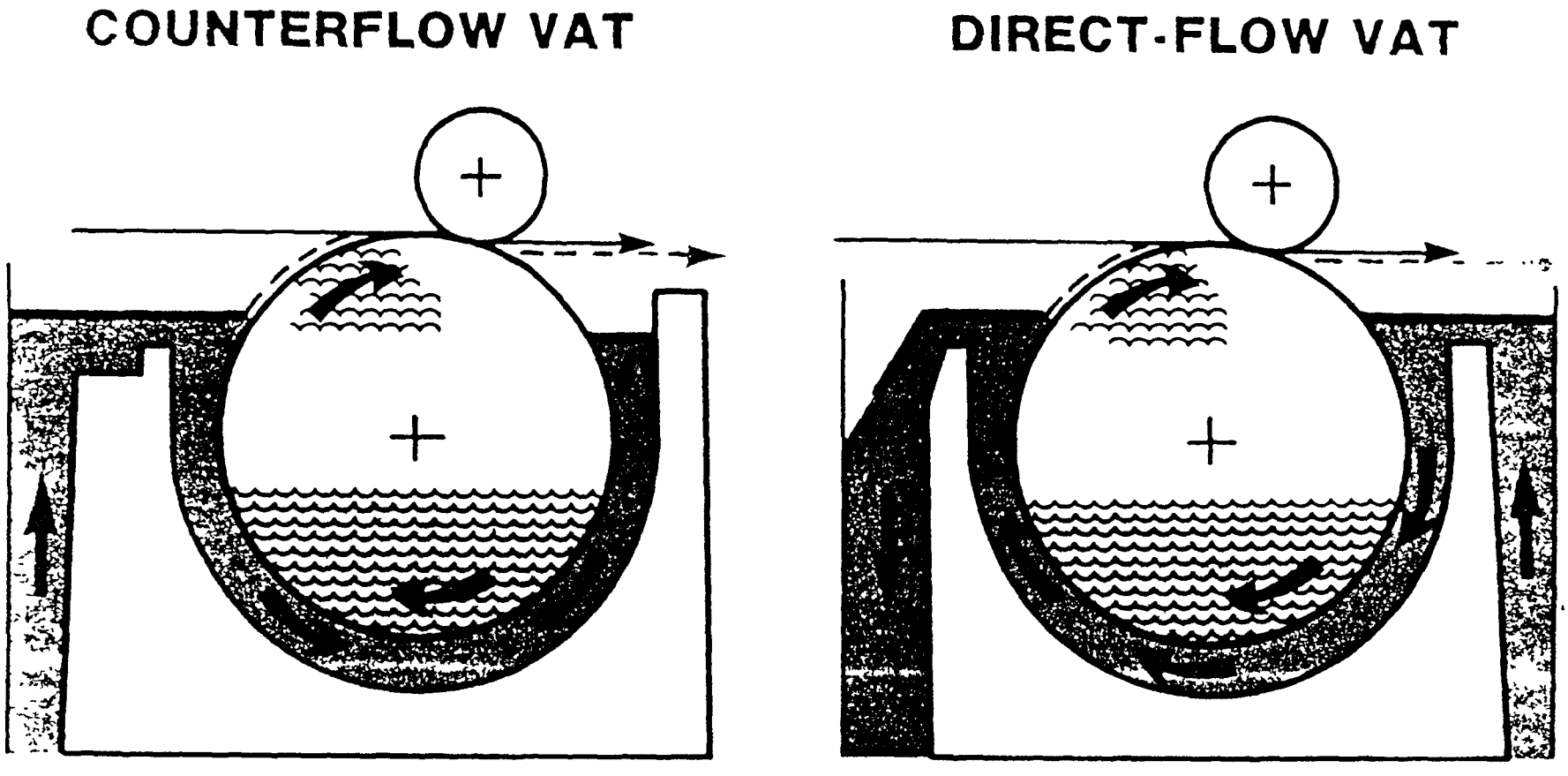
Figure 9


COMPARISON OF CD STIFFNESS OF ANGELBRITE 70
AND SBS AND TMP
CD Taber
260
240
220
200
180
160
140
120
100
80
60
40
20
12
14
16
18
20
22
24
Caliper, Mils
Angelbrite 70
SBS
TMP

Angel Board has some other specific properties which make it very competitive in packaging applications. It is the best Gravure printable board in the industry and our major customer, Kellogg, has specified this sheet for applications where virgin fiber board has only been successfully used in the past. We compete head to head with Continental Forest Industries' products in Gravure printing smoothness and gloss ink holdout. It is also important to note that the gloss of the Angell sheet is in the low 70's whereas the gloss on competitive recycled boards rarely exceeds 60. The final Angell board property which is important is its ability to be cut easily in carton producing equipment. As a result of its cuttability characteristics, one customer obtained about 30% greater knife wear using Angel board versus the competition.

You might wonder why Angell board is different from any other recycled board. There are three major reasons for this difference. The first is the method of forming. A very quick history of the evolution of forming in the Recycled Board Industry will aid in understanding the Angell Mill's capabilities. The first type of formers used vats where water was filtered from fibers and the mat was transferred to a moving web shown schematically in figure 10. This process was very
Fig. 10 slow and yielded a product with poor formation with high directionality in the machine direction. One of the next developments was to include a headbox with a cylinder. Beloit's Stevens Former (Fig.11) is a good
Fig. 11 example of that system. Such a machine has a headbox of sorts which meters a more uniform layer of fiber onto a wire covered drum and that mat is also transferred to a moving web, building up a sheet from multiple layers. In order to obtain increased production, the advantage of having a headbox has been ignored and the stock is flooded on the top of the cylinder in order to increase the weight. The Fountain Mill, in Battle Creek which St. Regis recently sold, has such a unit.

Figure 10



STEVENS FORMER

WITHOUT VACUUM

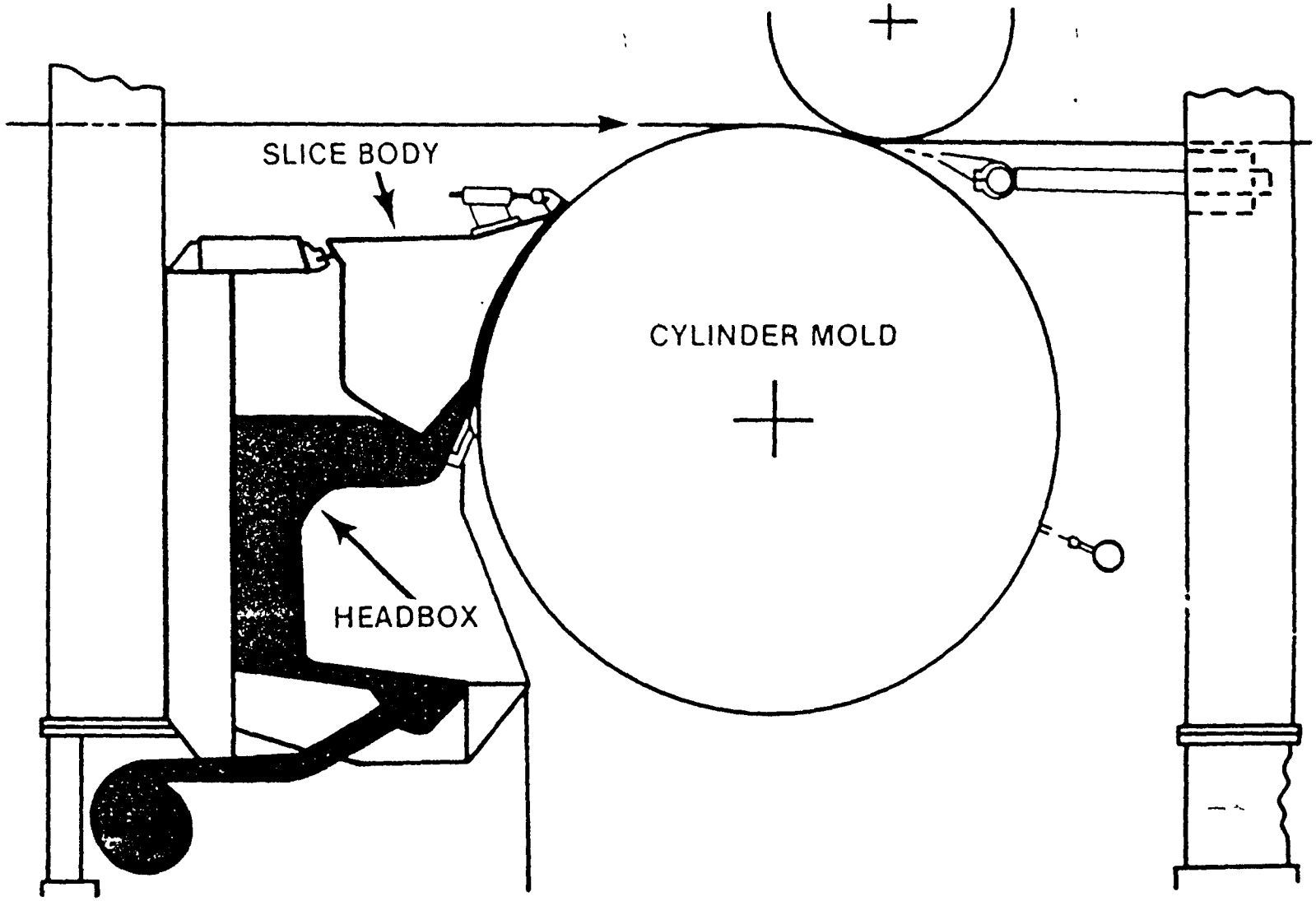


Figure 11

In order to minimize the possibilities of surface defects getting through to customers, the new gauge system installed in the summer of 1984 has a smoothness sensing device. Laboratory studies have shown that this device is capable of detecting blade and air knife streaks.

PERFORMANCE OF ANGELL MILL
PROBLEMS AND OPPORTUNITIES

The Angell Mill was rebuilt in 1978 to increase its productivity from 230 T/D to 300 T/D. After investigating various forming units around the world, a decision was made to install Beloit Bel Bond units in conjunction with a Tri-Nip press on the wet end of the machine. No modifications were made to the drying, coating and rewinding systems and no changes were made to the pulping system.

From the beginning, difficulties were encountered in operating the equipment. Because of a lack of pulp cleaning, the machine was relegated to producing large quantities of chipboard. When coated board was manufactured, quality was marginal and the mill lost its reputation in the marketplace as a quality producer.

In 1981, consultants were called in to run the operation and improve its performance. An extensive rebuild of the pulping operation was undertaken to improve the uniformity of the fiber presented to the machine. At that time, furnishes, press rolls and calendering equipment were modified to change the product to a low density board. Quality problems persisted and by the spring of 1982, the mill was told by its largest customer, Kellogg, that it was being discontinued as a supplier.

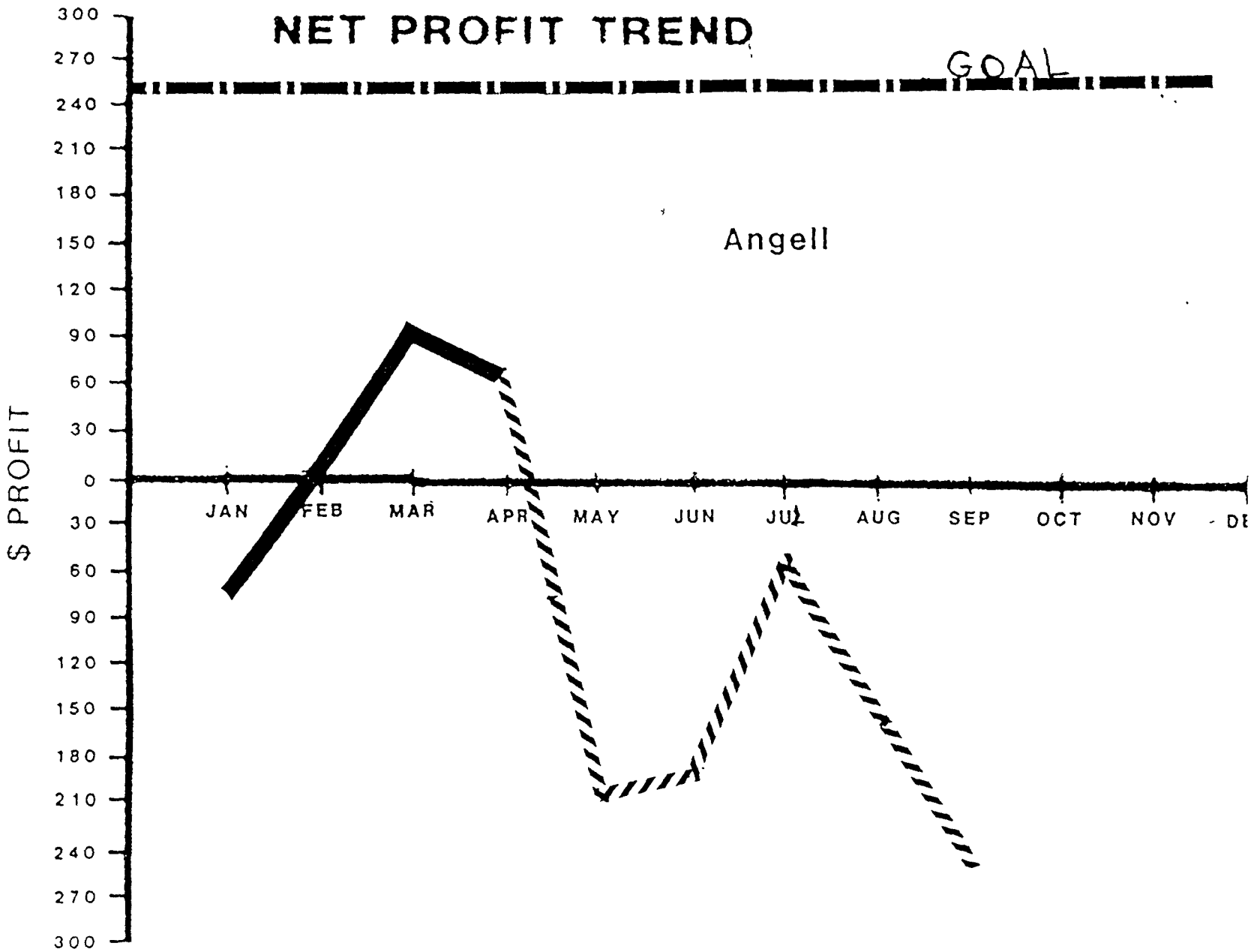
During the summer of 1982, many changes were made in an effort to increase productivity and improve quality. Technical people were put in positions where they could monitor the process and improve the products. By the end of 1982, the Kellogg products were improved to the point where the mill became the largest supplier to Kellogg and was ranked number one in quality by that customer.

Because of the recession, the loss of the Kellogg business for one-half of the year, and the generally poor quality reputation, the mill only operated 245 days during 1982. The loss at the mill level was close to $3 million.

In the first half of 1983, the mill continued to take downtime, but an improved sales force and increased knowledge of controlling the wet end of the machine started to increase sales volume, productivity and quality. During the second half of 1983, the mill ran full and productivity jumped from an average of 215 T/D to around 250 T/D. The net profit at the mill level during the last six months of the year was close to break even.

Based on the improved productivity, the greater sales, and the growing economy, manufacturing and sales predicted that the mill would earn over $1 million in 1984. That prediction proved to be extremely over optimistic. Through September of this year the Angell Mill has lost $785,000.

In the first figure, the profit trend for 1984 is shown. During the first four months of the year, the mill operated at budgeted true efficiencies and was on target with respect to sales price and volume. Sometime during April things began to go sour and productivity and quality began to suffer. As a result, profits again fell into a negative pattern.


NET PROFIT TREND
GOAL
Angell
$ PROFIT
300
270
240
210
180
150
120
90
60
30
0
30
60
90
120
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210
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270
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JAN
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MAR
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JUL
AUG
SEP
OCT
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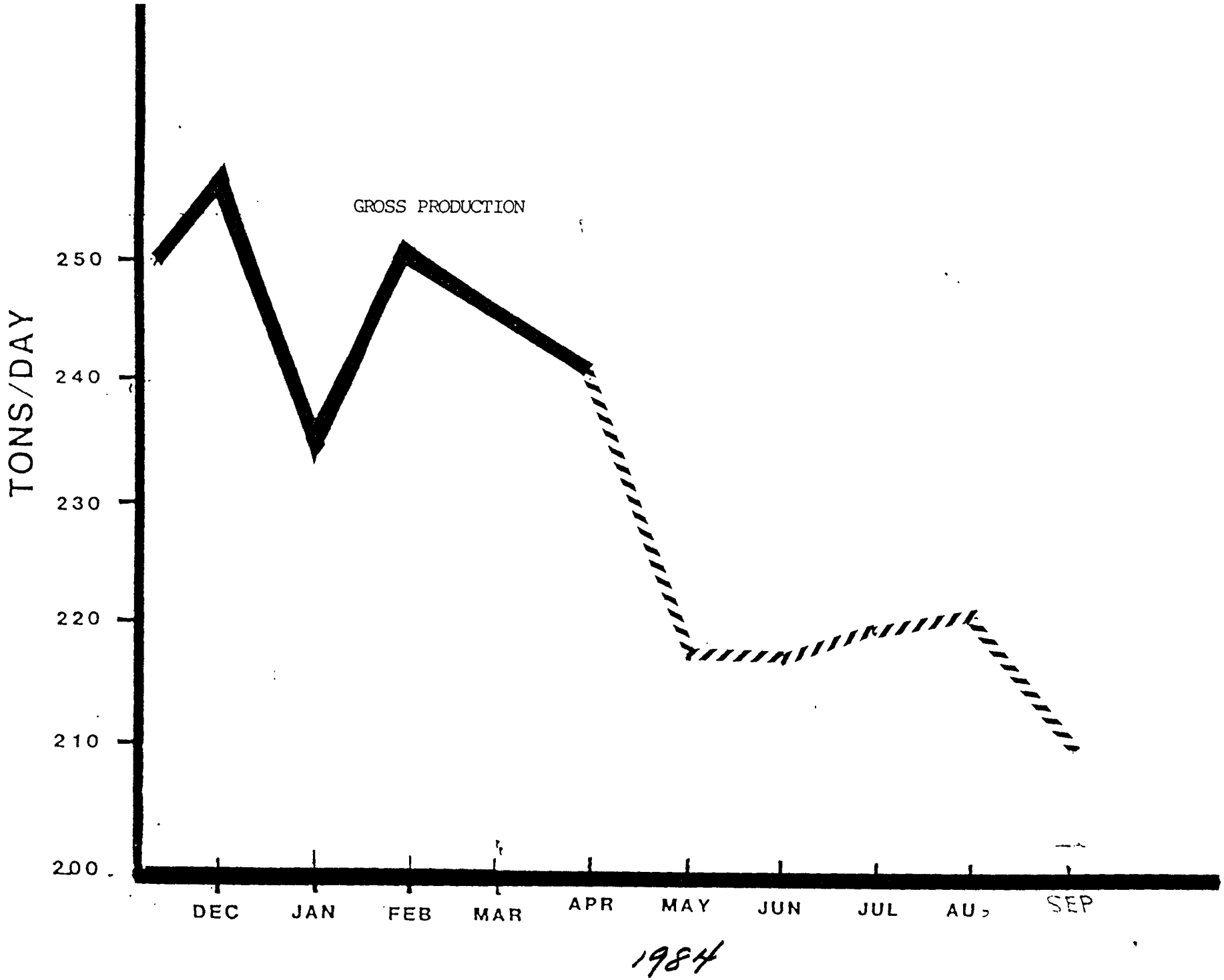

GROSS PRODUCTION
TONS/DAY
250
240
230
220
210
200
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AU
SEP
1984

In the second figure, gross productivity is seen to have dropped substantially after April and has never recovered. The productivity drop is not a result of running slower. It has occurred because of producing good board fewer hours each day as shown in the next figure.

The major contributors to the lost time are breaks, unplanned maintenance and the production of odd lot. (See the next 3 figures) Both the breaks and odd lot production categories have been affected by the loss of control of the forming area of the machine. When the machine is lined out on a large run (24 hours or more) of a grade for Kellogg or Proctor and Gamble, production efficiencies improve dramatically. When it must produce small orders or new grades, efficiencies suffer. New grades such as the Angelbrite series must be developed to replace the large volumes of captive tonnage lost when the carton plant was sold.

Several factors could have contributed to this turn around. On April 1st, the sister mill of Angell was sold to Field Container. To many people this was like a divorce. The hourly people who went with the Field group took substantial cuts in pay and benefits. Those remaining at the Angell mill could see that with negotiations coming up quickly (contract expiration date: June 30, 1984) they might also be expected to make concessions. The salaried people also encountered serious losses. The two top technical people resigned early after the sale. Production supervision was most likely too thin and difficulty was experienced in maintaining the operation discipline developed over the previous two years. In recent months, two more professionals were lost due to death and the Manufacturing Manager resigned.

In spite of these difficulties, the Angell Mill can have a bright future. It will not come overnight and it will not come without hard work. The following steps have been taken to improve the operations

1. An experienced papermaker in printing papers and liner boards has been transferred to the mill as the Manufacturing Manager.

2. Capable replacements for all but one of the lost professionals have been hired.

3. A new Accuray gauge has been installed on the machine, greatly increasing the control capabilities.

4. An experienced local papermaker has been moved up to assist in the operation of the mill.

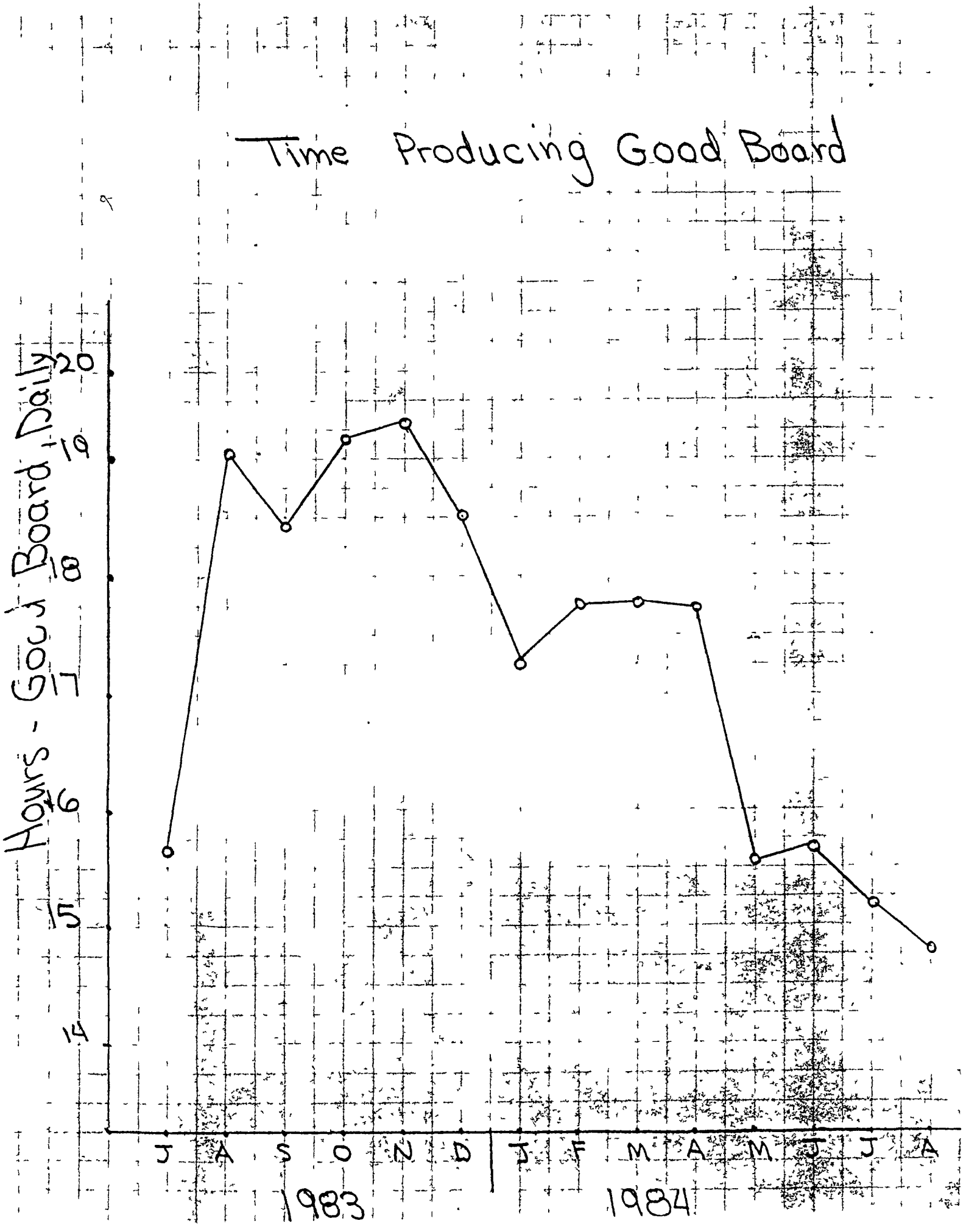
5. Hourly employees who demonstrate leadership qualities are training to be first line supervisors.

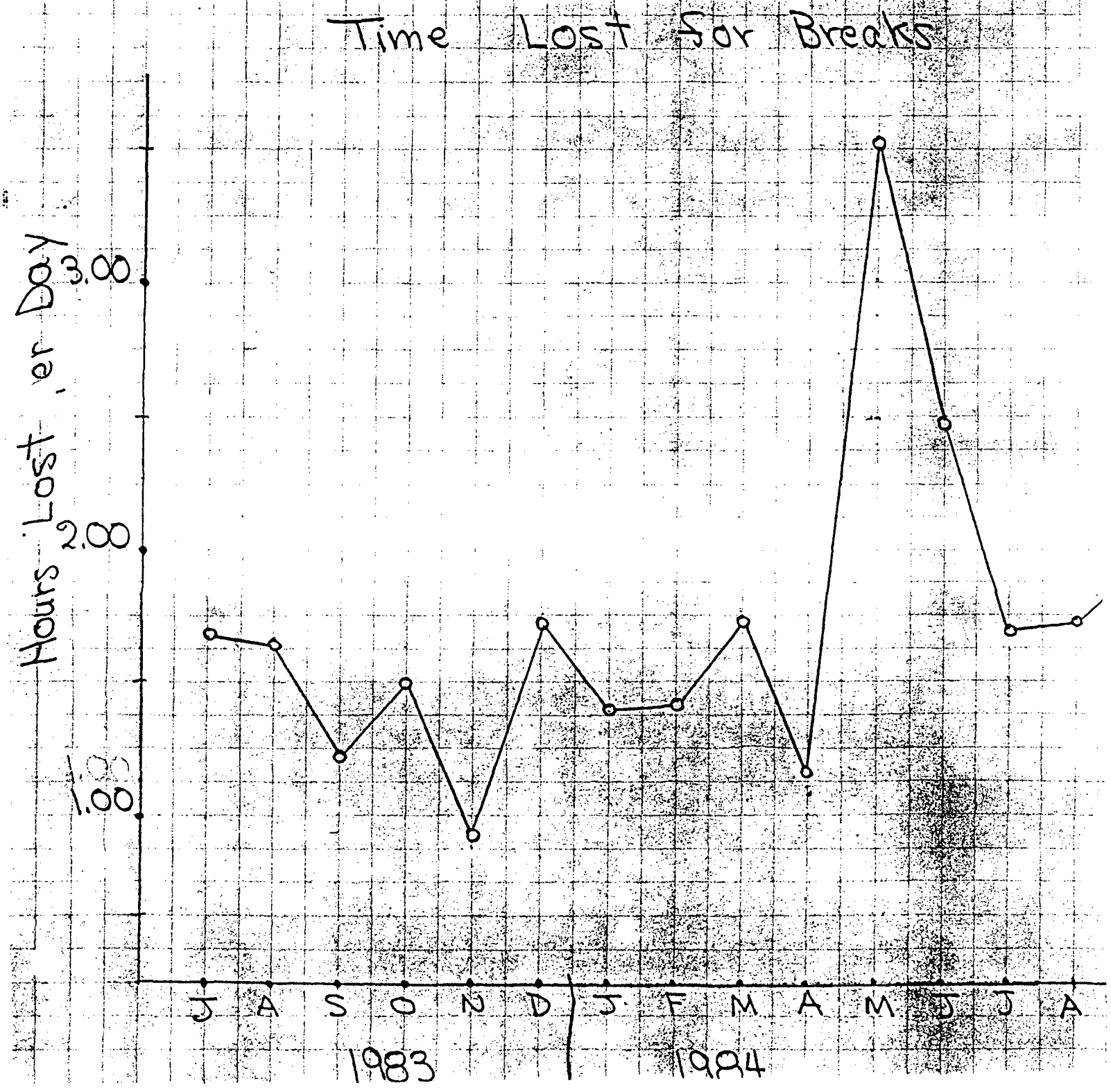
6. Some improvement in filler cleaning has been accomplished.

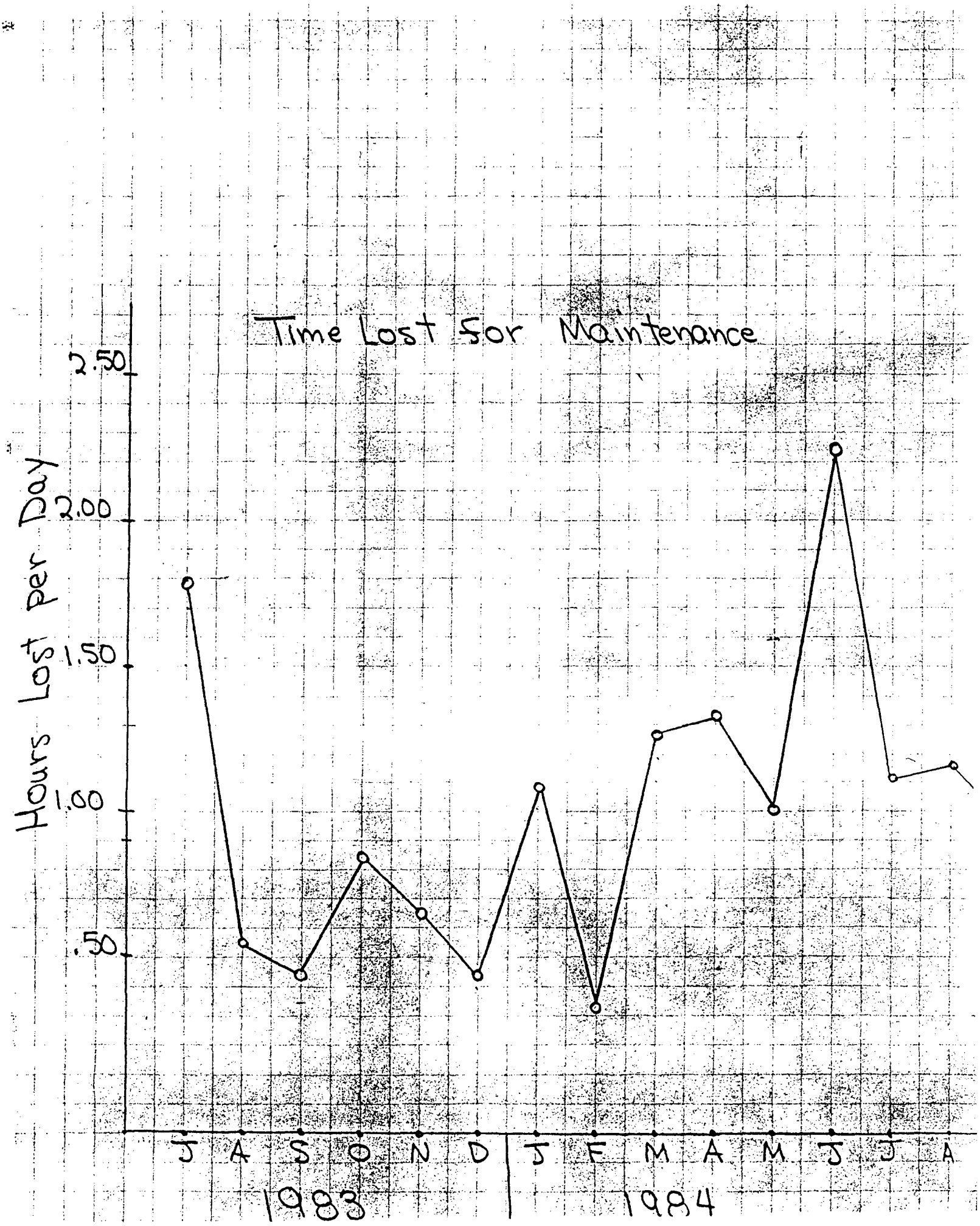
What remains to be done is to:

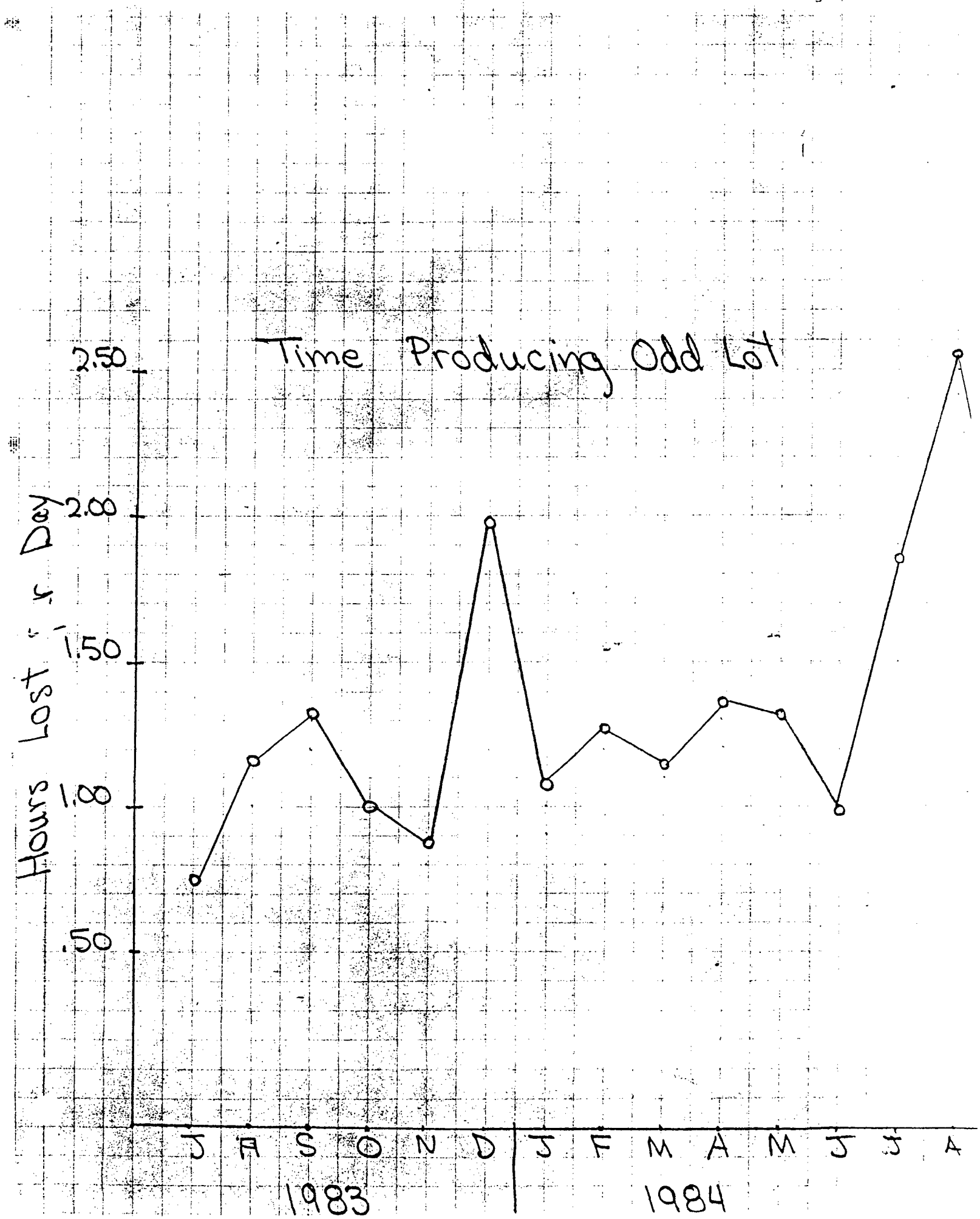
1. Retrain the crews to act as a team.

2. Start controlling the key headbox variables to prevent upsets and improve grade consistency.


Time Producing Good Board
Hours - Good Board Daily
20
19
18
17
16
15
14
J
A
S
O
N
D
J
F
M
A
M
J
J
A
1983
1984


Time Lost for Breaks
Hours Lost per Day
3.00
2.00
1.00
J
A
S
O
N
D
J
F
M
A
M
J
J
A
1983
1984


Time Lost for Maintenance
Hours Lost per Day
2.50
2.00
1.50
1.00
.50
J A S O N D J F M A M J J A
1983
1984


Time Producing Odd Lot
Hours Lost / Day
2.50
2.00
1.50
1.00
.50
J A S O N D J F M A M J J A
1983
1984

3. Upgrade the cleaning systems to reduce contamination and enable the use of less expensive fibers.

4. Improve the coating preparation system to provide uniform board surface properties.

5. Provide extra drying after the coater to control moisture at the reel, or develop procedures to minimize curl prior to coating.

6. Obtain a Technical Superintendent with extensive experience and leadership qualities in process and quality control.

When these tasks are completed, there is no reason to believe that the Angel machine cannot exceed the production performances of late 1983 and early 1984 and provide a respectable profit on the assets employed.

TO: FILE

cc: R. Johnson
J. Lambert
A. Predmore
R. Thomas
T. Tiffany
G. West

RE: COMPARISON OF ANGELL & FOUNTAIN MILLS AND COMPETITION

COMPETITOR CO	CCA				JAMES RIVER		PCA		PCA		DIAMOND			
	Angell is		Ftn. is		Angell is	Ftn. is	Angell is		Ftn. is		Angell is		Ftn. is	
	Wabash/ Philly		Wabash/ Philly				Ohio/Iowa		Ohio/Iowa		Lockland/ Middletown		Lockland / Middletown	
Costs:														
Labor	E	I	I	I	E	I	S	S	S	S	S	I	E	I
Material	I	I	I	I	I	I	I	E	I	E	E	E	E	E
Energy	I	E	I	E	E	E	I	E	I	E	I	I	I	I
Quality	E	E	I	I	S	I	S	S	E	E	S	E	I	I
Service	E	E	E	E	S	S	E	E	E	E	S	S	S	S
Technology	I	I	I	I	S	S	S	S	S	S	S	S	S	S
Manufacturing	E	E*	I	I	S*	I	S	S*	I	I	S*	E	I	I
Marketing	I	I	I	I	I	I	E	E	E	E	E	E	E	E

* Fiber cleaning at Angell is poorer than competition.

LEGAND:
S = Superior
E = Equal
I = Inferior

COMPETITOR CHARACTERIZATION

1. CCA

	Wabash, Ind.	Philadelphia, PA.
Production tpd	320	475
Machines	2	2
Trim, in.	88, 108	129, 150
Fuel	Coal	Oil
Effluent MM gpd	1	3.5

2. JAMES RIVER

Production tpd	345
Machines	2
Trim, in.	140, 120
Fuel	Gas/oil
Elluent	?

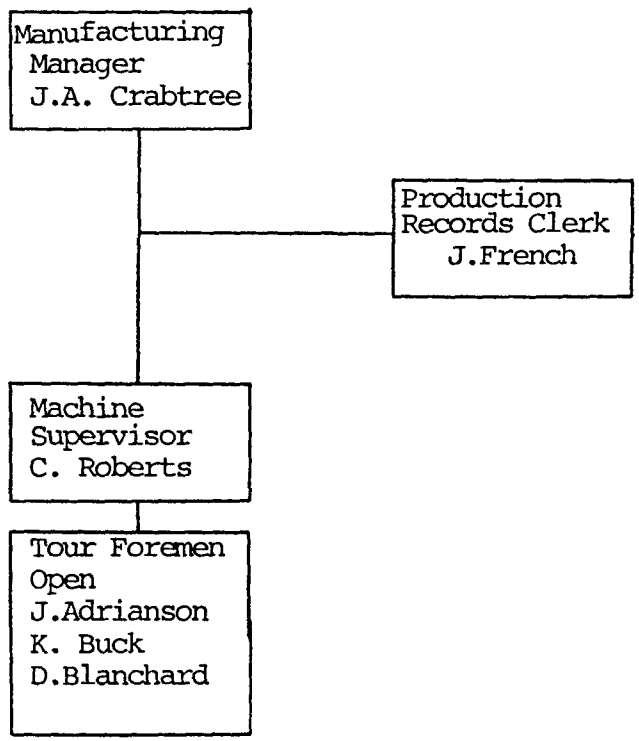
3. PCA

	Rittman, Ohio	Tama, Iowa
Production tpd	300	110
Machines	2	1
Trim, in.	114, 114	86
Fuel	Coal, oil	Gas, oil
Elluent MM gpd	?	.25

4. DIAMOND

	Lockland, Ohio	Middletown, Ohio
Production, tpd	300	300
Machines	2	1
Trim, in.	128, 132	125
Fuel	Coal	Coal
Effluent MM gpd	.9	.9

MANUFACTURING DEPARTMENT



J. Alan Crabtree
Manufacturing Superintendent

C. Roberts
Machine Supervisor

- 32 yrs. St. Regis
- 2 Mos. in present position -Machine Supvr.
- 7 Mos. as Tour Foreman
- 2½ Yrs. as Mill Superintendent
- 1½ Yrs. as Tour Foreman

Previous experience as an Hourly Employee as a Machine Tender, 2nd Back Tender, Cutterman, Third Hand, etc.

32 Years in the Paper Industry.

J. Adrianson
Tour Foreman

- 12 yrs. St. Regis
- 3 yrs. in present position - Tour Foreman
- 3 yrs. as Stock Preparation Foreman
- 4 yrs as Raw Material Warehouse Foreman
- 1 yr. as Senior Labor Technician
- 1 yr. as Quality Assurance Inspector

Prior Work Experience:
4 Mos. - Janitor
3 yrs. - 9 mos. Specilist 5th Class Morse Oper. U.S. Army
1 yr. - 8 mos. - Assistant Manager

K. Buck
Tour Foreman

- 29 yrs. St. Regis
- 5 yrs in present position - Tour Foreman
- 1 yr. as Stock Preparation Foreman
- 7 yrs. as Spare Tour Foreman
- 3 yrs. as Stock Preparation Foreman

Previous experience as an Hourly Employee as a Spareman, Stock Tester, Stock Cont. Filler,etc.

29 Years in the Paper Industry.

D. Blanchard
Tour Foreman

- 14 yrs. St. Regis
- 1½ yrs. in present position - Tour Foreman
- 2½ yrs. as Spare Foreman
- 1½ yrs. as Stock Preparation Foreman
- 6 Mos. as Raw Materia/Warehouse Foreman

Previous experience as an Hourly Employee as a Skid Builder, Pulper Operator Liner, 2nd Pulper Operator Filler, etc.

14 Years in the Paper Industry.

MANUFACTURING

Major Problems

a) Stock Preparation:

1. Raw material variation, contaminents, etc.

2. Filler refining not adequate on some grades. Experimental plates on site.

3. Stock cleaning system needs improvement.

4. Instrumentation problems, much improved.

5. Need more dilution water to reject screens. Complete in one month.

b) Paper Machine:

1. "Bugs" in stock and water system. New control system began October 16th.

2. Training - Basic papermaking principles lacking. Program in process. "Seat of pants" operation.

3. Wet-end instrumentation in poor shape or non-existant. Program in process, much improved.

4. Bel-Bond vacuum system not correct. Changes made. More to come. Some improvement.

5. Some misalignment in forming section. Beloit to inspect and give recommendations within next month.

6. Topliner formation - New wire design ordered F Bel-Bond.

7. Sheet too wet off couch. Re-install suction flat boxes. Install double layer bottom wire should also improve sheet properties.

8. Running too wet out of press section. Wrong felt design. Wrong roll crowns and possible press loading malfunction. New double layered, more open press felts on order. Press loading to be checked next outage.

9. No top dryer felts. Machine has been surveyed four suppliers and recommendations received. Sandy-Hill surveyed stretch and guide systems, no recommendation received yet. Dryer felts would improve drying efficiency and runnability.

10. Cannot dry sheet after breaker stack, loosing tremendous amount of tons in this area. Surveyed recommendations in.

11. Sheet threading problems. Improvements made, still more to make.

12. Grade mix - With all of the above this is a killer, but with the progress made to date, order changes will improve efficiency wise.

Coater Section

1. Antiquated coater section. Replacing both trailing blade and air knife coaters with new coaters would increase efficiency and quality by leaps and bounds. Needs complete study on whole system. "Seat of pants operation". Needs lots of instrumentation control.

Coating preparation make-up problems

1. Install bulk clay slurry system. The current dry clay system is antiquated and several major parts will need replacement soon. It is also a high maintenance item at this time.

2. Replace current latex measuring tank and level contol system. The latex measuring tank currently used is severly built up with dry hardened latex and produces considerable error in measurement.

3. Re-install trailing blade cowels at operating floor level. The trailing blade cowels is currently in the basement which makes it difficult for the operator to accurately observe its operation and test the coating.

4. Install automatic color roll speed control. The color roll coating applicator speed should be automatically adjusted as machine speed changes. This will assure consistent coating application received.

5. Repair bulk latex tanks. The bulk latex tank are in need of a re-application of epoxy paint. They are rusting in several areas (internally).

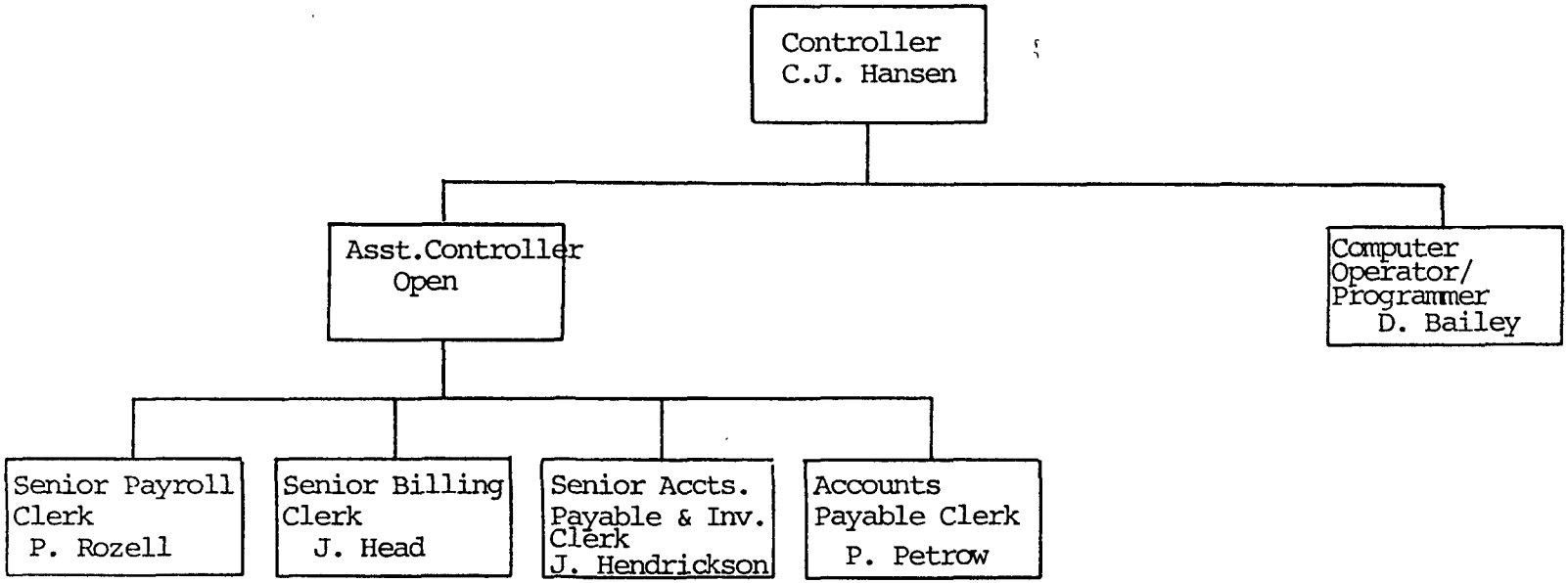
6. Install bulk titanium dioxide slurry system. A bulk T_iO2 system would improve batch to batch consistency and lower costs.

7. Install a coating screen between the cowels and machine run tanks.

   A screening system is needed between both cowels and the machine run tanks so that the current screens on the machine are not overloaded.

8. Increase coating flow to the air knife pan. The current flow of coating to the air knife is inadequate to remove debris which tends to accumulate at the bottom of the pan.

CONTROLLER's DEPARTMENT



ANGELL MILL
SUMMARY OF GRADE EFFICIENCY
SEPTEMBER 1984 YTD

	ANGELCOTE	ANGELITE	AB 50	AB 70	CORE STOCK	ALL OTHER	TOTAL
Primary T.P.H.	10.89	11.07	8.51	6.92	8.16	9.16	10.18
Secondary T.P.H.	2.29	1.52	2.30	3.61	--	2.50	1.60
Total T.P.H.	13.18	12.59	10.81	10.53	8.16	11.66	11.78
Standard T.P.H.	13.63	13.40	13.36	13.36	9.40	11.98	12.85
% Standard T.P.H.	96.7	93.4	80.9	78.8	86.8	97.3	91.7
Salable Hours	453.48	3059.32	253.35	185.02	632.61	441.18	5024.96
% of Total	9.0	60.9	5.0	3.7	12.6	8.8	100.0
Applied Hours	397.68	2655.34	163.70	101.90	548.88	337.39	4204.89
% of Total	9.5	63.1	3.9	2.4	13.1	8.0	100.0
Grade Efficiency	87.7	86.8	64.6	55.1	86.8	76.5	83.6

ANGELL MILL
MIX ANALYSIS
1984 ACTUAL

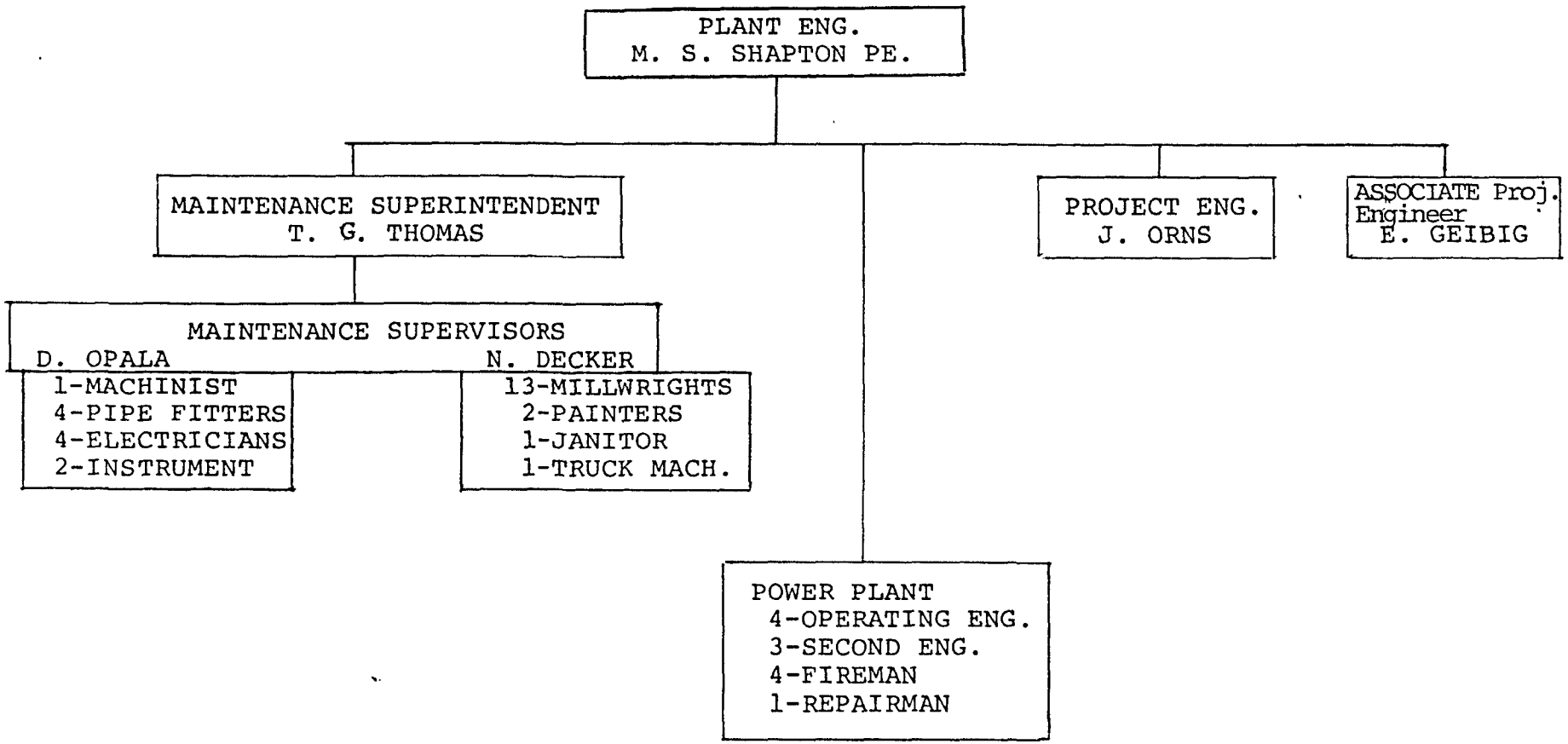
GRADE	% Salable Hours	Ranking @ Std. Cost	Ranking @ Est. Actual
ANGELCOTE	9.0	6	2
ANGELITE	60.9	3	1
AB 50	5.0	1	4
AB 70	3.7	2	7
CORE STOCK	12.6	4	3
TOP LINER	1.0	7	6
CHIP	7.8	5	5

ANGELL MILL

OPERATING SUMMARY

	1981		1982		1983		1984 - 9 Mos.YTD		1985 Plan	
	$	Per Ton	$	Per Ton	$	Per Ton	$	Per Ton	$	Per Ton
NET SALES	22,567	323	17,071	344	23,379	340	19,542	345	34,035	375
DIRECT MATERIAL										
Paper Stock	5,920	88	3,893	78	6,368	91	5,619	95	10,395	114
Other	2,205	33	2,393	48	2,832	40	2,125	36	3,286	36
TOTAL DIRECT MATERIAL	8,125	121	6,286	126	9,200	131	7,744	131	13,681	150
CONVERSION:										
Labor Cost	4,347	65	4,205	84	4,785	68	4,340	74	5,419	60
Fuel	2,383	35	2,386	48	3,438	49	2,786	47	4,123	45
Purchased Electricity	1,419	21	1,309	26	1,559	22	1,225	21	2,081	23
Maintenance Parts	800	12	549	11	399	6	506	9	630	7
Depreciation	821	12	658	13	728	11	585	10	840	9
All Other	3,955	59	3,760	75	3,971	57	2,916	49	4,118	45
TOTAL CONVERSION	13,725	204	12,867	258	14,880	213	12,358	210	17,211	189
INVENTORY CHANGE	929	14	54	1	(178)	(3)	(585)	(10)	—	--
TOTAL COST OF SALES	22,779	339	19,153	384	23,092	342	19,517	345	30,892	340
GROSS PROFIT	(212)	(3)	(2,136)	(43)	(523)	(7)	25	—	3,142	35
S.A.G.	885	13	719	14	970	14	810	14	1,080	12
NET OPERATING INCOME	(1,097)	(16)	(2,855)	(57)	(1,493)	(21)	(785)	(14)	2,062	23
TONS SOLD	69,804		49,684		68,791		56,592		90,880	
TONS PRODUCED	67,255		49,884		69,932		58,939		90,880	
DAYS OPERATED	267		245		309		259		354	

10/15/84


PLANT ENG.
M. S. SHAPTON PE.
MAINTENANCE SUPERINTENDENT
T. G. THOMAS
PROJECT ENG.
J. ORNS
ASSOCIATE Proj. Engineer
E. GEIBIG
MAINTENANCE SUPERVISORS
D. OPALA
1-MACHINIST
4-PIPE FITTERS
4-ELECTRICIANS
2-INSTRUMENT
N. DECKER
13-MILLWRIGHTS
2-PAINTERS
1-JANITOR
1-TRUCK MACH.
POWER PLANT
4-OPERATING ENG.
3-SECOND ENG.
4-FIREMAN
1-REPAIRMAN

WATER AVAILABILITY

The Angel has two avenues for obtaining water. The primary source for process water is the Kalamazoo river. We maintain a private pumping station and pipeline. River water is processed through the power plant by means of sand filtration systems. The secondary supply is via the City system. The source was originally obtained for fire protection, but has been expanded to include several process areas which require pure water. In addition, there is a 8" water main into the Angell powerhouse to protect the area from loss of water, and for further expension into the mill. Water availability in the area is considered good.

BRICKS, MORTAR, AND HARDWARE

History - the Angell complex was built on the site of the Advance Rumley Company. Existing buildings number 8, 10, 11 and 12 are all from that year. When, then Michigan Carton, purchased the property these buildings were slated for use as warehousing. The mill was laid out based on that.

EQUIPMENT

The equipment is listed, in an abbreviated form, in Appendix C. Appendix D contains the 1981 rebuild of the beater room for you consideration. The Angell beater room contains three stock systems. The instrumentation and majority of piping were replaced during the 1981 rebuild. Further capital requirements will primarily deal with cleaning, and storage capacity.

MACHINE ROOM

The wet end of the Angel machine is a Bel Bond system. It was installed in 1978. The associated equipment with the wet end is of high quality. The wet end itself offers a wide variety of capabilities. In addition, during this period of time, a new Beloit Tri-Press with associated fourth press was installed. It is also relatively new and in a good state of repair. The dryer section consists of 60" dryer cans which have the capability of carrying 70 lbs. steam. Installed in 1948 it is generally in good repair and has an enclosed gear train. It is driven by a 1200 hp. Westinghouse turbine. The dry end consists of three calender stacks, all 1948 vintage. There are real concerns with the calender rolls in this area and we currently have a long term program of replacing several calender rolls each year.

COATING SECTION

This is an area which needs attention. It is not state of the art. The current system consists of a trailing blade coater by an air knife coater, followed by an old Ross drying oven. This area accounts for a large part of our losses. The coaters are not forgiving of sheet dirt. Sheet dirt causes breaks within the trailing blade system and excessive streaking which requires the board then to be odd lotted or beatered. In addition, the oven is of the tower type making it difficult to thread, and operate in an efficient manner.

The other bottle neck within the production line is the rewinder. It was installed in 1948, and was sized to handle a paper machine with a top speed around 700 ft/minute. With a paper machine averaging well above 700 ft./minute on many grades, the 2400 ft./minute rewinder, with its associated maintenance requirements is unacceptable. It has problems with slitting and downtime, contributing to both machine lost time and off quality.

POWER PLANT

The power plant was built in 1948. It was built to function with two spreader stoker incline tube Springfield Boilers burning coal. The auxiliary equipment consists of a turbine generator on steam and two mill air compressors supplying instrument air, and process air throughout the mill, and the mill's water filtration system. It was converted to gas and oil in 1972. Its condition is generally considered to be excellent. The only areas of concern are within the boilers themselves, and that is with the age of the superheater tubes which have seen coal, gas, and some overheating over the last 35 years.

Correspondence

From M.S. Shapton Location Battle Creek

To File Date March 8, 1984

There are several design errors in the Angell complex which cause inefficiencies, or poor utilization. The first of these are-

The large warehouses located in the southeast corner of the property. They were originally an old foundry and were purchased as they stood. After this acquisition, the mill was built around them. They were, at the time of acquisition, required for massive raw material storage due to material availabilities. This is no longer true. At this time they are used as finished goods warehouses. In order to utilize them, we are required to load finished product into the trucks and truck them around the mill, then unload them which requires excessive trucking and labor costs.

Other problems associated with the design of the mill are in the shipping area. These docks are located in such a way that truck traffic cannot conveniently move to both finished goods shipping docks. The receiving docks are designed such that they create excessive problems with truck traffic. Both of these docks were designed when most of the goods were handled by hand and the need for adequate room for fork truck maneuvering was minimal.

The Angell Mill has a large fuel oil storage tank which was built back in the 70's when fuel oil was relatively inexpensive. In the last five years, the Angell facility has not utilized the above-ground storage.

By design, the mill does not have essential maintenance shop arrangement. This creates a cluster of several shops separate from each other creating a difficult supervision and manning problem. This increases inefficiencies and increases the mill's operating cost.

The stock chests in the beater room area were not designed with current day standards. By their design, they create both a process flow problem as well as air and impurity entrainment increasing our cost to remove both in order to create a quality product.

These are a few of the major problems at the Angell complex based on the design of the buildings. If further information is required, please feel free to contact me.

M.S. Shapton

MSS:ih

Building #10 - The walls need to be remortared in order to save the structure. In addition, the second floor is unsafe for any real loads, and therefore it is virtually unused except for very light storage.

Building #11 - The roofs are all bad in this complex of rooms in building 11 and will have to be replaced. There are wall cracks in the west end of the building as well as in the window area on the east end which will have to be either rebricked or at a minimum remortared.

Building #12 - The roofs are questionable as well as the structure and foundation and has limited use for anything other than a locker room and a carpenter shop.

From M.S. Shapton Battle Creek

To File March 8, 1984

RE: BUILDING CONDITIONS

This memo refers to the attached drawing dated 12/26/45 with building numbers and square footage on it. Building #1 - This building suffers from windows which have been eroded during the course of time and periodically fall out. The south end of the building has had plastic put up to protect employees from falling windows. The docks are in need of repair.

Building #2 - By this building's design, it sometimes becomes flooded with ground water and/or process waters. To do this it has limited usefulness, currently it is the skid shop, but further use is questionable as that process is deleted from St. Regis.

Building #3 - The parapet wall has started to deteriorate and will require rebuilding.

Building #4 - The parapet wall is deteriorating on this building and will need repair. The wet end basement is not large enough to accommodate all the process equipment required in that area, creating congestion and inability to fully utilize process. The roofs will need repair within the next 5 years.

Building #5 - The roof will need replacement in the near term future. The water tower associated with this building will need repair this summer. It leaks and is generally in poor condition.

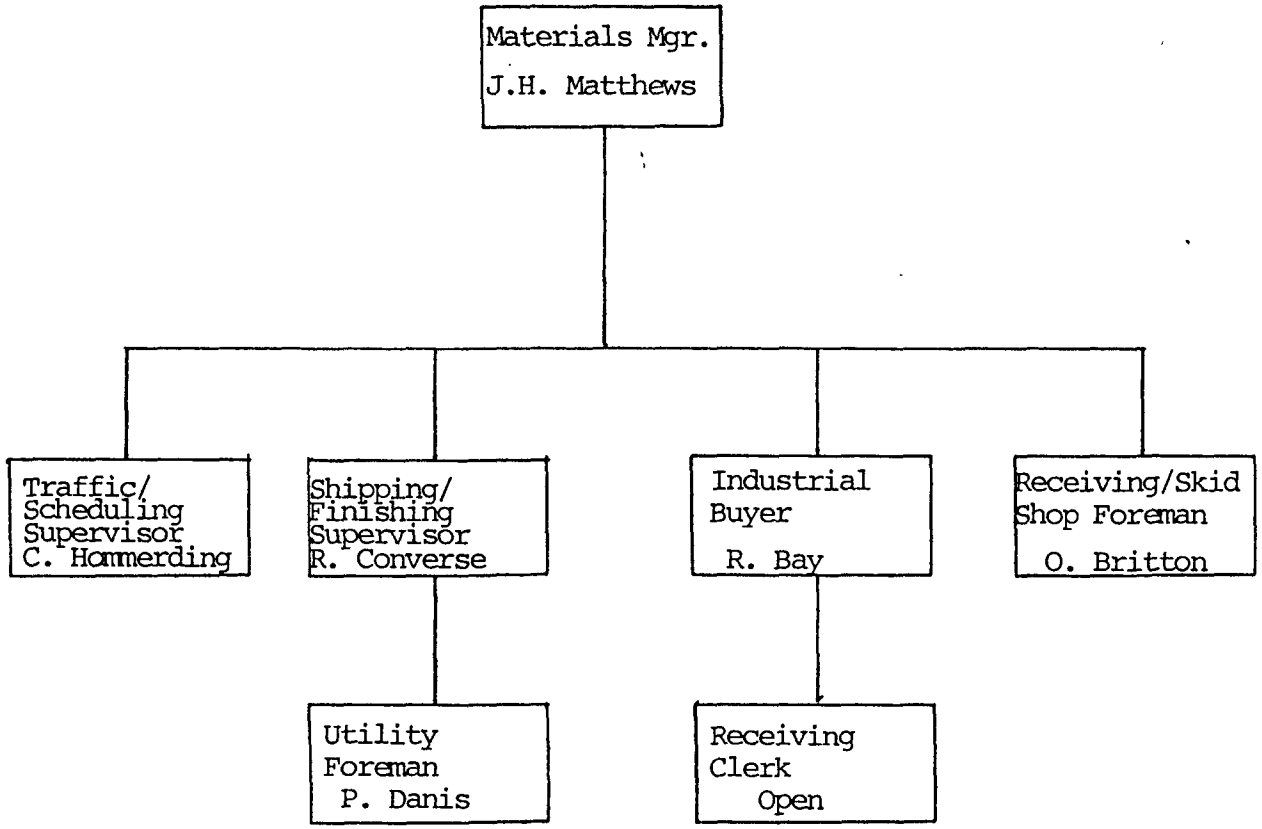
Building #6 - The parapet wall will need replacing.

Building #7 - Roofs will need to be replaced within the next five years. The west wall will need to be repointed in the near future. The east wall's foundation has dropped approximately 5 inches, causing problems with the floor also dropping.

Building #8 - Roofs are in bad shape. The floor in this building is rough, requiring high maintenance on the fork trucks which use this building extensively. The southeast wall exterior needs to be repointed or rebricked in order to save the structure.

Building #9 - Roof design has created many problems in this area with water removal, and consequently water on finished products causing losses. The south wall is in need of repair. The rail dock associated with this building is of poor design and as a result has only limited use.

MATERIAL LOGISTICS



RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: COMPUTER PRINTOUT

MAJOR USE: TOP LINER
APPROX. 65% OF
MOST GRADES

MONTHLY USAGE 700 TONS

COST: $146,000

CURRENT PRICE: 190/TON

AVG. FRT: 11/13 TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: OFFICE WASTE

PRINCIPAL SOURCES

HURON PAPER	CHGO	18%
AMER PPR RECYC	CHGO	14%
GREAT LAKES	DETROIT	10%
ROYAL PAPER	COLUMBUS	13%
OTHERS		45%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER NAME: MANIFOLD WHITE LEDGER

MAJOR USE: TOP LINER, APPROX 35% OF MOST GRADES

MONTHLY USAGE 600 TONS COST: $98,000

CURRENT PRICE: 150/TON AVG. FRT: 11-13/TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: PRINTERS, FORMS SUPPLIERS OFFICE WASTE COLLECTIONS

PRINCIPAL SOURCES

ATLAS RECYCLING - CHGO —— 35%

GREAT LAKES - DETROIT - —— 25%

JACKSON FIBERS - JACKSON - —— 10%

OTHERS —— 30%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: REG. NEWS
OVER-ISSUE NEWS

MAJOR USE: REG = FILLER
OIN = FILLER & BACKLINER

MONTHLY USAGE 1450 = RNWS
450 = OIN

COST: $ 111,000

CURRENT PRICE: 45.00 = RNWS
55.00 = OIN

AVG. FRT: 11/TON

PRINCIPAL SOURCE AREA: DETROIT

COLLECTION METHOD: GARBAGE ROUTE CHASERS
NEWS DRIVES
NEWSPAPERS (OIN)

PRINCIPAL SOURCES

GREAT LAKES - DETROIT - 85%
JACKSON FIBERS - JACKSON - 7%
DALLIS RECYC - CHICAGO - 8%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER NAME: DOUBLE LINED KRAFT

MAJOR USE: FILLER & BACKLINER

MONTHLY USAGE 600 TONS COST: $56,000

CURRENT PRICE: 82.50/TON AVG. FRT: 11.00/TON

PRINCIPAL SOURCE AREA: KALAMAZOO/LANSING

COLLECTION METHOD: CORRUGATED PLANTS

PRINCIPAL SOURCES

LOUIS PADNOS	LANSING	70%
KELLOGGS	BATTLE CRK	12%
OTHERS		18%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER NAME: BOX BOARD CUTTINGS

MAJOR USE: FILLER

MONTHLY USAGE 1350 TONS COST: $84,000

CURRENT PRICE: $50/TON AVG. FRT: 11/13 TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: FOLDING CTN. PLANT WASTE

PRINCIPAL SOURCES

ATLAS RECYC	–	CHICAGO	12%
CCA	–	CHICAGO	24%
DONCO	–	CHICAGO	13%
KELLOGG	–	BATTLE CRK	20%
OTHERS			31%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: LIGHT PRINT BL. KRAFT

MAJOR USE: HEAVY WT. TOP LINER

MONTHLY USAGE 150 TONS

COST:

CURRENT PRICE: 180/TON

AVG. FRT: 18/TON

PRINCIPAL SOURCE AREA:

COLLECTION METHOD: FOLDING CARTON PLANT WASTE
PRINTERS WASTE

PRINCIPAL SOURCES

DONCO	—	PENNSYLVANIA	— 35%
AMER. PPR RECYC.	—	TERRE HAUTE, IND	— 49%
MEDINA	—	LOUISVILLE, KY	— 14%
OTHERS	—		— 2%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: HARD WHITE ENV. CUTS

MAJOR USE: AB 50-70 BACK LINER

MONTHLY USAGE 130 TONS

COST: $40,000

CURRENT PRICE: $290/TON

AVG. FRT: 11/13 TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: ENVELOPE PLANTS

PRINCIPAL SOURCES

FIBERS, INC	CHGO	50%
CONTINENTAL PAPER GRAD	CHGO	35%
OTHERS		15%

RAW MATERIALS INFORMATION

TYPE: TITANIUM

NAME: ANATASE/ RUTILE

MAJOR USE: OPACITY IN TOP LINER

MONTHLY USAGE 98,000

COST: $61,000/MO.

CURRENT PRICE: .62/LB

AVG. FRT: DLVD

PRINCIPAL SOURCES

DU PONT - 60%

GLIDDEN - 40%

RAW MATERIALS INFORMATION

TYPE: LATEX NAME: SBR LATEX

MAJOR USE: COATING CLAY
BINDER

MONTHLY USAGE 127,000 LBS. COST: $89,000/MO.

CURRENT PRICE: .70 LB. AVG. FRT: DLVD

PRINCIPAL SOURCE AREA: MIDLAND, MI.

PRINCIPAL SOURCES

DOW CHEMICAL - 80%
POLYSAR - 20%

RAW MATERIALS INFORMATION

TYPE: COATING CLAY

NAME: GLOSS CLAY

MAJOR USE: COATING OF TOP LINER

MONTHLY USAGE 315 TONS

COST: $40,000/MO.

CURRENT PRICE: 90/TON

AVG. FRT: 37.06/TON

PRINCIPAL SOURCE AREA: GEORGIA

PRINCIPAL SOURCES

J. M. HUBER	–	50%
GEORGIA KAOLIN	–	50%

RAW MATERIALS INFORMATION

TYPE: STARCH

NAME: HYDROXYETHYLATED STARCH

MAJOR USE: SURFACE SIZE ON BACK LINER

MONTHLY USAGE 40,000 LBS.

COST: $7,800

CURRENT PRICE: 18.46/CWT

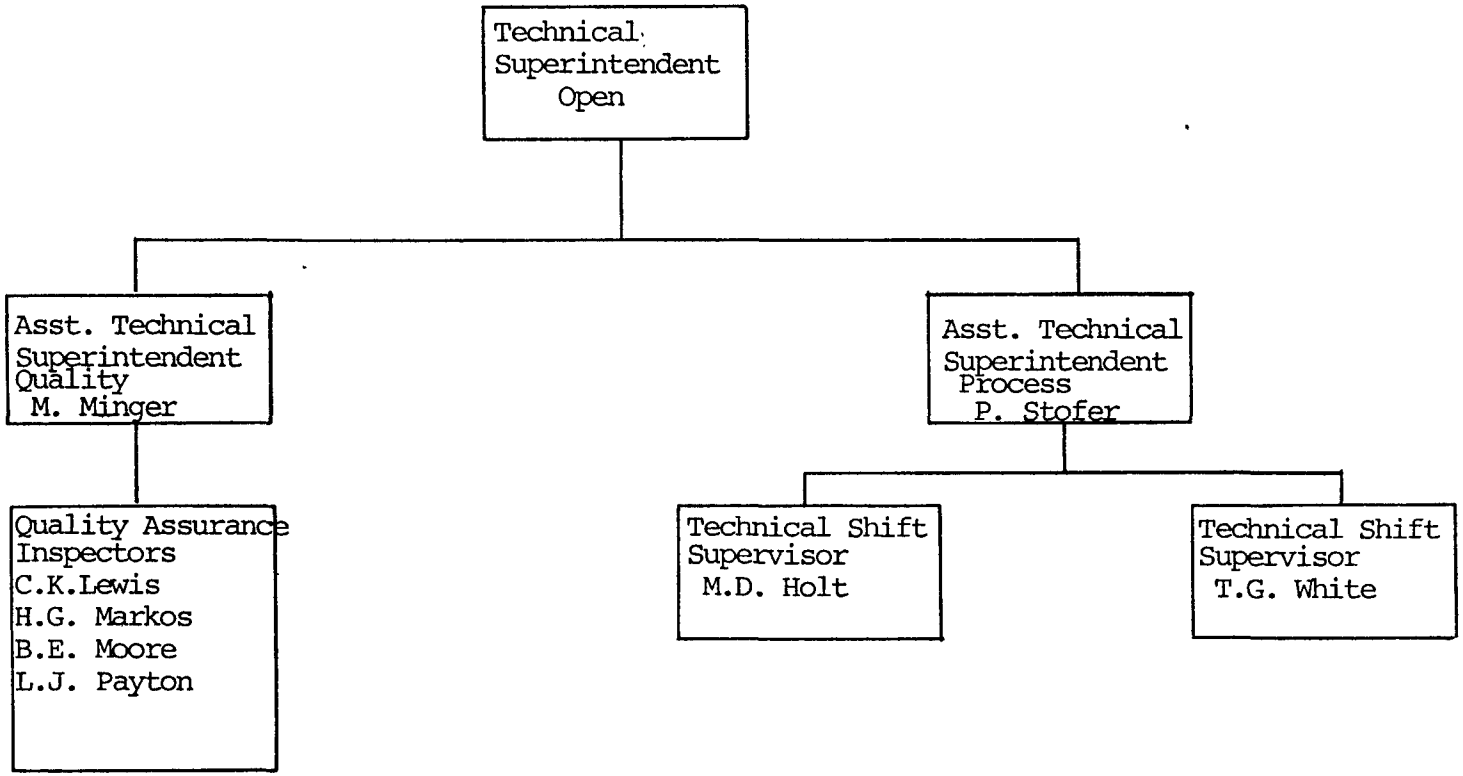
AVG. FRT: .94/CWT

PRINCIPAL SOURCE AREA: IOWA

PRINCIPAL SOURCES

CLINTON CORN - 100%

TECHNICAL DEPARTMENT



STATUS OF ENVIRONMENTAL COMPLIANCE

AIR

The boilers at Angell were converted from coal to gas and oil. As a result of this change, the Michigan DNR has given their tacit approval of the air quality. No tests have been run on the emissions from the boilers. Corporate Engineering has indicated that no permits are required to operate the boilers using the present fuels.

WATER

The Angell Mill discharges non-contact cooling water and the backwash from the sand filters to the Kalamazoo River through two outfalls. These outfalls are licensed under NPDES Permit M10029386 which expires February 28, 1988. The mill has been in compliance with the conditions of this permit as noted in the Technical Director's memo to the DNR dated May 3, 1984 with the exception of submitting some additional water analysis. This analysis is underway and the results will be submitted in the near future.

All process effluent is sent to the City of Battle Creek wastewater treatment plant. This plant is in the process of being upgraded and expanded and there is more than enough capacity for industrial expansion in the Battle Creek area. Until the end of March 1986, the Angell Mill has the contractual right to utilize the following capacities of the plant:

Flow	2.5 million gallons/day
Solids	5000 lbs/day
BOD	3250 lbs/day

After March 1986, the capacities reserved for the Angell Mill will be as follows:

Flow	5.0 million gallons/day
Solids	10,000 lbs/day
BOD	6,500 lbs/day

Because the mill does not require such capacities and their exclusive use costs about $144,000/year, negotiations are currently underway with the city to reduce the 1986 capacities by the amounts required by the Fountain street mill formerly owned by St. Regis.

Considerable efforts and capital have been expended by the mill personnel to reduce the effluent discharges and recycle process water. The progress achieved to date is shown in the attached figures. Average loadings achieved by the mill at this time are:

Flow	1.2 million gallons/day
Solids	8,000 lbs/day
BOD	3,200 lbs/day

The industrial contract rates for use of the City's treatment plant were implemented in September 1983 and are summarized below:

Fixed Capital Charge	$ 2,336.50/mo.
New Capital Charge	3,363.50/mo.
Monitoring	250/mo
Loading charges:	
Flows	$ .77/ccf
BOD greater than 300 ppm	.05/lb.
Solids " " "	.07/lb.
Penalty Charges for exceeding	
Capital allocations:	
Flow	$35.81
BOD	36.36/1000 lbs/day
Solids	29.81/1000 lbs/day

Additional reductions in effluent will require considerable capital expenditures. Some kind of holding system must be installed to provide for storage during upsets in the operation.

PERMIT TRANSFER

As with the Fountain Mill of St. Regis sold to Field Container, no problems are expected in transferring the permit to a new owner.

SOLID WASTE

The sludge from the fiber cleaning systems and other wastes from the mill are hauled to landfill by a local company by the name of Waste Management. The mill generates about 3840 cubic yards of material annually and the present disposal costs are $30,000/year. The installation of a sludge dewatering system will reduce the solid waste costs considerably.

PAPER COMPANY

79 E Fountain Street
Battle Creek, Mich 49016 963-5511

May 3, 1984

Jeff Braunscheidel
Michigan DNR
301 East Glick Highway
Jackson State Office
Jackson, Michigan 49201

Dear Jeff:

We talked by phone of several items concerning the NPDES permit (no. 0029386), for the St. Regis Angel Mill. This is a follow up of that conversation.

1) There are two persons currently certified by the Water Resource Commission for operation of a waste treatment facility at Angel Mill. The certification is in the classification of A-2f and B-2a. Persons with this certification are:

Duane Dohse, no. 2587

Jon Hamelink, no. 2604

Both of these were issued earlier this year. At this time there is one additional person to take the State test for similiar certification.

2) Special Condition #4: This concerns the concentration of additives in the discharge stream and the limits. These are:

ADDITIVES	DAILY MAXIMUM mg/l
Nalco 19	2.6
Nalco 353	.26
Nalco 356	26.0
Nalco 7220	26.0

Actual water analysis have shown the concentration of the materials to be under the limits for products 19, 353 and 356. Results were reported as less then 2.5, less then 0.1, and less then 1.0 ppm respectively. Mass balance calculation may be questionable due to product transformation. Therefore, additional water analysis is underway on the effluent stream. This can be reported, Jeff, when we receive it.

The information on Transport-Plus, or Nalco 7200 can be passed on as it is made available to us. The attached information from the supplier is the extent of what is readily available, with the exception of toxicity data that was sent in February. The actual product formulation is proprietory. If additional information is required, you should contact Nalco directly.

3) Special Condition #6: A short term waste characterization study on TRC. The study will soon be redone with use of the spectrophotometer method. Thanks for the reference names which can be used if we need some additional input.

4) Section 10, Part 11-A, provisions at the plant dealing with power loss. In the event of a power outage, flows will stop. Water cannot be pumped from the river for clarification, sand filters cannot be backflushed, and the backflush cannot be pumped to the lamella. Gravity discharge would take the route of the sanitary sewer.

It is hoped that the above will meet the requirements that we have discussed.

Jon D Hamelink

JDH/jef

Attached: Information on 7200

cc: T. Myers
R. Cashen

Power Generation Chemicals | **Product Bulletin**

B-7200

NALCO

TRANSPORT-PLUS™ 7200

BOILER FEEDWATER TREATMENT

Product Benefits

- Essentially noncorrosive to boiler internals
- Helps inhibit scale formation and resultant tube failures
- Can reduce deposits, resulting in more efficient heat transfer, energy savings, and fewer acid cleanings
- Effective antifoam can reduce foaming in the boiler to ensure excellent steam quality
- Available in bulk quantities for easy application

Principal Uses

TRANSPORT-PLUS 7200 is a liquid all-organic noncorrosive boiler feedwater treatment used for maximum scale inhibition and internal metal passivation. Suggested maximum use pressure is 1500 psi.

General Description

TRANSPORT-PLUS 7200 is a specially formulated blend of synthetic organic polymers and antifoam in liquid form.

Color	Light yellow
Odor	Slightly ammoniacal
Density (@ 77°F)	9.7 lb/gal
Viscosity (@ 77°F)	55 cp
pH (Neat)	10.2
pH (1% Solution)	8.8
Freeze Point	26°F
Freeze-Thaw Recovery	Complete
Flash Point (PMCC)	None

Handling

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes, and clothing. Avoid prolonged or repeated breathing of vapors. Do not take internally. In case of contact, wash skin with soap and water; for eyes, immediately flush with large amounts of water for at least 15 minutes and get medical attention. Remove contaminated clothing and wash before reuse. Keep out of reach of children.

Storage

TRANSPORT-PLUS 7200 should be stored in stainless steel, mild steel, polyethylene, or fiberglass tanks. The recommended maximum storage temperature is 120°F; recommended in-plant storage limit is six months.

Shipping

TRANSPORT-PLUS 7200 is shipped from manufacturing locations and regional distribution centers in 55-gallon, nonreturnable steel drums. It is also shipped in bulk quantities from selected manufacturing locations.

(Continued on Reverse Side)

NALCO CHEMICAL COMPANY
WATER TREATMENT CHEMICALS
2901 BUTTERFIELD ROAD • OAK BROOK, ILLINOIS 60521

SUBSIDIARIES IN ARGENTINA AUSTRIA BRAZIL CHILE COLOMBIA ECUADOR FINLAND FRANCE HOLLAND HONG KONG ITALY PHILIPPINES SAUDI ARABIA SPAIN SWEDEN VENEZUELA AND WEST GERMANY • AFFILIATES IN AUSTRALIA CANADA JAPAN MEXICO SINGAPORE SOUTH AFRICA TAIWAN UNITED KINGDOM AND THE UNITED STATES

Registered Trademarks of Nalco Chemical Company

NALCO

Dosage

TRANSPORT-PLUS 7200 dosage will vary as a function of feedwater total acid hardness Your Nalco representative will recommend the proper dosage needed to help ensure maximum program performance

Feeding

TRANSPORT-PLUS 7200 should be fed continuously into the feedwater line. Any interruptions in feed will result in scale formation in the boiler and possible tube failure

TRANSPORT-PLUS 7200 may be fed neat or in any convenient dilution. If diluted, cooled condensate or softened make-up is recommended as a diluent. If feedwater is used for attemperation, TRANSPORT-PLUS 7200 should be fed downstream of the attemperation water take-off. TRANSPORT-PLUS 7200 cannot be mixed with catalyzed sulfite or filming inhibitors.

Dissolved oxygen should be less than 100 ppb at the point of chemical injection for maximum performance Deaerated feedwater containing an oxygen scavenger residual is preferred A stainless steel quill (available from Nalco) that extends beyond the internal surface of the feedwater line should be used

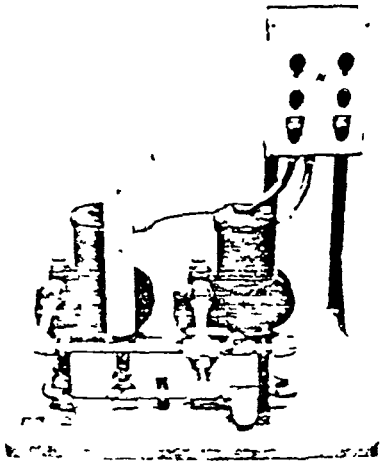
The FEEDPAC® Series B, Model FB1-110 or FB1-210, is recommended for feeding TRANSPORT-PLUS 7200 See Figure 1

Materials of Construction

Compatible materials of construction include 304 SS, 316 SS, mild steel, nickel, fiberglass (DK 411), Teflon, natural rubber, polyethylene, neoprene, polyvinyl chloride, Viton, Buna-N, polypropylene, and polyurethane.

Materials that *must not* be used are aluminum, copper, brass, copper alloys, and Hypalon.

Figure 1 — *Nalco FEEDPAC Series B bulk chemical feed system*



Remarks

TRANSPORT-PLUS 7200 *cannot* be used in FDA or USDA regulated plants

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

RONALD O. SKOOG, Director

Reply To:

4th Floor
State Office Building
301 E. Louis Glick Hwy.
Jackson, MI 49201

April 24, 1984

To Hamelink

Mr. Tom Myers, Resident Manager
St. Regis Corporation
177 Angell Street
Battle Creek, MI 49016

Dear Mr. Myers:

Re: NPDES Permit MI0029386 (Angel Mill)

In my phone conversation of March 1, 1984 with Mr. Hamelink, I mentioned several items that were to be cleared up concerning operations at the Angel Mill. We have not yet received the information I requested.

Listed below are our concerns:

1. The wastewater treatment facilities at this plant are currently classified as A2F-discharge measuring and monitoring, and B2A-chemical clarification. You are legally required to provide an operator certified in each of these classifications. Verify that your operator is properly certified.

2. In Mr. Hamelink's letter of February 20, 1984, he refers to Special Condition 4 of the permit and mentions that he used mass balance calculations to determine compliance with additive discharge limits. We need to see the data used and how the calculations were performed to verify this.

   The replacing of Nalco 7220 and 7213 by Nalco 7200 was also mentioned. It is the permittee's responsibility to supply product information before changes occur. The required information includes all active ingredients, inert materials and cross-reaction products of the constituents, mammalian or aquatic toxicological data or references which are available, and information on the rate of degradation of the product. The bulletin on Nalco 7200 that we were sent did not contain this information.

3. Special Condition 6, referred to in the same letter, deals with a short-term waste characterization study for total residual chlorine (TRC). Since the colorimetric procedure that was used is not currently acceptable, this study will have to be repeated when you begin using the spectrophotometric method that Mr. Hamelink indicated will be in operation soon. If Mr. Hamelink would like some guidance on the procedure for this type of chlorine analysis, he may contact Mr. Howard Selover or Mr. Dan Holmquist of our Community Assistance Division at (517) 373-0397.

4. Section 10, Part II-A of your NPDES permit refers to provisions at the plant dealing with power loss. If there is a power outage, what effect will this have on the wastewater treatment facilities? What steps will be taken to prevent untreated wastewater from being discharged in violation of the permit effluent limits?

Provide us with a written response to these four concerns by May 18, 1984. Feel free to contact me if you have any questions or comments.

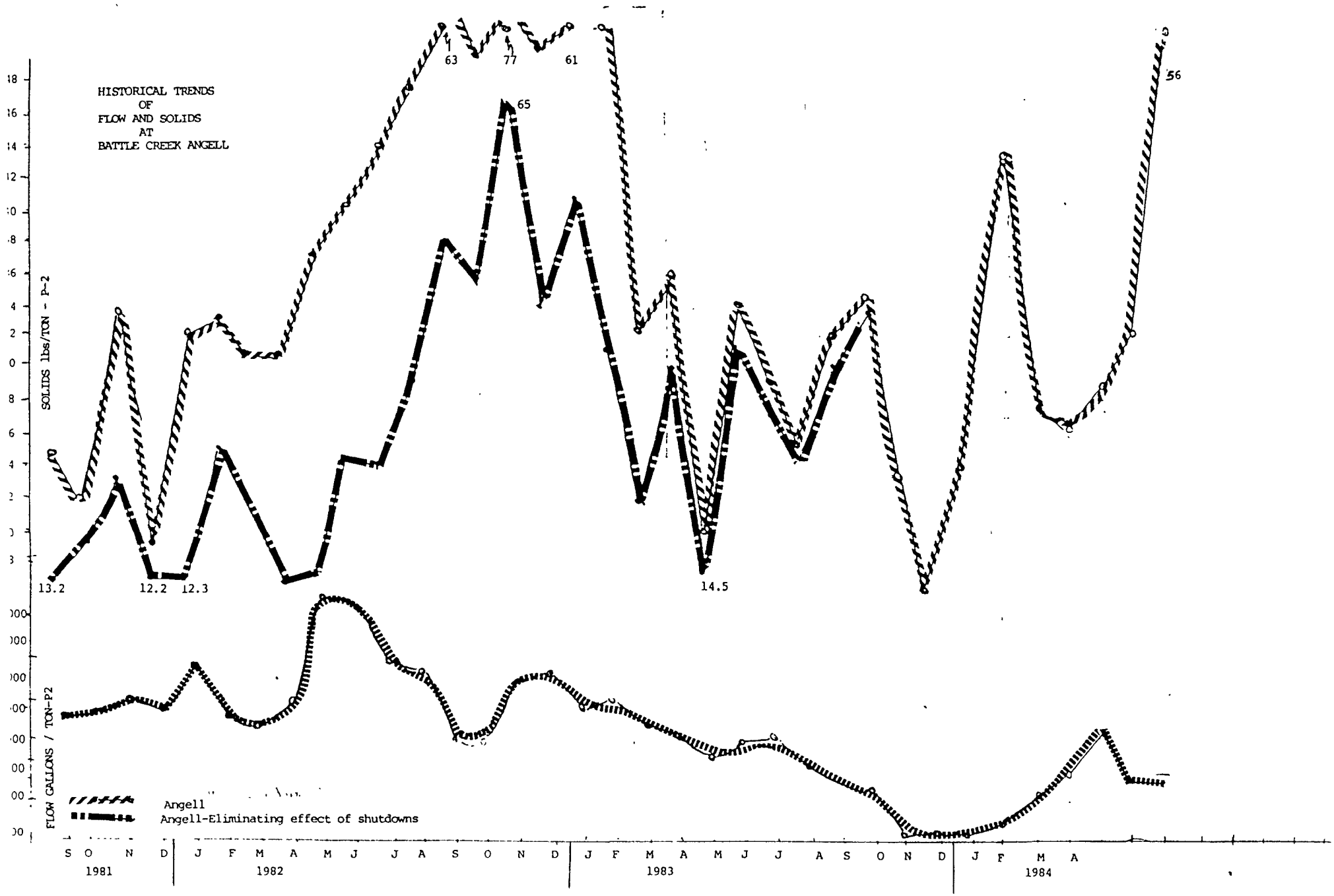
Sincerely,

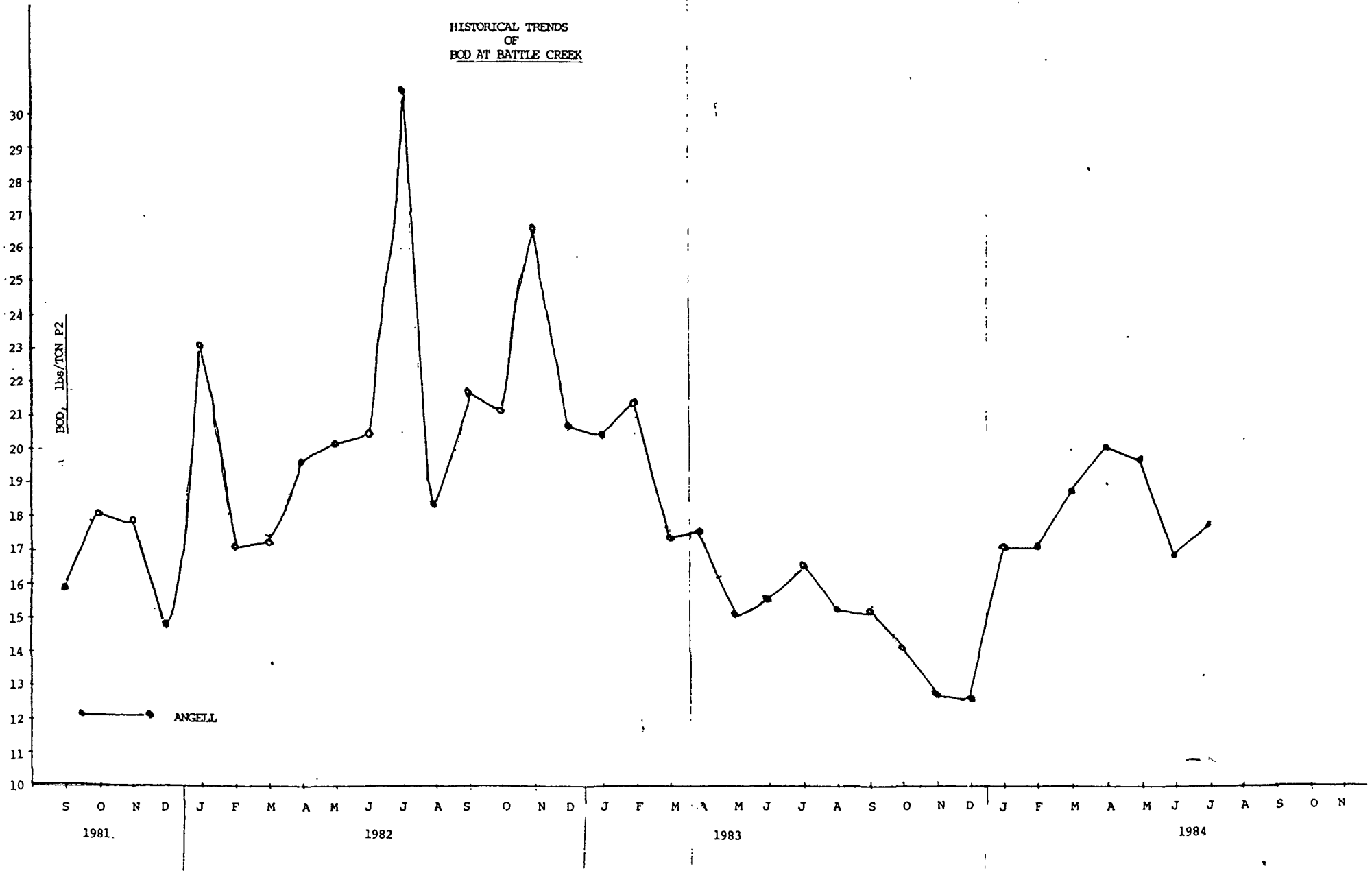
Jeffrey J. Braunscheidel

Jeffrey J. Braunscheidel
Compliance Section #2
Surface Water Quality Division
(517) 788-9598

JJB:lc

cc: J. D. Hametink, Technical Supt.


HISTORICAL TRENDS
OF
FLOW AND SOLIDS
AT
BATTLE CREEK ANGELL
SOLIDS lbs/TON - P-2
FLOW GALLONS / TON-P2
63
77
61
65
56
13.2
12.2
12.3
14.5
Angell
Angell-Eliminating effect of shutdowns
S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A
1981
1982
1983
1984


HISTORICAL TRENDS
OF
BOD AT BATTLE CREEK
BOD, lbs/TON P2
30
29
28
27
26
25
24
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ANGELL
S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N
1981
1982
1983
1984

Copies for Jim A Mike M
Don O Paul S
Nels G Steve R
Bill D " Weers
Cathy Mac " "
A big atta Boy for the Angel Mi
JM

WALDORF
CORPORATION

To Gene Frey, Jack Greenshields
Wayne Gullstad, Chris Hansen
Mark Shapton, Les Spurgeon
Don Swan, Tom Troskey

Date August 2, 1989

From John Matthews

Subject "Quality of Life" Grant

I am pleased to advise you that the State of Michigan has approved our application for a "Quality of Life" grant. This award, in the amount of $1,646,821 has been approved through all State levels, and will be funded shortly by the Michigan Legislature.

A copy of the Award Letter is attached, together with the Staff Evaluation of our application by the Department of Natural Resources. The application was rated as "Good". The top rating is "Excellent", which I understand was received by only a few of the 82 awards recipients. The area of "Concerns" contains my comments, which in almost all cases were areas that we deliberately chose not to be more specific on, because of proprietary needs and private company confidentiality.

It will take some time for the State to prepare our contract, which I expect to receive by early September. If we can promptly sign the contract, then the first funding would be made available in October of this year.

As soon as the Contract is signed, then the clock starts running. The entire project should be ready for testing on October 1, 1990, with production beginning on November 1, 1990. This schedule is quite tight due to leadtimes, and therefore we will need to process our own ARA's from our Capital Budget, commencing almost immediately.

JM/sf

Enclosures

NATURAL RESOURCES COMMISSION
THOMAS J ANDERSON
MARLENE J FLUHARTY
GORDON E GUYER
KERRY KAMMER
O STEWART MYERS
DAVID D OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING
P O BOX 30028
LANSING MI 48909

DAVID F HALES, Director

July 28, 1989

Dear Applicant:

On behalf of the Natural Resources Commission, I am pleased to inform you that your application was selected for funding through the 1989/90 Solid Waste Alternatives Program. From the 253 applications received, 82 awards were recommended. The recommendations now go to the Legislature for funding approval. It is expected that funds will be available in October, 1989.

In late September or early October, you will be contacted by the staff person responsible for administering this award. At that time your project and award arrangements will be discussed in detail. Any concerns that are identified on the attached staff evaluation of your project will need to be addressed prior to issuance of a contract. Expenses incurred prior to issuance of the project contract (including matching fund expenses) are not reimbursable under the program. Also, projects involving the collection of newsprint for recycling will be required to verify their markets prior to issuance of a contract.

If you have any questions, please contact this office. Congratulations on your award! I wish you much success in meeting the goals set forth in your application.

Sincerely,

Fredrick Clinton

Fredrick Clinton, Chief
Resource Recovery Section
Waste Management Division
517-373-0540

Attachment

R1026
8 88

1989/90 SOLID WASTE ALTERNATIVES PROGRAM

STAFF EVALUATION

CATEGORY: Market Development APPLICANT: Waldorf Paper Corp.

APPLICATION CODE #: MD-3-13-00165 TELEPHONE: (616) 963-5511

COUNTY: Calhoun CONTACT: John Matthews

COST PER TON: $7.42 REVIEWER: Steve Kratzer

AMOUNT REQUESTED: $1,646,821 AMOUNT ELIGIBLE: $1,646,821

I. Rating: GOOD

II. Unique Features:

Waldorf Paper Corporation has nearly one hundred years of experience in the boxboard manufacturing field. Corporate offices are located near a sister boxboard mill in St. Paul Minnesota. The Battle Creek mill on Angell Street was acquired by Waldorf in 1984. Waldorf presently cannot use old corrugated containers (OCC) or mixed grades (MXP), because until recently it has no cleaning equipment to remove contaminants such as glue, plastics, tape, staples, etc. The proposed project would allow for these grades to replace two grades presently used; box clippings and double lined kraft (DLK).

The system proposed is a combination of a pulper cleaner, followed by forward centrifugal cleaners, sorters, deflakers, screens, and reverse centrifugal cleaners, all of which are designed to remove contaminants which frequently are present in OCC and MXP.

This project is part of a three Phase Program to increase utilization of waste paper at the Waldorf mill. Phase I has already been implemented and this proposal constitutes Phase II and/or III (unclear). A Belpurge unit, Bird centrifugal cleaning banks, and K-cline screens have already been purchased and dedicated to the project during Phase I. According to the text, this comprises 30-40% of the equipment required.

III. Additional Comments:

The Battle Creek mill presently consumes 106,490 tons annually, comprised of 11 grades of wastepaper. According to CMF Market Development studies, Waldorf is the second largest consumer of ONP in the State. Approximately 50% of the mills furnish is presently comprised of DLK and box cuttings. The project would allow for the this material to be replaced by 25,000 tons of OCC and 12,000 tons of MXP annually. This would benefit the mill since prices of the currently used grades are very high and

increasing rapidly with shortages of supply of these materials being recently documented. Both these trends are expected to continue.

IV. Concerns:

There is not a great deal of detail presented with regard to rationale or justification for each piece of equipment proposed (that which is provided is attached and that which accompanies the equipment quotations). The three Phases of the project and their inter-relationships are never clearly described or presented.

WE CHOSE NOT TO DETAIL THIS INFO. (PROPRIETARY)

WE ASSUMED THE CONTRACT WOULD REQUIRE THIS.

No commitment to operate the project for five years after the contract with the State expires is presented, however it is mentioned in the text with reference to an Exhibit that does not contain this information (perhaps this material was left out as an oversight). Little financial information is presented and no business plan is attached. Not a great deal of information is provided about the existing paper machines such as speed, capacity, specifications etc. It may be that some of this information is considered proprietary, especially since it will become a matter of public record (ie. Waldorf requested the Convertors Paperboard application after <u>that</u> project was funded under a Clean Michigan Fund Grant).

No new jobs will be created as a result of project implementation.

QUALITY OF LIFE BOND
SOLID WASTE ALTERNATIVES PROGRAM

The following is a list of the Resource Recovery Section staff member who reviewed the 1989/90 QLB applications (by category) including their telephone numbers.

Clean Michigan Community	Wayne Koser	373-4741
Composting	Jim Blue	335-4924
	Wayne Koser	373-4741
Education	Marta Fisher	373-1444
	Carole Menovske	373-4739
Recycling	Kyle Cruse	373-4738
	Lisa Kapp	335-4923
	Steve Kratzer	373-4747
	Hien Nguyen	373-4742
	Barb Schaibly (call Lisa Kapp)	
Market Development	Steve Kratzer	373-4747
Market Development R&D	Steve Kratzer	373-4747
Statewide Projects	Fred Clinton	373-0540
	Robbe DiPietro	373-4750
Waste Reduction R&D	Flo McCormack	373-0605
Transfer Station	Gordon Anderson	373-4746

7/28/89

1984 ANGEL STANDARDS

11/5/83

P(

		302 ANGELITE	303 AB 50	304 AB 70	301 ANGELCOTE
012 – 014	T.L.	CPO (2) 67 MWL (1) 33	→	→	X
			*(DLK USE ONLY AS NEEDED)		
	FILLER	O.I. News (1) 35 BoxBoard (1½) 55 DLK (1/3)* 10	→	O.I. News (1) 33 Box B. (1½) 53 DLK (½) 14	X
	B.L.	News (2) 100	N.BLK (2) 80 S.WH (½) 20	S.WH (3) 100	X
015 – 019	T.L.	CPO (2) 67 MWL (1) 33	→	→	→
			*(DLK USE ONLY AS NEEDED) (O.I. News may be needed)		
	FILLER	News (1) 41 BoxBoard (1) 46 DLK (½)* 13	→	→	BBC (1) 60% DLK (1) 40%
	B.L.	News (2) 100	N.BLK (2) 80 S.WH (½) 20	S.WH (3) 100	News (1½) 79 CPO (1/3) 21
020 – 022	T.L.	LPBK (1) 29 CPO (1) 36 MWL (1) 35	→	→	→
	FILLER	News (1) 42 BoxB (1) 32 DLK (1) 26	→	→	BBC (1) 60% DLK (1) 40%
	B.L.	News (2) 100	N.BLK (2) 81 BKC (½) 19	S.WH (2) 81 BKC (½) 19	News (1½) 79 CPO (1/3) 21
023 – [illegible]	T.L.	LPBK (1) 29 CPO (1) 36 MWL (1) 35	→	→	→
	FILLER	News (1) 42 BoxB (1) 32 DLK (1) 26	→	→	BBC (1) 60% DLK (1) 40%
	B.L.	News (1½) 79 CPO (1/3) 21	N BLK (2) 69 BKC (1) 31	S.WH (2) 69 BKC (1) 31	News (1) 45 CPO (1) 55

1984 ANGEL STANDARDS

P2

11/5/83

	320 CORE STOCK	321 E FLUTE
T.L.	CPO (2) 70% NB (1) 30%	L.P.BK (2) 79% BRC (½) 21%
FILLER	CUP STOCK (4) 37% TMP (2) 16% W. BAG (1½) 15% LPBK (1½) 17% NB (½) 6% BBC (1) 9%	BBC (2) 68% B.K. Bag (1) 32%

PURCHASING

PRINCIPLE MATERIALS USAGE - SECONDARY FIBER

	1984 ACTUAL		1985 PROJECTED	
	QUANTITY	DOLLARS	QUANTITY	DOLLARS
Hard Whites	564	180,400	2,650	715,500
Soft Whites	882	191,200	200	36,000
News Blanks	1,509	217,700	2,949	280,100
Computer Print Out	8,531	1,658,100	10,138	1,926,400
Flyleaf	170	18,800	150	12,700
Grdwd. Comp. Print Out	1,339	134,400	1,300	117,000
Double Lined Kraft	7,352	675,400	7,619	647,600
Regular News	20,419	1,264,900	23,845	1,335,300
Boxboard Cuttings	16,383	976,900	22,026	1,321,600
Manifold White Ledger	6,634	1,042,200	7,382	1,218,000
Bl. Kraft Cdttings	276	76,500	791	220,000
Over-Issue News	4,741	325,200	2,480	161,200
Lt. Prt. Bleached Kraft	1,898	371,500	3,211	594,000
Lt. Prt. White Bags	800	198,600	850	212,500
Thermal Mechanical Pulp	1,240	114,800	1,300	104,000
Sections	139	7,407	500	22,500
Cup Cuttings	343	49,300	178	25,600
Prt. Bleached KC	56	10,400	—	—

CHEMICALS

Clay	4,071	503,000	3,779	519,000
Latex	755	1,048,000	763	1,114,000
Protein	150	243,100	221	384,000
Titanium	506	614,600	590	761,000

ANGELL MILL

FIBER CONSUMPTION - JUNE 1985

		ACTUAL CONSUMPTION			STANDARD			VARIANCE USAGE		PRICE
		LBS.	$	Cost/Ton	LBS.	$	Cost/Ton	LBS.	$	
01	HARD WHITES	104,827	11,484	220.00	14,035	1,860	265.00	(90,792)	(12,030)	2,406
04	SOFT WHITES	---	---		41,606	5,158	248.00	41,606	5,158	----
06	NEWSBLANKS	171,669	6,067	70.00	371,831	31,047	167.00	200,162	16,713	8,267
07	CPO	1,607,860	119,167	148.00	1214,621	145,752	240.00	(393,239)	(47,191)	73,776
09	FLYLEAF	---	---	--	--	--	75.00	---	---	---
11	MIXED SHAVINGS	---	---	--	--	--	--	---	---	---
12	PRINTED BLEACHED KRAFT	---	---	--	--	--	--	---	---	---
16	OLD CORRUGATED	---	---	--	--	--	--	---	---	---
17	GROUNDWOOD	6,979	157	45.00	--	--	108.00	(6,979)	(157)	---
18	DLK	2,226,221	59,453	53.00	1724,674	87,096	101.00	(501,547)	(25,328)	52,971
19	NEWS REGULAR	4,206,935	95,814	46.00	3640,708	118,322	65.00	(566,227)	(18,403)	40,911
20	BOXBOARD CUTTINGS	3,604,095	87,801	49.00	6304,673	204,904	65.00	2936,808	95,448	26,436
21	MIXED PAPER	55,192	379	13.00	---	---	40.00	(55,192)	(379)	---
22	SECTIONS	588,674	8,034	27.00	---	---	48.00	(588,674)	(8,034)	---
24	MANIFOLD LEDGER	695,862	44,276	127.00	955,513	83,611	---	259,651	22,723	16,612
25	BLEACHED KRAFT CUTTINGS	---	---	--	---	---	---	---	---	---
30	O/I NEWS	128,902	3,236	50.00	882,869	32,667	74.00	753,967	27,897	1,534
45	LIGHTLY PRINTED BLEACHED	906	70	155.00	134,204	15,298	228.00	133,298	15,195	33
46	LIGHTLY PRINTED WHITE BAG	---	---	--	---	---	270.00	---	---	---
47	TMP CUTTINGS	---	---	--	163,578	7,573	93.00	163,578	7,573	
50	SPECIAL LEDGER	1,281,106	69,629	109.00	---	---	---	(1,281,106)	(69,629)	---
03	BOOK STOCK	(11,636)	(515)	88.00	---	---	---	11,636	515	---
05	COATED BLANKS		---	--	---	---	---	---	---	---
	BEATER ROLL SALES	(141,680)	(8,500)	120.00	---	---	---	141,680	8,500	
	TOTAL	14,525,912	496,552	68.00	15448,312	733,288	95.00	1158,630	18,571	222,946

7/9/85

ANGELL MILL
FIBER CONSUMPTION - JUNE YTD 1985

		ACTUAL CONSUMPTION			STANDARD			VARIANCE USAGE		
		LBS.	$	COST/TON	LBS.	$	COST/TON	LBS.	$	PRICE
01	HARD WHITES	727,658	91,545	252.00	231,928	30,730	265.00	(495,730)	(65,685)	4,870
04	SOFT WHITES	45,240	5,745	254.00	329,258	40,826	248.00	284,018	35,215	(135)
06	NEWSBLANKS	1,716,422	75,657	88.00	2462,599	205,625	167.00	746,177	62,305	67,663
07	C.P.O.	9,504,246	845,683	180.00	6617,437	794,098	240.00	(2886,809)	(346,419)	294,832
09	FLYLEAF	235,816	9,053	77.00	---	---	75.00	(235,816)	(8,843)	(210)
11	MIXED SHAVINGS	---	---	--	---	---	---	---	---	---
12	PRINTED BLEACHED KRAFT	---	---	--	---	---	---	---	---	---
016	OLD CORRUGATED	---	---	--	---	---	---	---	---	---
17	GROUNDWOOD	1,742,049	70,429	81.00	405,102	21,876	108.00	(1336,947)	(71,975)	23,421
18	DLK	10,200,998	338,278	66.00	9845,624	497,205	101.00	(355,344)	(17,947)	176,873
19	NEWS REGULAR	20,724,731	549,003	53.00	21666,727	704,173	65.00	941,996	30,625	124,546
20	BOXBOARD CUTTINGS	22,506,785	604,564	54.00	35142,711	1142,153	65.00	12872,157	418,358	124,013
21	MIXED PAPER	643,437	8,421	26.00	---	---	40.00	(643,437)	(3,589)	(4,832)
22	SECTIONS	3,912,774	70,151	36.00	---	---	48.00	(3912,774)	(87,149)	16,997
24	MANIFOLD LEDGER	6,308,686	424,597	135.00	5962,367	521,713	175.00	(346,319)	(30,297)	127,415
25	BLEACHED KRAFT CUTTINGS	---	---	---	---	---	---	---	---	---
30	O/I NEWS	3,052,075	96,248	63.00	3316,776	122,722	74.00	264,701	9,794	16,680
45	LIGHTLY PRINTED BLEACHED	864,697	81,481	188.00	1155,571	131,737	228.00	290,874	33,162	17,094
46	LIGHTLY PRINTED WHITE BAG	553,495	65,332	236.00	152,896	20,641	270.00	(400,599)	(54,080)	9,389
47	TMP CUTTINGS	873,407	33,642	77.00	1251,072	57,923	93.00	377,665	17,484	6,797
50	SPECIAL LEDGER	2,445,039	138,392	113.00	---	---	---	(2445,039)	(143,888)	5,496
03	BOOK STOCK	(66,216)	(2,819)	85.00	---	---	---	66,216	3,021	(202)
	BEATER ROLL SALES	(1,002,105)	(66,643)	---	---	---	---	1002,105	66,643	---
05	COATED BLANKS	41,880	1,298	62.00	---	---	---	(41,880)	(1,429)	131
	TOTAL	85,031,114	3440,057	81.00	88,540,068	4291,422	97.00	3745,215	(154,694)	1010,838

7/10/85

ANGELL MILL
FIBER CONSUMPTION - FEBRUARY 1985

		ACTUAL CONSUMPTION LBS.	$	Cost/Ton	STANDARD LBS.	$	COST/TON	VARIANCE USAGE LBS.	$	PRICE
01	HARD WHITES	90,467	12,360	273.00	74,512	9,871	265.00	(15,955)	(2,114)	(375)
04	SOFT WHITES	---	---	254.00	21,332	2,645	248.00	21,332	2,645	---
06	NEWSBLANKS	253,691	13,449	106.00	233,084	19,463	167.00	(20,607)	(1,721)	7,735
07	CPO	1228,166	121,737	198.00	1027,788	123,338	240.00	(200,378)	(24,045)	25,646
09	FLYLEAF	144,432	6,211	--	---	---	75.00	(144,432)	(5,416)	(795)
17	GROUNDWOOD CPO	413,792	18,089	88.00	230,184	12,430	108.00	(183,608)	(9,915)	4,256
18	DLK	1375,987	52,586	77.00	1517,321	76,626	101.00	141,334	7,137	16,903
19	NEWS REG.	3807,293	106,961	56.00	3338,652	108,506	65.00	(468,641)	(15,231)	16,776
20	BOX CUTTINGS	2808,395	77,184	55.00	5123,311	166,509	65.00	2314,916	75,235	14,090
24	MANIFOLD LEDGER	1301,553	94,541	145.00	1033,497	90,433	175.00	(268,056)	(23,455)	19,347
25	BLEACHED KRAFT CUTTINGS	---	---	---	---	---	---	---	---	---
30	O/I NEWS	98,171	3,047	66.00	205,490	7,603	74.00	107,319	3,970	586
45	LIGHTLY PRINTED BLEACHED	177,628	15,501	175.00	299,301	34,122	228.00	121,673	13,871	4,750
46	LIGHTLY PRINTED WHITE BAGS	208,717	23,277	223.00	---	---	270.00	(208,717)	(28,177)	4,900
47	TMP CUTTINGS	284,885	11,394	80.00	268,272	12,421	93.00	(16,613)	(769)	1,796
22	SECTIONS	473,342	10,436	44.00	---	---	48.00	(473,342)	(11,266)	830
11	MIXED SHAVINGS	---	---	---	---	---	---	---	---	---
12	PRINTED BLEACHED KRAFT	---	---	---	---	---	---	---	---	---
21	MIXED PAPER	155,593	835	11.00	---	---	40.00	(155,593)	(311)	(524)
	TOTAL	12,822,112	567,608	88.54	13372,744	663,967	99.30	550,632	(19,562)	115,921

11 2/25/85

ANGELL MILL

FIBER CONSUMPTION - YTD 1985

		ACTUAL CONSUMPTION			-------STANDARD----------			VARIANCE USAGE		
		LBS.	$	COST/TON	LBS.	$	COST/TON	LBS.	$	PRICE
01	HARD WHITES	130,443	18,940	290.00	74,512	9,871	265.00	(55,931)	(7,411)	(1,658)
04	SOFT WHITES	9,280	1,178	254.00	57,500	7,130	248.00	48,220	5,979	(27)
06	NEWSBLANKS	491,336	28,916	118.00	484,922	40,491	167.00	(6,414)	(536)	12,111
07	CPO	2307,849	234,317	203.00	1737,124	208,460	240.00	(570,725)	(68,487)	42,628
09	FLYLEAF	176,256	7,579	86.00	--	--	75.00	(176,256)	(6,609)	(970)
17	GROUNDWOOD CPO	537,374	23,583	88.00	405,102	21,876	108.00	(132,272)	(7,143)	5,435
18	DLK	2864,687	111,160	78.00	2827,758	142,804	101.00	(36,929)	(1,865)	33,508
19	NEWS REG.	6371,413	179,234	56.00	6094,652	198,075	65.00	(276,761)	(8,995)	27,837
20	BOX CUTTINGS	6132,501	174,593	57.00	9475,189	307,944	65.00	3342,689	108,638	24,714
24	MANIFOLD LEDGER	2085,897	147,886	142.00	1884,295	164,876	175.00	(201,602)	(17,640)	34,632
25	BLEACHED KRAFT CUTTINGS	---	---	---	---	---	---	---	---	----
30	O/I NEWS	364,759	11,795	65.00	581,554	21,518	74.00	216,795	8,021	1,702
45	LIGHTLY PRINTED BLEACHED	560,928	51,792	185.00	553,896	63,146	228.00	(7,032)	(801)	12,155
46	LIGHTLY PRINTED WHITE BAGS	418,727	49,391	236.00	152,896	20,641	270.00	(265,831)	(35,887)	7,137
47	TMP CUTTINGS	508,676	19,627	77.00	472,133	21,860	93.00	(36,543)	(1,692)	3,925
22	SECTIONS	541,534	12,054	44.00	---	---	48.00	(541,534)	(12,889)	835
11	MIXED SHAVINGS	---	---	---	---	---	---	---	---	---
12	PRINTED BLEACHED KRAFT	---	---	---	---	---	---	---	---	---
21	MIXED PAPER	155,593	835	11.00	---	---	40.00	(155,593)	(311)	(524)
	TOTAL	23,657,253	1072,880	90.70	24801,533	1228,692	99.08	1144,281	(47,628)	203,440

(12)

2/25/85

WALDORF CORPORATION
RAW MATERIAL - YTD
DECEMBER 1989

		YTD Lbs	CONSUMPTION $	COST/TON	YTD Lbs	STANDARD $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
05	Coated Blanks	0	0	0.00	607,924	50,702	166.80	50,702	607,924	50,702	0
06	News Blanks	2,904,723	199,049	137.05	2,466,450	235,555	191.01	36,506	(438,273)	(41,857)	78,363
07	CPO	10,616,732	1,253,458	236.13	8,428,158	985,258	233.80	(268,200)	(2,188,574)	(255,846)	(12,354)
09	Flyleaf	2,769,322	130,186	94.02	3,461,494	185,895	107.41	55,709	692,172	37,172	18,536
12	Prt. Bleach Kraft	1,780,353	105,398	118.40	1,516,376	106,145	140.00	747	(263,977)	(18,478)	19,225
16	Old Corr.	430,719	7,511	34.88	0	0	55.00	(7,511)	(430,719)	(11,845)	4,334
18	DLK	28,677,801	1,301,448	90.76	27,580,540	1,447,974	105.00	146,526	(1,097,261)	(57,606)	204,133
19	News Regular	28,119,025	434,449	30.90	24,567,780	614,206	50.00	179,757	(3,551,245)	(88,783)	268,540
20	Boxboard Cuttings	14,690,214	251,891	34.29	19,450,808	546,565	56.20	294,674	4,760,595	133,772	160,902
21	Mixed Paper	599,816	3,593	11.98	0	0	40.00	(3,593)	(599,816)	(11,996)	8,403
22	Sections	5,949,201	66,567	22.38	9,617,856	198,128	41.20	131,561	3,668,655	75,574	55,987
24	Manifold Ledger	605,858	62,286	205.61	0	0	200.00	(62,286)	(605,858)	(60,586)	(1,700)
41	Br.Kr. Knv.Cutt.	1,248,364	156,352	250.49	1,356,537	169,579	250.02	13,227	108,173	13,523	(295)
50	Special Ledger	5,826,216	515,279	176.88	5,165,197	458,149	177.40	(57,130)	(661,019)	(58,632)	1,501
51	H.W. PULP	997,286	227,178	455.59	901,782	217,507	482.39	(9,671)	(95,504)	(23,035)	13,364
	SUBTOTAL	105,215,630	4,714,644	89.62	105,120,902	5,215,663	99.23	501,019	(94,728)	(317,920)	818,940
	Beater Rolls	(2,360,577)	(215,364)	182.47				215,364	2,360,577	127,982	87,382
	TOTAL	102,855,053	4,499,280	87.49	105,120,902	5,215,663	99.23	716,383	2,265,849	(189,938)	906,322

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WALDORF CORPORATION
RAW MATERIAL
JUNE YTD 1989

		YTD Lbs	CONSUMPTION $	COST/TON	YTD Lbs	STANDARD $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
05	Coated Blanks	1,385,778	105,014	151.56	570,994	47,620	166.80	(57,394)	(814,784)	(67,952)	10,558
06	News Blanks	4,003,667	288,439	144.09	4,198,654	400,968	191.00	112,529	194,987	18,621	93,908
07	CPO	21,455,300	2,244,481	209.22	16,971,339	1,983,959	233.80	(260,522)	(4,483,961)	(524,178)	263,656
09	Flyleaf	6,550,636	357,702	109.21	6,929,944	372,135	107.40	14,433	379,308	20,369	(5,936)
12	Prt. Bleach Kraft	3,805,342	211,414	111.11	3,600,697	252,048	140.00	40,634	(204,645)	(14,325)	54,959
17	Brown Bags	0	0	0.00	0	0	0.00	0	0	0	0
18	DLK	47,224,219	1,997,360	84.59	53,415,263	2,804,305	105.00	806,945	6,191,044	325,030	481,915
19	News Regular	59,098,515	1,566,217	53.00	48,864,705	1,221,623	50.00	(344,594)	(10,233,810)	(255,846)	(88,747)
20	Boxboard Cuttings	33,469,143	884,536	52.86	38,324,319	1,076,918	56.20	192,382	4,855,176	136,431	55,951
16	Old Corr.	3,430	12	0.00	0	0	0.00	(12)	(3,430)	0	(12)
22	Sections	15,616,409	345,433	44.24	19,603,337	403,829	41.20	58,396	3,986,928	82,131	(23,735)
24	Manifold Ledger	125,465	13,500	215.20	0	0	0.00	(13,500)	(125,465)	0	(13,500)
30	D/I News	0	166	0.00	0	0	0.00	(166)	0	0	(166)
50	Special Ledger	8,739,160	653,424	149.54	11,188,290	992,396	177.40	338,972	2,449,130	217,237	121,736
51	H.W. PULP	1,128,051	246,414	436.88	1,241,666	299,494	482.41	53,080	113,615	27,404	25,676
41	Br.Kr.Env.Cutt.	2,748,575	328,747	239.21	2,396,808	299,605	250.00	(29,142)	(351,767)	(43,971)	14,830
40	Carrier Kraft	40,845	1,552	76.02	0	0	0.00	(1,552)	(40,845)	0	(1,552)
	SUBTOTAL	205,394,535	9,244,410	90.02	207,306,016	10,154,900	97.97	910,490	1,911,481	(79,049)	989,540
	Beater Rolls	(4,382,171)	(407,224)	185.85	0	0	0.00	407,224	4,382,171	407,224	0
	TOTAL	201,012,364	8,837,186	87.93	207,306,016	10,154,900	97.97	1,317,714	6,293,652	328,175	989,540

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ANGEL MILL
1987-1988 E.B.I.T. - ACTUAL vs. PLAN
000's omitted

	PLAN		ACTUAL		VARIANCE	
	Month	YTD	Month	YTD	Month	YTD
1987						
JULY	44		82	--	38	--
AUGUST	469	513	405	487	(64)	(26)
SEPTEMBER	557	1070	590	1077	33	7
OCTOBER	598	1668	842	1919	244	251
NOVEMBER	497	2165	478	2397	(19)	232
DECEMBER	118	2283	352	2749	234	466
1988						
JANUARY	503	2786				
FEBRUARY	470	3256				
MARCH	556	3812				
APRIL	555	4367				
MAY	660	4967				
JUNE	578	5545				

ANGEL MILL

TONS/DAY

	Customer Tons	Side Roll/ Ribbon	Sub Total	Odd Lot	Total
1987 ACTUAL	265	17	282	13	295
1988 PLAN	273	12	285	12	297
JULY 1987	266	13	279	14	293
AUGUST 1987	275	18	293	13	306
SEPTEMBER 1987	268	25	293	13	306
OCTOBER 1987	292	24	316	10	326
NOVEMBER 1987	301	22	323	9	332
DECEMBER 1987	285	20	305	9	314

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 12/31/87 RUN 1/04/88 9.01.10 MSC064

GRADE		% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	14-15	.5	19.35	267	14.47	13.80	95.3	310.50	318.16
ANGELCOTE	16-17	13.4	483.09	7,178	14.96	14.86	99.3	297.20	298.22
ANGELCOTE	18-19	5.3	183.12	2,810	15.03	15.35	102.1	290.04	286.93
ANGELCOTE	20-21	4.0	137.34	2,118	15.22	15.42	101.3	285.35	283.43
ANGELCOTE	22-23	2.1	80.24	1,099	14.95	13.70	91.6	285.52	299.28
ANGELCOTE	24-25	1.4	55.09	732	14.42	13.29	92.1	289.74	303.03
GRADE TOTAL		26.7	958.23	14,204	14.97	14.82	98.9	292.99	294.71
ANGELITE	10-11	1.7	94.06	886	10.64	9.42	88.5	362.84	390.94
ANGELITE	12-13		1.33	5	11.07	3.76	33.9	340.63	728.60
ANGELITE	14-15	8.1	356.27	4,361	13.28	12.24	92.1	302.18	316.38
ANGELITE	16-17	5.0	199.38	2,683	14.34	13.46	93.8	291.18	301.46
ANGELITE	18-19	17.0	630.21	9,098	14.34	14.44	100.6	287.44	286.35
ANGELITE	20-21	9.7	359.42	5,191	14.52	14.44	99.4	282.76	283.62
ANGELITE	22-23	12.6	470.17	6,718	13.45	14.29	106.2	280.48	271.35
ANGELITE	24-25	.1	3.55	31	13.62	8.73	64.0	287.20	379.91
ANGELITE	26	.3	17.74	167	13.47	9.41	69.8	291.05	363.24
GRADE TOTAL		54.5	2,132.13	29,140	13.82	13.67	98.9	291.32	294.70
AB 50	12-13	.9	52.34	475	10.81	9.08	83.9	383.96	422.67
AB 50	14-15	1.6	66.47	831	11.92	12.50	104.8	362.40	353.62
AB 50	16-17	.9	40.56	505	12.15	12.45	102.4	352.36	347.89
AB 50	18-19	.4	16.38	194	12.30	11.84	96.2	346.12	353.24
AB 50	20-21	4.6	186.68	2,476	12.48	13.26	106.2	338.63	328.01
AB 50	22-23	.1	1.73	33	12.48	19.08	152.8	333.42	270.94
GRADE TOTAL		8.5	364.16	4,514	12.09	12.40	102.5	351.33	349.37
AWhite	14-15	.9	33.52	469	13.16	13.99	106.3	336.81	326.52
AWhite	20-21		1.92	19	13.84	9.90	71.5	309.96	374.76
GRADE TOTAL		.9	35.44	488	13.20	13.77	104.3	335.36	329.13
AB 60	14-15	.1	6.25	59	11.91	9.44	79.2	361.77	411.27
AB 60	16-17	.1	3.90	39	12.15	10.00	82.3	366.88	406.78
AB 60	18-19	.1	2.83	28	12.30	9.89	80.4	345.64	390.31
AB 60	20-21	.4	20.45	226	12.48	11.05	88.5	338.24	361.61
AB 60	22-23	.1	7.47	75	12.48	10.04	80.4	332.94	376.84
GRADE TOTAL		.8	40.90	427	12.35	10.44	84.5	344.11	378.27
Chip	16-17	.9	29.08	469	14.79	16.13	109.0	233.73	221.65
Chip	20-21	.2	11.80	133	12.48	11.27	90.3	273.63	292.64
GRADE TOTAL		1.1	40.88	602	14.12	14.73	104.3	245.25	242.14
CORE STOCK	10-11	6.8	405.97	3,614	8.92	8.90	99.7	369.63	370.18
GRADE TOTAL		6.8	405.97	3,614	8.92	8.90	99.7	369.63	370.18
ALL OTHER	16-17		5.20	19	13.60	3.65	26.8	310.50	740.80
ALL OTHER	18-19	.8	34.85	454	14.00	13.03	93.0	233.73	244.55
ALL OTHER	22-23		1.84	23	14.00	12.50	89.2	233.73	251.18
GRADE TOTAL		.7	41.89	496	13.95	11.84	84.8	243.26	306.44
ALL OTHER	10-11	.1	7.30	36	10.99	4.93	44.8	376.74	635.91
GRADE TOTAL			7.30	36	10.99	4.93	44.8	376.74	635.91
TOTAL		100.0	4,026.90	53,521	13.42	13.29	99.0	305.15	308.61

WALDORF CORP.
RAW MATERIAL
DECEMBER YTD, 1987

		ACTUAL Lbs.	CONSUMPTION $	COST/TON	STANDARD Lbs	ALLOWED $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
05	Coated Blanks	155,566	11,679	150.15	56,934	3,038	106.72	(8,641)	(98,632)	(5,263)	(3,378)
06	News Blanks	2,351,221	164,860	140.23	1,973,878	106,782	108.20	(58,078)	(377,343)	(20,413)	(37,665)
07	CPO	8,998,080	816,403	181.46	8,985,816	765,701	170.42	(50,702)	(12,264)	(1,045)	(49,657)
09	Flyleaf	6,393,835	255,049	79.78	792,559	20,607	52.00	(234,442)	(5,601,276)	(145,636)	(88,805)
12	Prt. Bleach Kraft	4,035,386	230,577	114.28	663,845	0	102.00	(230,577)	(3,371,541)	(171,949)	(58,628)
17	Groundwood	503,796	72,696	288.59	180,686	0	280.00	(72,696)	(323,110)	(45,235)	(27,461)
18	DLK	20,756,331	1,188,503	114.52	18,197,549	764,962	84.07	(423,541)	(2,558,782)	(107,562)	(315,978)
19	News Regular	27,705,723	832,106	60.07	28,497,992	655,912	46.03	(176,194)	792,269	18,235	(194,429)
20	Boxboard Cuttings	17,867,484	510,265	57.12	25,713,588	688,338	53.54	178,073	7,846,104	210,036	(31,962)
21	Mix Paper	20,114	347	34.50	0	0	44.00	(347)	(20,114)	(443)	96
22	Sections	8,928,159	220,502	49.39	939,525	14,092	30.00	(206,410)	(7,988,634)	(119,830)	(86,581)
24	Manifold Ledger	288,853	24,537	169.89	0	0	118.00	(24,537)	(288,853)	(17,042)	(7,495)
30	D/I News	(19,600)	(658)	67.14	9,099,798	243,123	53.43	243,781	9,119,398	243,647	134
50	Special Ledger	8,077,072	557,555	138.06	9,702,544	618,133	127.42	60,578	1,625,472	103,556	(42,978)
51	H.W. PULP	361,292	88,095	487.67	615,233	150,732	490.00	62,637	253,941	62,216	422
41	Br.Kr.Env.Cutt.	1,394,816	144,377	207.02	1,452,968	128,766	177.25	(15,611)	58,152	5,154	(20,764)
	Beater Rolls	(1,804,000)	(121,681)	134.90	0	0	135.00	121,681	1,804,000	121,770	(89)
40	Carrier Kraft	156,570	5,469	69.86	0	0	75.00	(5,469)	(156,570)	(5,871)	402
	TOTAL	106,170,698	5,000,680	94.20	106,872,915	4,160,186	77.85	(840,494)	702,217	124,323	(964,817)

CAPITAL SPENDING

FISCAL 1988

(Carry Overy ARA's)

		A/C	APPROVED $	SPENT THRU 6/30/87	SPENT THRU 12/31/87	COMMENTS
	Carry Forward Projects					
156	New Coater Roll	1276	$11,000	0	$13,519	Closed 12/87
155	Filler Chest Pump	1277	10,000	0	-----	Closed 11/87
199	Backliner Consistency Control	1283	21,000	0	-----	Closed 11/87
201	Dryer Syphons	1281	43,000	22,664	42,170	Closed 9/30/87
211	Turbine Rebuild	2211	94,000	96,195	96,195	Closed 11/87
235	Water Project	2235	140,000	56,603	72,452	
239	Rewinder Drive	2239	140,000	78,407	139,063	Closed 12/87
247	Rotor B/L Pulper	2247	18,000	0	19,538	Close in Jan. '88
248	B/L Pulper Pump	2248	14,000	6,278	13,353	Close in Jan. '88
249	Rewinder Motor	2249	29,000	0	27,284	Closed 9/87
289	Spare Rotating Element	none	13,000	0	----	
290	T.L. Screen	2290	10,000	0	---	
303	Consistency Controls	2303	16,000	7,960	18,000	Closed 12/87
	Sub. Total		$ 559,000	$268,107	$441,574	
	Carryover $ YTD				$173,467	

CAPITAL SPENDING
FISCAL 1988

ARA		A/C	$ APPROVED	SPENT THRU 6/30/87	SPENT THRU 12/31/87	COMMENTS
385	Line Shaft Turbine	3385	30,000		8,148	
386	Elec. System Improve.	3386	24,000		---	
387	Broke Beater Consis.	3387	23,000		---	
415	New Scale	3415	5,000		4,295	Closed 12/87
416	.012 Mach. Screen	3416	8,000		---	
417	Metal Detection	3417	7,000		7,175	Closed 12/87
420	Dock Plate-Kellogg whs.	3420	12,000		8,330	
421	Security Camera	3421	5,500		5,711	Closed 12/87
429	Gloss Calender	3429	249,000		48,238	
443	Recover, Grind Rice Barton Roll	3443	13,000		---	
444	New Auto Slice Fan	3444	10,000		---	
445	Dryer Siphon Replace.	3445	35,000		---	
446	Latex Coating Silo	3446	35,000		12,309	
450	New WaterBox Back Side	3450	12,000		13,457	
451	Metal Covered Mount Hope Roll Rewinder	3451	11,000		---	
452	New 16" Air Shaft Rewinder	3452	13,000		---	
	Sub. Total		$492,500		$107,663	
	Carryover ARA's				$173,457	
	Spent 1988				$281,130	

ANGEL MILL
1987-1988 E.B.I.T. - ACTUAL vs. PLAN
000's omitted

	PLAN		ACTUAL		VARIANCE	
	Month	YTD	Month	YTD	Month	YTD
1987						
JULY	44		82	—	38	—
AUGUST	469	513	405	487	(64)	(26)
SEPTEMBER	557	1070	590	1077	33	7
OCTOBER	598	1668	842	1919	244	251
NOVEMBER	497	2165	478	2397	(19)	232
DECEMBER	118	2283	352	2749	234	466
1988						
JANUARY	503	2786	427	3176	(76)	390
FEBRUARY	470	3256	(111)	3065	(581)	(191)
MARCH	556	3812	661	3726	105	(86)
APRIL	555	4367	726	4452	171	85
MAY	600	4967	1233	5685	633	718
JUNE	578	5545	732	6417	154	872

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 6/30/88 RUN 7/01/88 14.41.55 MS

	GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	10-11	.1	19.02	137	10.99	7.20	65.5	375.48	486.46
ANGELCOTE	14-15	1.0	82.58	1,120	14.47	13.56	93.7	309.65	320.24
ANGELCOTE	16-17	9.3	685.02	9,987	14.96	14.58	97.4	296.56	300.49
ANGELCOTE	18-19	5.1	364.77	5,520	15.07	15.13	100.3	289.56	288.97
ANGELCOTE	20-21	6.9	486.99	7,453	15.22	15.30	100.5	284.99	284.22
ANGELCOTE	22-23	2.7	208.25	2,894	14.95	13.90	92.9	285.22	296.62
ANGELCOTE	24-25	1.6	127.09	1,731	14.42	13.62	94.4	289.40	298.58
GRADE TOTAL		26.7	1,973.72	28,842	14.95	14.61	97.7	292.06	296.43
ANGELITE	12-13		4.17	11	11.07	2.64	23.8	341.47	978.70
ANGELITE	14-15	8.0	706.62	8,582	13.28	12.15	91.4	302.94	318.48
ANGELITE	16-17	4.2	339.56	4,581	14.34	13.49	94.0	292.46	302.36
ANGELITE	18-19	15.4	1,157.06	16,573	14.34	14.32	99.8	288.71	288.93
ANGELITE	20-21	8.5	640.71	9,157	14.52	14.29	98.4	284.03	286.53
ANGELITE	22-23	12.3	928.85	13,222	14.52	14.23	98.0	281.68	284.85
ANGELITE	24-25		3.55	31	13.62	8.73	64.0	288.35	381.06
ANGELITE	26	.6	56.97	609	13.47	10.69	79.3	292.32	335.83
GRADE TOTAL		49.0	3,837.49	52,766	14.20	13.75	96.8	289.29	295.70
AB 50	12-13	.5	58.43	539	10.81	9.22	85.2	379.23	414.27
AB 50	14-15	2.5	221.28	2,702	11.92	12.21	102.4	357.78	353.29
AB 50	16-17	.8	68.68	866	12.15	12.61	103.7	348.15	341.38
AB 50	18-19	.6	52.36	651	12.30	12.43	101.0	342.14	340.22
AB 50	20-21	4.6	375.73	4,989	12.48	13.28	106.4	334.97	324.09
AB 50	22-23	.1	6.43	80	12.48	12.44	99.6	330.07	330.65
GRADE TOTAL		9.1	782.91	9,827	12.16	12.55	103.2	346.32	341.72
ANGELWHITE	14-15	1.0	79.81	1,053	13.16	13.19	100.2	336.41	336.02
ANGELWHITE	20-21	.2	17.77	180	13.84	10.13	73.1	310.59	370.22
ANGELWHITE	26		5.72	26	13.44	4.55	33.8	310.75	638.55
GRADE TOTAL		1.2	103.30	1,259	13.29	12.19	91.7	330.55	358.65
ANGELWHITE	10-11	1.9	221.71	2,042	10.64	9.21	86.5	363.35	397.03
GRADE TOTAL		1.9	221.71	2,042	10.64	9.21	86.5	363.35	397.03
AB 60	12-13		.97	8	10.80	8.25	76.3	380.25	443.05
AB 60	14-15	.2	16.14	177	11.92	10.97	92.0	358.67	375.05
AB 60	16-17	.1	8.80	102	12.15	11.59	95.3	349.15	358.12
AB 60	18-19	.3	26.84	307	12.30	11.44	93.0	343.00	356.78
AB 60	20-21	.3	24.12	281	12.48	11.65	93.3	335.81	348.68
AB 60	22-23	.2	17.96	194	12.48	10.80	86.5	330.77	358.87
AB 60	24-25	.1	7.28	84	12.30	11.54	93.8	330.58	342.65
AB 60	26		2.02	23	12.15	11.39	93.7	329.21	341.59
GRADE TOTAL		1.2	104.13	1,176	12.28	11.29	91.9	341.38	357.73
CHIP	16-17	1.2	93.62	1,339	14.97	14.30	95.5	233.80	240.61
CHIP	18-19	2.2	159.77	2,341	15.25	14.65	96.0	233.80	239.76
CHIP	20-21	.2	21.72	263	13.74	12.11	88.1	272.92	296.75
CHIP	24-25		.55	4	14.49	7.27	50.1	240.88	392.32
GRADE TOTAL		3.6	275.66	3,947	15.03	14.32	95.2	236.90	244.84

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 6/30/88 RUN 7/01/88 14.42.13

GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
CORE STOCK 10-11	6.9	821.38	7,498	8.92	9.13	102.3	371.89	366.27
GRADE TOTAL	6.9	821.38	7,498	8.92	9.13	102.3	371.89	366.27
ALL OTHER 16-17		5.20	19	13.60	3.65	26.8	309.65	739.95
ALL OTHER 18-19	.4	34.85	454	14.00	13.03	93.0	233.80	244.62
ALL OTHER 22-23		1.84	23	14.00	12.50	89.2	233.80	251.25
GRADE TOTAL	.4	41.89	496	13.95	11.84	84.8	243.22	306.40
ALL OTHER 10-11		7.30	36	10.99	4.93	44.8	375.48	634.65
GRADE TOTAL		7.30	36	10.99	4.93	44.8	375.48	634.65
TOTAL	100.0	8,169.49	107,889	13.55	13.21	97.4	305.00	310.36

ANGEL MILL

TONS/DAY

	Customer Tons	Side Roll/ Ribbon	Sub Total	Odd Lot	Total
1987 ACTUAL	265	17	282	13	295
1988 PLAN	273	12	285	12	297
JULY 1987	266	13	279	14	293
AUGUST 1987	275	18	293	13	306
SEPTEMBER 1987	268	25	293	13	306
OCTOBER 1987	292	24	316	10	326
NOVEMBER 1987	301	22	323	9	332
DECEMBER 1987	285	20	305	9	314
JANUARY 1988	267	12	279	11	290
FEBRUARY 1988	275	21	296	15	311
MARCH 1988	282	13	295	9	304
APRIL 1988	308	18	326	8	334
MAY 1988	278	20	298	5	303
JUNE 1988	283	17	300	9	309
1988 ACTUAL	282	19	301	10	311

WALDORF CORPORATION
RAW MATERIAL
JUNE YTD 1988

		ACTUAL Lbs.	CONSUMPTION $	COST/TON	STANDARD Lbs	ALLOWED $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
05	Coated Blanks	254,058	19,014	149.68	164,930	9,033	109.54	(9,981)	(89,128)	(4,881)	(5,100)
06	News Blanks	5,349,161	387,551	144.90	4,371,656	241,056	110.28	(146,495)	(977,505)	(53,900)	(92,595)
07	CPD	18,336,909	1,792,271	195.48	18,651,870	1,579,133	169.33	(213,138)	314,961	26,666	(239,803)
09	Flyleaf	9,910,188	445,725	89.95	230,273	6,463	56.13	(439,262)	(9,679,915)	(271,683)	(167,579)
12	Prt. Bleach Kraft	6,503,727	375,397	115.44	1,242,443	45,979	74.01	(329,418)	(5,261,284)	(194,703)	(134,715)
17	Brown Bags	781,033	109,611	280.68	0	0	280.00	(109,611)	(781,033)	(109,345)	(266)
18	DLK	43,167,276	2,413,890	111.84	32,372,874	1,476,854	91.24	(937,036)	(10,794,402)	(492,442)	(444,594)
19	News Regular	60,069,217	1,870,787	62.29	59,712,222	1,555,790	52.11	(314,997)	(356,995)	(9,301)	(305,696)
20	Boxboard Cuttings	37,509,981	1,125,510	60.01	52,530,366	1,491,788	56.80	366,278	15,020,385	426,558	(60,279)
21	Mix Paper	20,114	347	34.50	0	0	44.00	(347)	(20,114)	(443)	96
22	Sections	15,965,802	431,355	54.03	871,169	15,365	35.27	(415,990)	(15,094,633)	(266,227)	(149,763)
24	Manifold Ledger	295,593	25,999	175.91	0	0	118.00	(25,999)	(295,593)	(17,440)	(8,559)
30	O/I News	(19,600)	(658)	67.14	20,296,802	601,082	59.23	601,740	20,316,402	601,662	78
50	Special Ledger	14,657,718	1,043,827	142.43	20,495,152	1,293,473	126.22	249,646	5,837,434	368,407	(118,761)
51	H.W. PULP	767,817	165,541	431.20	1,399,361	350,500	500.94	184,959	631,544	158,184	26,776
41	Br.Kr.Env.Cutt.	2,283,106	245,677	215.21	3,103,630	274,670	177.00	28,993	820,524	72,616	(43,623)
	Beater Rolls	(3,950,000)	(287,938)	145.79	0	0	135.00	287,938	3,950,000	266,625	21,313
40	Carrier Kraft	278,485	11,143	80.02	0	0	75.00	(11,143)	(278,485)	(10,443)	(699)
	TAL	212,180,585	10,175,048	95.91	215,442,748	8,941,186	83.00	(1,233,862)	3,262,163	489,909	(1,723,771)

WALDORF CORP.
RAW MATERIAL
DECEMBER YTD, 1986

		ACTUAL Lbs.	CONSUMPTION $	COST/TON	STANDARD Lbs	ALLOWED $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
01	Hard Whites	(34,430)	(4,132)	240.02	1,132,200	190,781	337.01	194,913	1,166,630	196,582	(1,670)
03	Book Stock	0	0	0.00	0	0	0.00	0	0	0	0
04	Soft Whites	0	(3,774)	0.00	0	0	0.00	3,774	0	0	3,774
05	Coated Blanks	411,283	21,814	106.08	0	0	0.00	(21,814)	(411,283)	0	(21,814)
06	News Blanks	2,933,074	156,740	106.88	3,336,081	158,469	95.00	1,730	403,007	19,144	(17,414)
07	CPO	13,514,399	1,093,214	161.79	8,634,067	703,681	163.00	(389,532)	(4,880,332)	(397,750)	8,218
09	Flyleaf	1,335,169	42,428	63.56	0	0	0.00	(42,428)	(1,335,169)	0	(42,428)
11	Mix Shavings	0	0	0.00	0	0	0.00	0	0	0	0
12	Prt. Bleach Kraft	0	0	0.00	0	0	0.00	0	0	0	0
16	Old Corrugated	0	0	0.00	0	0	0.00	0	0	0	0
17	Groundwood	0	0	0.00	0	0	0.00	0	0	0	0
18	DLK	16,910,236	836,475	98.93	15,688,298	815,788	104.00	(20,687)	(1,221,938)	(63,541)	42,854
19	News Regular	20,790,472	471,236	45.33	34,687,702	780,481	45.00	309,245	13,897,230	312,691	(3,445)
20	Boxboard Cuttings	17,303,078	420,806	48.64	24,883,806	597,208	48.00	176,401	7,580,728	181,936	(5,535)
21	Mix Paper	0	0	0.00	0	0	0.00	0	0	0	0
22	Sections	5,595,252	82,771	29.59	0	0	0.00	(82,771)	(5,595,252)	0	(82,771)
24	Manifold Ledger	395,807	26,074	131.75	0	0	0.00	(26,074)	(395,807)	0	(26,074)
25	Bleach Kraft Cutting	0	0	0.00	0	0	0.00	0	0	0	0
30	O/I News	5,942,396	152,235	51.24-	0	0	0.00	(152,235)	(5,942,396)	0	(152,235)
40	Carrier Kraft	40,000	1,165	58.25	0	0	0.00	(1,165)	(40,000)	0	(1,165)
45	Lt. Prt. Bleached	0	0	0.00	0	0	0.00	0	0	0	0
46	Lt. Prt. White Bags	0	0	0.00	0	0	0.00	0	0	0	0
47	TMP Cuttings	0	0	0.00	0	0	0.00	0	0	0	0
50	Special Ledger	10,136,696	580,878	114.61	9,777,480	547,543	112.00	(33,334)	(359,216)	(20,116)	(13,218)
51	H.W. PULP	1,005,122	148,272	295.03	0	0	0.00	(148,272)	(1,005,122)	0	(148,272)
41	Br.Kr.Env.Cutt.	1,222,909	80,012	130.86	0	0	0.00	(80,012)	(1,222,909)	0	(80,012)
	Beater Rolls	(1,574,245)	(105,112)	133.54	0	0	0.00	105,112	1,574,245	0	105,112
33	S.W. Pulp										0
	TOTAL	95,927,218	4,001,102	83.42	98,139,634	3,793,952	77.32	(207,150)	2,212,416	228,946	(436,096)

WALDORF CORP.
RAW MATERIAL
JUNE YTD, 1987

		ACTUAL Lbs.	CONSUMPTION $	COST/TON	STANDARD Lbs	ALLOWED $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
01	Hard Whites	(34,430)	(4,132)	240.02	1,353,273	228,031	337.01	232,163	1,387,703	233,832	(1,670)
03	Book Stock	0	0	0.00	0	0	88.00	0	0	0	0
04	Soft Whites	0	(3,774)	0.00	0	0	232.60	3,774	0	0	3,774
05	Coated Blanks	698,071	37,576	107.66	88,730	4,879	109.97	(32,697)	(609,341)	(33,506)	809
06	News Blanks	5,401,202	301,216	111.54	5,683,284	269,966	95.00	(31,249)	282,082	13,399	(44,649)
07	CPO	25,640,378	2,085,171	162.65	17,956,023	1,466,521	163.35	(618,650)	(7,684,355)	(627,604)	8,954
09	Flyleaf	2,575,377	84,050	65.27	0	0	65.00	(84,050)	(2,575,377)	(83,700)	(350)
11	Mix Shavings	5,850	171	58.46	0	0	60.00	(171)	(5,850)	(176)	5
12	Prt. Bleach Kraft	507,044	26,721	105.40	0	0	0.00	(26,721)	(507,044)	0	(26,721)
16	Old Corrugated	0	0	0.00	0	0	0.00	0	0	0	0
17	Groundwood	(20,420)	(3,360)	329.05	0	0	0.00	3,360	20,420	0	3,360
18	DLK	35,111,484	1,735,222	98.84	32,410,757	1,663,049	102.62	(72,172)	(2,700,727)	(138,579)	66,407
19	News Regular	45,992,171	1,157,165	50.32	67,587,785	1,681,128	49.75	523,962	21,595,614	537,153	(13,191)
20	Boxboard Cuttings	35,587,537	879,259	49.41	52,072,000	1,304,399	50.10	425,139	16,484,463	412,934	12,205
21	Mix Paper	96,155	1,917	39.87	0	0	43.80	(1,917)	(96,155)	(2,106)	189
22	Sections	11,425,247	203,798	35.68	0	0	27.60	(203,798)	(11,425,247)	(157,668)	(46,130)
24	Manifold Ledger	588,435	40,658	138.19	0	0	117.60	(40,658)	(588,435)	(34,600)	(6,058)
25	Bleach Kraft Cutting	0	0	0.00	0	0	0.00	0	0	0	0
30	O/I News	15,400,736	437,474	56.81	6,412,179	197,529	61.61	(239,945)	(8,988,557)	(276,895)	36,950
40	Carrier Kraft	40,000	1,165	58.25	0	0	60.00	(1,165)	(40,000)	(1,200)	35
45	Lt. Prt. Bleached	0	0	0.00	0	0	0.00	0	0	0	0
46	Lt. Prt. White Bags	0	0	0.00	0	0	0.00	0	0	0	0
47	TMP Cuttings	0	0	0.00	0	0	0.00	0	0	0	0
50	Special Ledger	19,645,160	1,156,370	117.73	19,214,103	1,100,349	114.54	(56,020)	(431,057)	(24,686)	(31,334)
51	H.W. PULP	1,371,477	230,893	336.71	577,845	118,064	408.64	(112,829)	(793,632)	(162,153)	49,324
	Br.Kr.Env.Cutt.	2,836,058	222,734	157.07	973,345	77,867	160.00	(144,867)	(1,862,713)	(149,016)	4,149
	Beater Rolls	(2,976,923)	(199,938)	134.33	0	0	0.00	199,938	2,976,923	0	199,938
33	S.W. Pulp				0	0	0.00	0	0	0	0
	TOTAL	199,890,609	8,390,356	83.95	204,329,324	8,111,783	79.40	(278,573)	4,438,715	(494,569)	215,996

8390

WALDORF CORPORATION
ANGELL MILL ACTUAL SALES VS PLAN
DECEMBER YTD 1985

	ACTUAL					PLAN					SALES				
	NET TONS	NET SALES	PER TON	GROSS PROFIT TON	TOTAL GROSS PROFIT	NET TONS	NET SALES	PER TON	GROSS PROF TON	TOTAL GROSS PROFIT	VARIANCE TONS	VARIANCE GROSS PROFIT	PRICE VARIANCE	VOLUME VARIANCE	OTHER
TRADE															
ANGELCOTE	8,753	2,964	339	58	508	7,767	450	344	58	450	986	58	(44)	57	45
ANGELITE	18,311	6,501	355	53	964	14,410	807	359	56	807	3,901	157	(73)	218	12
AB 50	3,113	1,327	426	107	332	2,597	322	438	124	322	516	10	(37)	64	(17)
AB 70	220	98	444	99	22	487	38	412	78	38	(267)	(16)	7	(21)	(2)
CORE	2,854	1,206	423	53	150	3,690	240	438	65	240	(836)	(90)	(43)	(54)	7
CHIP	952	335	352	60	57	469	17	301	37	17	483	40	49	18	(27)
SUB-TOTAL	34,203	12,431	363	59	2,033	29,420	1,874	372	64	1,874	4,783	159	(141)	282	18
Side Roll/Ribbons	2,681	450	186	(110)	(295)	2,784	(262)	195	(94)	(262)	(103)	(33)	(24)	(10)	1
Odd Lot	2,789	500	161	(34)	(94)	3,360	(67)	175	(20)	(67)	(571)	(27)	(39)	(38)	50
TRADE	39,673	13,381	337	41	1,644	35,564	1,545	339	43	1,545	4,109	99	(204)	234	69
INTER-COMPANY															
ANGELCOTE	3,099	1,041	336	49	152	3,740	228	347	61	228	(641)	(76)	(34)	(39)	(3)
ANGELITE	167	57	343	31	5	1,403	63	348	45	63	(1,236)	(58)	--	(57)	(1)
AB 50	672	249	371	67	45	468	49	418	104	49	204	(4)	(32)	21	7
ALL OTHER	232	69	301	36	8	--	--				232	8		8	-
TOTAL INTER COMPANY	4,170	1,416	340	50	210	5,609	340	355	63	340	(1,441)	(130)	(66)	(67)	3
TOTAL PRIME	38,373	13,847	361	58	2,243	35,029	2,214	369	63	2,214	3,342	29	(207)	215	21
TOTAL	43,843	14,797	338	42	1,855	41,172	1,885	341	45	1,885	2,668	(31)	(270)	167	72

ANGELL MILL
TONS/TPD 1985 ACTUAL

MONTH	Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
Champion International					
TOTAL 1984 TPD - Actual	196	6	6	23	231
1985 BUDGET TPD	229	4	5	19	257
JANUARY - TPD Actual	219	7	6	22	254
FEBRUARY - TPD Actual	210	10	4	19	243
MARCH - TPD Actual	240	8	12	18	278
APRIL - TPD Actual	245	11	5	15	276
MAY - TPD Actual	208	3	7	12	230
JUNE - TPD Actual	241	14	9	10	274
JULY - TPD Actual 9 days Champion	217	--	5	12	234
JULY - TPD Actual 15 days Waldorf	231	10	9	15	265
Waldorf					
AUGUST - TPD Actual 31 days	221	15	5	16	257
SEPTEMBER - TPD Actual	237	11	8	12	268
OCTOBER - TPD Actual	245	6	7	12	270
NOVEMBER - TPD Actual	240	3	6	10	265
DECEMBER - TPD Actual	246	11	5	12	274

(7)

WALDORF CORPORATION
GRADE EFFICIENCY
DECEMBER YTD 1985

SALABLE HOURS	GRADE	STANDARD SALABLE TPH	ACTUAL SALABLE TPH	% OF STANDARD	% O/L STANDARD	% O/L STANDAR
327.27	12-14 AL	12.77	11.93	93.4	6.0	3.7
395.16	16-19	13.68	13.11	95.8	6.0	6.1
391.17	19 Kellogg	13.68	13.24	96.8	6.0	5.0
337.02	20-22	13.68	13.65	99.8	6.0	8.3
83.12	23-26	13.68	12.24	89.5	6.0	5.5
316.87	15-19 AC	14.58	13.40	91.9	6.0	2.5
574.72	20-22	14.58	13.83	94.9	6.0	3.4
128.60	23-26	14.58	12.68	86.9	6.0	6.7
115.28	12-14 AB 50	12.77	9.68	75.8	8.0	5.4
56.30	15-19	13.68	10.55	77.1	8.0	6.7
206.51	20-22	13.68	12.30	89.9	8.0	7.3
	23-26	13.68				
44.85	20 AB 60	13.68	12.02	87.9	8.0	6.5
3.76	12-14 AB 70	12.77	10.11	79.2	10.0	18.4
13.06	15-19	13.68	10.49	76.7	10.0	6.6
10.79	20-22	13.68	12.33	90.1	10.0	24.8
2.35	24	13.68	14.47	105.8	10.0	20.6
306.97	10 Core	8.86	8.99	101.5		
20.78	12-13	10.96	8.57	78.2		
4.97	12 Topliner	12.30	3.82	31.0		
75.77	Chip	12.77	10.88	85.2		
	All Other	13.68				
3415.32	Total	13.32	12.48	93.7		

WALDORF CORP.
RAW MATERIAL
DECEMBER YTD 1985

1,200 ACT LB.

		ACTUAL CONSUMPTION Lbs	$	COST/TON	YTD Lbs	STANDARD $	COST/TON	USAGE Lbs	USAGE $	PRICE VARIANCE
01	Hard Whites	919,584	98,298	213.79	140,287	17,396	248.01	(779,297)	(96,636)	15,733
03	Book Stock	508,266	22,364	88.00	0	0	85.00	(508,266)	(21,601)	(763)
04	Soft Whites	0	0	0.00	547,322	69,510	254.00	547,322	69,510	0
05	Coated Blanks	41,760	1,418	67.91	450,731	13,973	62.00	408,971	12,678	(123)
06	News Blanks	1,661,603	56,735	68.29	2,125,337	93,517	88.00	463,734	20,405	16,378
07	CPO	10,239,021	753,667	147.21	6,434,435	579,096	180.00	(3,804,586)	(342,411)	167,840
09	Flyleaf	70,475	1,654	46.93	0	0	77.00	(70,475)	(2,713)	1,060
11	Mix Shavings	0	0	0.00	0	0	0.00	0	0	0
12	Prt. Bleach Kraft	0	0	0.00	0	0	0.00	0	0	0
16	Old Corrugated	0	0	0.00	0	0	0.00	0	0	0
17	Groundwood	0	0	0.00	0	0	81.00	0	0	0
18	DLK	13,955,991	366,444	52.51	16,884,931	557,210	66.00	2,928,940	96,656	94,109
19	News Regular	23,275,574	461,009	39.61	19,502,212	516,816	53.00	(3,773,362)	(99,995)	155,802
20	Boxboard Cuttings	17,457,289	386,669	44.30	27,100,401	731,712	54.00	9,643,112	260,364	84,678
21	Mix Paper	206,784	2,272	21.97	0	0	26.00	(206,784)	(2,688)	416
22	Sections	3,929,784	48,098	24.48	0	0	36.00	(3,929,784)	(70,736)	22,638
24	Manifold Ledger	2,342,709	154,328	131.75	3,577,084	241,450	135.00	1,234,375	83,319	3,803
25	Bleach Kraft Cutting	0	0	0.00	0	0	0.00	0	0	0
30	O/I News	455,213	10,572	46.45	2,462,049	77,553	63.00	2,006,836	63,214	3,767
40	Carrier Kraft	100,085	2,500	49.96	0	0	44.00	(100,085)	(2,202)	(298)
45	Lt. Prt. Bleached	0	0	0.00	47,417	4,457	187.99	47,417	4,457	0
46	Lt. Prt. White Bags	0	0	0.00	0	0	236.00	0	0	0
47	TMP Cuttings	0	0	0.00	0	0	77.00	0	0	0
50	Special Ledger	7,627,055	393,733	103.25	4,104,958	235,069	114.53	(3,522,097)	(201,692)	43,029
51	Pulp	65,114	3,781	116.13	0	0	255.00	(65,114)	(8,302)	4,521
	Beater Rolls	(1,286,125)	(79,859)	124.19			125.00	1,286,125	80,383	(524)
				0.00						
	TOTAL	81,570,182	2,683,682	65.80	83,377,164	3,137,758	75.27	1,806,982	(157,990)	612,066

ANGEL MILL
TONS/TPD 1985/1986 ACTUAL

MONTH	Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
JULY, 1985	231	10	9	15	265
1985					
AUGUST - TPD Actual 31 Days	221	15	5	16	257
SEPTEMBER - TPD Actual	237	11	8	12	268
OCTOBER - TPD Actual	245	6	7	12	270
NOVEMBER - TPD Actual	240	3	6	10	265
DECEMBER - TPD Actual	246	11	5	12	274
1986					
JANUARY - TPD Actual	235	6	7	18	266
FEBRUARY - TPD Actual	233	18	7	19	277
MARCH - TPD Actual	203	15	7	27	252
APRIL - TPD Actual	248	12	8	13	281
MAY - TPD Actual	251	13	5	15	284
JUNE - TPD Actual	253	6	6	15	280
YTD	238	10	7	15	270
July		4			
Aug					

WALDORF CORPORATION
GRADE EFFICIENCY
JUNE YTD, 1986

%	SALABLE HOURS	GRADE	STANDARD SALABLE TPH	ACTUAL SALABLE TPH	% OF STANDARD	% OF STANDARD	% O/L STANDARD
5.0	736.82	12-14 AL	12.77	12.09	94.7	6.0	6.8
	802.43	16-19	13.68	13.58	99.2	6.0	5.5
	971.67	19 Kelloggs	13.68	13.54	98.9	6.0	7.0
	907.18	20-22	13.68	13.73	100.3	6.0	7.4
	174.83	23-26	13.68	12.29	89.0	6.0	6.2
	632.64	15-19 AC	14.58	13.60	93.3	6.0	4.2
	922.65	20-22	14.58	13.75	94.3	6.0	4.2
	177.01	23-26	14.58	12.64	86.7	6.0	6.2
	189.48	12-14 AB 50	12.77	9.79	76.6	8.0	10.1
	119.77	15-19	13.68	10.75	78.6	8.0	5.3
	630.97	20-22	13.68	12.09	88.4	8.0	6.2
		23-26	13.68				
	100.90	20 AB 60	13.68	11.26	82.3	8.0	11.7
	10.59	12-14 AB 70	12.77	10.86	85.0		24.3
	13.06	15-19	13.68	10.49	76.7		6.6
	17.81	20-22	13.68	12.07	88.2		25.1
	13.01	24	13.68	10.91	79.8		33.8
	721.60	10 Core	8.86	9.05	102.1		
	23.41	12-13	10.96	8.59	78.3		
		12 Top Liner	12.30				
	132.41	Chip	12.77	11.11	87.0		3.0
	4.97	Other	13.68	3.82	27.9		
	7303.21	Total	13.27	12.58	94.8		

7/7/86

WALDORF CORP.
RAW MATERIAL
JUNE - YTD

		ACTUAL CONSUMPTION Lbs	$	COST/TON	YTD Lbs	STANDARD $	COST/TON	USAGE Lbs	USAGE $	PRICE VARIANCE
01	Hard Whites	1,289,503	136,491	211.70	248,533	30,819	248.00	(1,040,970)	(129,082)	23,410
03	Book Stock	516,988	30,204	116.85	0	0	85.00	(516,988)	(21,972)	(8,232)
04	Soft Whites	0	3,774	0.00	1,297,795	164,820	254.00	1,297,795	164,820	(3,774)
05	Coated Blanks	1,033,877	36,662	70.92	1,031,722	31,983	62.00	(2,155)	(67)	(4,612)
06	News Blanks	3,826,177	143,156	74.83	5,125,822	225,538	88.00	1,299,645	57,185	25,198
07	CPO	✓ 21,357,033	1,584,560	148.39	13,918,465	1,252,659	180.00	(7,438,568)	(669,469)	337,568
09	Flyleaf	1,042,486	26,499	50.84	0	0	77.00	(1,042,486)	(40,136)	13,636
11	Mix Shavings	0	0	0.00	0	0	0.00	0	0	0
12	Prt. Bleach Kraft	0	0	0.00	0	0	0.00	0	0	0
16	Old Corrugated	0	0	0.00	0	0	0.00	0	0	0
17	Groundwood	0	0	0.00	0	0	81.00	0	0	0
18	DLK	29,295,715	909,500	62.09	33,823,922	1,116,196	66.00	4,528,207	149,432	57,265
19	News Regular	48,835,430	1,012,193	41.45	45,552,289	1,207,143	53.00	(3,283,141)	(87,004)	281,953
20	Boxboard Cuttings	35,759,730	788,507	44.10	55,558,446	1,500,079	54.00	19,798,716	534,566	177,006
21	Mix Paper	705,654	10,130	28.71	0	0	26.00	(705,654)	(9,174)	(956)
22	Sections	8,701,813	103,805	23.86	0	0	36.00	(8,701,813)	(156,633)	52,828
24	Manifold Ledger	2,684,784	172,642	128.61	7,805,528	526,870	135.00	5,120,744	345,648	8,580
25	Bleach Kraft Cutting	0	0	0.00	0	0	0.00	0	0	0
30	O/I News	3,239,586	86,631	53.48	5,613,071	176,810	63.00	2,373,485	74,764	15,415
40	Carrier Kraft	498,457	12,268	49.22	0	0	44.00	(498,457)	(10,966)	(1,302)
45	Lt. Prt. Bleached	0	0	0.00	90,372	8,495	187.99	90,372	8,495	0
46	Lt. Prt. White Bags	0	0	0.00	0	0	236.00	0	0	0
47	TMP Cuttings	0	0	0.00	0	0	77.00	0	0	0
50	Special Ledger	18,537,109	970,568	104.72	9,396,225	539,317	114.79	(9,140,884)	(524,661)	93,411
51	H.W. PULP	566,769	70,801	249.84	0	0	255.00	(566,769)	(72,263)	1,462
	Beater Rolls	(3,658,574)	(231,225)	126.40			125.00	3,658,574	228,661	2,564
				0.00						
	TOTAL	174,232,537	5,867,166	67.35	179,462,190	6,780,729	75.57	5,229,653	(157,857)	1,071,419

ANGELL MILL

TONS/TPD 1984/ACTUAL

Days Oper.	MONTH		Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
24	January -	Total	5,120	81	117	346	6962 5,664
		TPD	213	3	5	15	236
28	February-	Total	6,339	5	208	478	6554 7,030
		TPD	226	--	8	17	251
35	March -	Total	7,772	23	266	537	5314 8,598
		TPD	222	1	8	15	246
26	April-	Total	5,285	328	161	468	5773 6,242
		TPD	203	13	6	18	240
28	May-	Total	5,239	183	188	486	6,096
		TPD	187	7	7	17	218
35	June-	Total	6,769	215	176	458	7,618
		TPD	194	6	5	13	218
22.8	July-	Total	4,227	47	171	563	5,008
		TPD	185	2	8	25	220
28	August-	Total	4,950	89	184	956	6,179
		TPD	177	3	7	34	221
32.3	September-	Total	5,566	271	186	771	6,794
		TPD	172	8	6	24	210
28	October-	Total	5,405	299	114	837	6,655
		TPD	193	11	4	30	238
26	November-	Total	5,231	240	150	640	6,261
		TPD	201	9	6	25	241
22.7	December-	Total	4,436	185	151	790	5,562
		TPD	195	8	7	35	245

January 9, 1985

ANGELL MILL

1984 SALES PLAN VS. ACTUAL *

DECEMBER 1984 YTD

000's omitted

	PLAN			ACTUAL			$ VARIANCE		
	Tons	Price Ton	$ 000's	Tons	Price Ton	$ 000's	Total Variance	Price	Volume/ Mix
ANGELCOTE	9600	357.78	3435	6193	339.94	2105	(1330)	(110)	(1101)
ANGELITE	47100	382.43	18012	42691	374.91	16055	(1957)	(321)	(1733)
AB 50	11500	389.95	4484	2946	413.92	1218	(3266)	59	(3108)
AB 70	2920	396.33	1158	1529	416.28	637	(521)	52	(492)
CORE STOCK	6500	430.00	2795	6402	458.02	2932	137	160	(34)
OTHER UNCOATED	1500	300.00	450	3270	324.95	1062	612	85	554
TOTAL PRIME	79120	383.39	30334	63031	380.91	24009	(6325)	56	(5914)
SIDE ROLL/RIBBON	1720	170.00	292	3345	209.72	701	409	130	250
ODD LOT	5160	170.00	877	9534	185.09	1765	888	131	596
TOTAL	86000	366.31	31503	75910	348.78	26475	(5028)	317	(5068)

12.

*Net Sales Less Freight

January 11, 1985

9

ANGELL MILL
FIBER CONSUMPTION

		DECEMBER Tons	DECEMBER $	DECEMBER Cost/Ton	DECEMBER Y.T.D. Tons	DECEMBER Y.T.D. $	DECEMBER Y.T.D. Cost/Ton
01	Hard Whites	4.2	1,357	323	564	180,399	319
04	Soft Whites	7.5	1,915	255	882	191,219	216
06	Newsblanks	49.5	6,753	136	1509	217,700	144
07	C P O	677.3	142,218	210	8531	1,658,076	194
09	Flyleaf	(46.5)	(4,000)	(86)	170	18,779	110
17	Groundwood	123.4	11,795	95	1339	134,439	100
18	DLK	697.3	55,965	80	7352	675,392	92
19	News Reg.	1761.7	99,534	56	20419	1,264,959	62
20	Boxboard Cuttings	1116.3	71,238	64	16383	976,912	59
24	Manifold Ledger	321.7	44,588	138	6634	1,042,221	157
25	Bleached Kraft Cuttings	--			276	76,528	277
30	O/I News	271.2	17,955	66	4741	325,244	68
45	Lt. Printed Bleached	159.8	31,321	196	1898	371,522	195
46	Lt.Prt. Wh. Bags	42.9	10,680	249	800	198,581	248
47	TMP Cuttings	55.1	4,223	77	1240	114,842	93
22	Sections	(12.8)	(881)	(69)	139	7,407	53
11	Mtl. Sh.				18	(626)	
12	Prt. Bleached KC				56	10,381	185
29	Prt. Cup cuttings				343	49,330	144
14	SK Bags				28	6,871	245
	Beater Sales	(11.8)	(1,561)	132	(243)	(32,846)	135
	Totals	5216.8	493,100	94	73,079	7,487,330	102
	Standard	5397	494,695	92	75,595	7,055,090	93

January 9, 1985

(11)

DATA SHEET

Mill - Battle Creek, MI 49016
616 963-5511

Products - 10 mil (32lbs/MSF) to 26 mil (99 lbs/MSF) Recycl Board.

Production - 1984 Plan - 250T/D Total
235T/D Prime
1984 YTD! - 228.5T/D Total
(9 mos.) 208.5T/D Prime

RAW MATERIALS

Recycled News, CPO, Manifold Ledger, Double Lined Corrugated, Boxboard and various printed and unprinted Bleached Krafts.

POWER HOUSE

2 Springfield Boilers - installed in 1948, capacity 70,000 lbs/hr. each, 400 lbs. steam, 525 degree superheat and gas or oil fired.

1 Elliott Turbine Generator, installed in 1948.

Mill generates 20-24% of own power. Capacity about 50%.

STOCK PREP

Top Liner

1 16' Hydropulper - Black Clawson
2 High Density Cleaners - Escher Wyss
1 Deflaker - Bird
1 Barrier Screen - Bird
2 Refiners - (1 - 24" Beloit & 1 - 20" Sprout)

Back Liner

1 14' Hydropulper - Black Clawson
2 High Density Cleaners - Black Clawson
1 Seprafiner - Lodding
1 Refiner - 24" Beloit
1 Deflaker - Bird

Filler System

1 20' Hydropulper - Black Clawson
1 Float Purge System - Custom Design (1984), Hi Density Cleaner, Seprafiner and Johnson Screen.
3 High Density Cleaners - Bird
2 Pressure Screens - Bird
1 Deflaker - Bird
2 Johnson Screens (1-RPM 1 - Johnson)
4 Thickners - Shartels
2 Refiners (1-Beloit 34" 1 - Sprout 24")

BOARD MACHINE - 130" Trim

Manufacturer - Beloit, 146" wire. Rebuilt in 1978.
Maximum Current Speed 946 ft./minute.
Design production with current feed system 350 TPD, Nominal 250T/D.

5 Head Boxes - (1- Strataflow, 4 - single flow)
5 Bel Bond dewatering units
6 Pressure screens

Board Machine continued

Dryer Section

82 - 60" dryers - Beloit
1 Drive - Westinghouse turbine, 1200 H.P.
3 Calender Stacks - Beloit design

Coating Section

1 Trailing Blade Coater - Rice Barton
1 Air Knife Coater - Black Clawson
1 Drying oven - Ross

Winder

1 Beloit, 1948, 130" max. trim.

Rewinder

1 Beloit, 1948, two drum, max. speed 2400 ft./minute.

Auxiliary Equipment

1 Clark Aiken sheeter

Fiber Recovery

1 1200 gpm Sveen Pedersen

1 800 gpm Sveen Pedersen

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: COMPUTER PRINTOUT

MAJOR USE: TOP LINER
APPROX. 65% OF
MOST GRADES

MONTHLY USAGE 700 TONS

COST: $146,000

CURRENT PRICE: 190/TON

AVG. FRT: 11/13 TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: OFFICE WASTE

PRINCIPAL SOURCES

HURON PAPER	CHGO	18%
AMER PPR RECYC	CHGO	14%
GREAT LAKES	DETROIT	10%
ROYAL PAPER	COLUMBUS	13%
OTHERS		45%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER NAME: MANIFOLD WHITE LEDGER

MAJOR USE: TOP LINER, APPROX 35% OF MOST GRADES

MONTHLY USAGE 600 TONS COST: $98,000

CURRENT PRICE: 150/TON AVG. FRT: 11-13/TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: PRINTERS, FORMS SUPPLIERS OFFICE WASTE COLLECTIONS

PRINCIPAL SOURCES

ATLAS RECYCLING - CHGO —— 35%

GREAT LAKES - DETROIT —— 25%

JACKSON FIBERS - JACKSON —— 10%

OTHERS —— 30%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: REG. NEWS
OVER-ISSUE NEWS

MAJOR USE: REG = FILLER
OIN = FILLER & BACKLINER

MONTHLY USAGE 1450 = RNWS
450 = OIN

COST: $111,000

CURRENT PRICE: 45.00 = RNWS
55.00 = OIN

AVG. FRT: 11/TON

PRINCIPAL SOURCE AREA: DETROIT

COLLECTION METHOD: GARBAGE ROUTE CHASERS
NEWS DRIVES
NEWSPAPERS (OIN)

PRINCIPAL SOURCES

GREAT LAKES - DETROIT - 85%
JACKSON FIBERS - JACKSON - 7%
DALLIS RECYC - CHICAGO - 8%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER NAME: DOUBLE LINED KRAFT

MAJOR USE: FILLER & BACKLINER

MONTHLY USAGE 600 TONS COST: $56,000

CURRENT PRICE: 82.50/TON AVG. FRT: 11.00/TON

PRINCIPAL SOURCE AREA: KALAMAZOO/LANSING

COLLECTION METHOD: CORRUGATED PLANTS

PRINCIPAL SOURCES

LOUIS PADNOS	LANSING	70%
KELLOGGS	BATTLE CRK	12%
OTHERS		18%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER NAME: BOX BOARD CUTTINGS

MAJOR USE: FILLER

MONTHLY USAGE 1350 TONS COST: $84,000

CURRENT PRICE: $50/TON AVG. FRT: 11/13 TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: FOLDING CTN. PLANT WASTE

PRINCIPAL SOURCES

ATLAS RECYC	–	CHICAGO	12%
CCA	–	CHICAGO	24%
DONCO	–	CHICAGO	13%
KELLOGG	–	BATTLE CRK	20%
OTHERS			31%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: LIGHT PRINT BL. KRAFT

MAJOR USE: HEAVY WT. TOP LINER

MONTHLY USAGE 150 TONS

COST:

CURRENT PRICE: 180/TON

AVG. FRT: 18/TON

PRINCIPAL SOURCE AREA:

COLLECTION METHOD: FOLDING CARTON PLANT WASTE
PRINTERS WASTE

PRINCIPAL SOURCES

DONCO	—	PENNSYLVANIA	— 35%
AMER. PPR RECYC.	—	TERRE HAUTE, IND	— 49%
MEDINA	—	LOUISVILLE, KY	— 14%
OTHERS	—		— 2%

RAW MATERIALS INFORMATION

TYPE: SECONDARY FIBER

NAME: HARD WHITE ENV. CUTS

MAJOR USE: AB 50-70 BACK LINER

MONTHLY USAGE 130 TONS

COST: $40,000

CURRENT PRICE: $290/TON

AVG. FRT: 11/13 TON

PRINCIPAL SOURCE AREA: CHICAGO

COLLECTION METHOD: ENVELOPE PLANTS

PRINCIPAL SOURCES

FIBERS, INC	CHGO	50%
CONTINENTAL PAPER GRAD	CHGO	35%
OTHERS		15%

SUMMARY 1985 PLAN VS. 1984 ACTUAL

Planned Operating Income for 1985 is $2,062,000 vs. $289,000 for 1984. Sales tons are planned to increase 17.7% from 77,162 in 1984 to 90,880 in 1985. Customer tons are planned to increase 22.2% from 66,305 to 81,000. Most of this increase is projected to be in the AB 50 and AB 70 grades. Reflecting improved operating efficiencies, secondary tonnage (odd lot and side rolls) are budgeted to be reduced from 16.4% of customer tons in 1984 to 10.9% in 1985. Material cost per ton of board produced is expected to increase 15.4% from 130.48 in 1984 to 153.74 in 1985. This is due primarily to increased prices for scrap paper and an increase of the AB 50 and AB 70 grades in the mix. Conversion costs are budgeted to increase 8.7% from $15,730,000 in 1984 to $17,097,000 in 1985. Most of the increase is a result of running 336 days in 1984 vs. 354 in 1985. Production tons per day will improve 10.3% from 233 tons per day in 1984 to 257 tons per day in 1985 reflecting improvements in machine and grade efficiencies as well as approximately a 5% increase in speed and a heavier basis weight mix of business.

Addendum: Due primarily to operating problems, higher than projected cost for raw material, labor, energy and repair materials, the 1984 full year estimate has been revised to a loss of ($1,066,000).

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
1985 BUDGET

INDEX	SCHEDULE NO.
1985-1989 BUDGET SUMMARY	1 & 2
SUMMARY OF ASSIGNED GRADE MIX	3
MACHINE STATISTICS SUMMARY	4
NOT APPLICABLE	5
OPERATING DAYS BY MONTH	6
SUMMARY OF MATERIAL COST 1984-1985	7
DIRECT MATERIAL-COMPARISON 1984 vs. 1985	8
CONVERSION COST SUMMARY 1984 vs. 1985	9
ANALYSIS OF CHANGES IN CONVERSION COST	10
ENERGY REQUIREMENTS 1984/1985	11
PERSONNEL DATA 1984/1985	12
ANALYSIS OF CHANGES IN WAGES AND SALARIES	13
NET SALES BY MAJOR PRODUCT LINE	14
GROSS/NET SALES BY MAJOR PRODUCT LINE 1984/1985	15 & 16
NOT APPLICABLE	17
ANALYSIS OF CHANGE IN NET SALES	18
COMPARISON OF INVENTORIES	19
CAPITAL EXPENDITURES PLAN	20
SCHEDULE OF SUPPLEMENTAL INFORMATION	21

Schedule 1

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
1985 BUDGET SUMMARY

	1984 Actual	1985 Budget	% Change
Total Tons Produced	78,127	90,880	16.3
Average Tons Day	233	257	10.3
Total Tons Sold	77,162	90,880	17.8
TOTAL NET SALES DOLLARS	26,903	34,035	26.5
Average Net Selling Price Ton	349	375	7.5
COST OF SALES - MATERIALS			
Paper Stock	7,343	10,395	41.6
Clay - Chemicals	2,490	3,081	23.7
Other	235	205	(12.8)
Total Materials	10,068	13,681	35.9
CONVERSION			
Salaries & Payroll Expense	918	1,001	9.0
Operating Labor-Hourly	2,786	2,927	5.1
Repair Labor-Hourly	846	883	4.4
Payroll Expense - Hourly	1,545	1,609	4.2
Repair Materials	600	630	5.0
Energy	5,378	6,204	15.4
Depreciation, Insurance, Taxes	1,159	1,269	9.5
Other	2,498	2,688	7.6
Cost Improvement			
Total Conversion	15,730	17,211	9.4
Inventory Change	(175)	---	100.0
Total Cost of Sales	25,623	30,892	20.6
Gross Profit	1,280	3,143	145.5
SA&G			
Selling	350	420	20.0
Administrative-Mill	582	660	13.4
- Division	59	---	(100.0)
Total SA&G	991	1,080	9.0
Operating Income	289	2,062	613.5
Full Year Estimate Adjustment (Loss)	(1,355)		
Adjust Operating Income	(1,066)		

390

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
SUMMARY OF ASSIGNED GRADE MIX

GRADE DESCRIPTION	1984 Actual	1985 Budget	1985 Days	Prime Tons per/day
Angelcote	6,005	8,000	31.50	254
Angelite	45,761	44,900	171.80	261
A.B. 50	2,819	8,600	45.32	190
A.B. 70	1,142	8,300	44.97	185
Core Stock	6,576	7,200	38.86	185
Top Liner	668	2,000	11.20	179
Chip	3,334	2,000	10.35	193
Total Primary	66,305	81,000	354.00	229
Odd Lot	7,458	6,750	--	19
Ribbons/Side Rolls	3,399	3,130	--	9
TOTAL	77,162	90,880	354.00	257

CUS

P1

Schedule 7

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
SUMMARY MATERIAL COST 1984-1985

	1984	1985
Tons Coated	64,070	81,104
Tons Uncoated	13,092	9,776
Total Tons	77,162	90,880
Paperstock	7,343	10,395
C.P.T. - Total Tons	95.16	114.38
Clay Material	2,490	3,081
C.P.T. - Coated Tons	38.86	37.98
Other Material	235	205
C.P.T. - Total Tons	3.04	2.25
TOTAL MATERIAL COST	10,068	13,681
C.P.T. - Total Tons	130.48	150.54

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
MATERIAL COMPARISON 1984 Est. vs. 1985 BUDGET

ITEM	UNITS 1984 ACTUAL	UNITS 1985 BUDGET	UNIT PRICE 1984 ACTUAL	UNIT PRICE 1985 BUDGET	TOTAL DOLLARS 1984 ACTUAL	TOTAL DOLLARS 1985 BUDGET	TOTAL VARIABLE	VOLUME	UNIT PRICE	UNITS/ TON USAGE
PAPER STOCK										
Soft Whites	642	2,650	217.50	248.00	140	657	(517)	(23)	(81)	(413)
Ton/Ton of Production	.0083	.0292								
News Blanks	1,356	2,949	143.25	167.00	194	492	(298)	(34)	(70)	(194)
Ton/Ton of Production	.0176	.0325								
Computer Printout	8,567	10,138	176.00	208.00	1,508	2,109	(601)	(267)	(324)	(10)
Ton/Ton of Production	.1110	.1116								
Double Line Kraft	6,283	7,619	94.50	101.00	594	769	(175)	(105)	(49)	(21)
Ton/Ton of Production	.0814	.0838								
Regular News	20,508	23,845	61.35	65.00	1,258	1,550	(292)	(225)	(87)	20
Ton/Ton of Production	.2658	.2624								
Boxboard Cuttings	18,702	22,026	60.20	65.00	1,126	1,432	(306)	(200)	(106)	--
Ton/Ton of Production	.2424	.2424								
Manifold White Ledger	6,636	7,382	161.20	175.00	1,070	1,292	(222)	(189)	(102)	69
Ton/Ton of Production	.0860	.0813								
Bleached Kraft Cuttings	342	791	278.00	352.50	95	279	(184)	(16)	(59)	(109)
Ton/Ton of Production	.0044	.0087								
O.I. News	5,130	2,480	69.10	74.00	354	184	170	(64)	(12)	246
Ton/Ton of Production	.0665	.0273								
Lightly Printed Bleached Kr. Cutt.	2,268	3,211	190.45	228.00	432	732	(300)	(77)	(121)	(102)
Ton/Ton of Production	.0294	.0353								
All Other	3,477	3,978	164.50	225.00	572	899	(327)	(107)	(240)	20
Ton/Ton of Production	.0451	.0438								
TOTAL PAPER STOCK	73,911	87,069	99.35	119.39	7,343	10,395	(3052)	(1307)	(1251)	(494)
	.9579	.9656								
Clay (lbs.)	7,142,000	7,558,000	.065	.068	464	519	(55)	(124)	(27)	96
lbs/Ton of Clay Production	111.47	93.19								
Latex (lbs.)	1,392,000	1,526,000	.72	.73	1002	1114	(112)	(267)	(15)	170
lbs/Ton of Latex Production	21.72	18.81								
Protein (lbs.)	284,000	442,000	.82	.87	233	384	(151)	(60)	(22)	(69)
lbs/Ton of Protein Production	4.43	5.45								

Schedule 8

TIO_2 (lbs.)	850,000	1,180,000	.60	.645	510	761	(251)	(136)	(53)	(62)
lbs/Ton of TIO_2 Production	13.27	14.55								
Misc. Clay Materials (lbs.)	326,000	382,000	.86	.79	281	303	(22)	(74)	26	26
lbs/Ton of Misc. Clay Production	5.09	4.71								
TOTAL CLAY (lbs.)	9,994,000	11,088,000	.249	.277	2,490	3,081	(591)	(661)	(91)	161
lbs/Production	155.98	136.71								
Calender Treatments	---	---			235	205	30	30	--	--
TOTAL RAW MATERIALS TONS	78,908	92,613	127.59	146.63	10,068	13,681	(3,613)	(1,938)	(1,342)	(333)
PRODUCTION TONS	77,162	90,880								
YIELD	1.023	1.019								

KRAFT/RECYCLED FIBER
ANGELL MILL
ENERGY REQUIREMENTS
1984-1985

	UNITS	UNITS TON	MBTU TON	TOTAL COST	$ UNIT	$ MBTU	$ TON
1984 ACTUAL							
Production Tons	78,127						
Power Plant Gas-MBTU's	756,036	9.68	9.68	3,170	4.19	4.19	40.57
Dryer Gas -MBTU's	98,728	1.26	1.26	539	5.46	5.46	6.90
Purchased Power-MKWH	32,501	.42	1.41	1,669	51.35	15.10	21.36
1984 TOTAL			12.35	5,378		24.75	68.83
1985 BUDGET							
Production Tons	90,880						
Power Plant Gas-MBTU's	792,150	8.72	8.72	3,518	4.44	4.44	38.71
Dryer Gas-MBTU's	104,425	1.15	1.15	605	5.79	5.79	6.66
Purchased Power-MBTU's	34,692	.38	1.29	2,081	57.00	17.64	22.89
1985 TOTAL			11.16	6,204		27.87	68.26

Schedule 11

QUESTION 10

WET END REBUILD -- ANGEL MACHINE

BATTLE CREEK, MICHIGAN

Table of Contents

Division Managers Letter

I. Capital JOPA

II. Expense JOPA

III. Manager's Letter

IV. Background for Request

V. Market Factors

VI. Manufacturing Facilities

1. Design Basis
2. Description of Facilities
3. Plot Plan and Flow Diagrams
4. Major Equipment List
5. Capital Cost Estimate Summary
6. Detailed Cost Estimate
7. Major Equipment Quotations
8. Project Schedule

VII. Essential Resources Required

1. Detail of Essential Resources Calculation
2. Effluent Treatment Service Costs

VIII. Economic Justification

1. Basis of Assumptions
2. Return on Investment
3. Informations Summary

IX. Cash Expenditure Forecast

X. Expense JOPA Cost Estimate

FORM 99-10-01

ST REGIS

INTER-OFFICE CORRESPONDENCE

FROM W. A. Long

LOCATION New York Office

DATE July 27, 1977

TO E. J. McMahon

Recycled Fiber - Battle Creek JOPAs
118-CAP and 117-EXP

We are forwarding for your review and recommended approval our proposal to expand the productive capacity of the Angel machine in Battle Creek. At a capital investment cost of $6,300,000 we would plan to increase the output of this machine by one-third, or 78 tons per day, to a new daily average production of 290 tons. We expect the additional sales resulting from this improvement to yield this Division an additional $1,350,000 after-tax income for 37% ROI.

The Angel mill in Battle Creek is a thirty year old single machine operation. Its original design showed a great deal of foresight in providing for an expansion such as we propose. Essentially we are planning to rebuild the wet-end of this machine by replacing the existing eight cylinder formers with a new Beloit Belbond multi-ply Fourdrinier former, plus a restructuring of the press section. We expect to achieve a maximum running speed of 800 feet per minute compared to the current 500 feet per minute limitation. This faster running speed should yield an average approaching 2.5 tons/inch/day compared to the present 1.8 tons/inch/day.

The Battle Creek operation is currently one of the nations most productive recycled boxboard mills. This expansion will make the Angel mill one of the premier machines in this country, with productivity matched only by the present Federal Paperboard mill in Connecticut and the rebuild in progress at the Container Corporation mill in California.

Intensive competition has always characterized the folding carton paperboard industry but this will be intensified in 1978 and 1979 by the advent of the new multi-ply paperboard machines under construction by Continental Forest in Georgia and Olinkraft in Louisiana. We are anxious to aggressively compete with these new sheets and feel it is important to meet them early in our marketplace with the improved quality we

FORM 99-10-01

ST REGIS

INTER-OFFICE CORRESPONDENCE

FROM

LOCATION

DATE

TO

expect from this rebuild. The formation characteristics of the Fourdrinier have always been somewhat better than that of the cylinder machine and consequently we expect improved uniformity of our finished product both across the grain and in machine direction. This improved levelness and moisture uniformity will result in an improved printing surface.

Our marketing projections indicate that we will need this additional capacity before 1980 if we are to continue the growth pattern demonstrated by the Battle Creek mills in recent years. We propose to bring this expanded operation on-line in early 1979 and are confident that this will be done within the proposed budgeted amount.

William Long

W. A. Long

WET END REBUILD

ANGEL MACHINE

BATTLE CREEK, MICHIGAN

MANAGER'S LETTER

It is proposed to rebuild the wet end of the Battle Creek Angel Paperboard Machine. This proposal is presented in an effort to insure this location remains a competitive factor in the boxboard industry. To achieve the necessary production increases and quality improvements, new Beloit forming equipment is recommended. The proposed new equipment takes advantage of a fourdrinier wire as the primary forming vehicle. This concept, although used rather extensively in Europe, is relatively new in this country.

Capital cost of the project is estimated to be $6,300,000 with an associated expense cost of $100,000 for demolition of existing machine. The new Beloit Bel-Bond machine has the design and capacity of 320 salable tons per day with speeds ranging from 450 FPM (.028) to 800 FPM (.014).

An economic justification based on an increase of 78 TPD for 329 operating days will increase the mills operating income by $2,594,000 yearly.

All costs itemized on the attached summary sheets are firm as of July 1, 1977. A six percent contingency has been added to the estimated total construction costs. Escalation on equipment and construction materials has been applied at an average annual rate of approximately eight percent, with exception of the machine equipment

to be supplied by Beloit. The proposal for the Beloit equipment is a firm price with no provisions for escalation. Labor escalation has allowed for a ten percent labor increase from the time of estimate to the time of installation. The 1977 labor rate increase has been included in the direct cost portion of the project cost estimate. All escalation rates have been calculated from July 1, 1977 to the apropriate point in the project schedule.

No sales taxes have been included in the estimated project costs, as manufacturing exemptions apply to all equipment and materials to be purchased.

Demolition and removal of existing wet end equipment and installation of the new facilities is estimated to require thirty five days downtime. The project schedule dictates that installation work start in late November 1978, and be completed to the point of producing board at the machine reel by December 31, 1978. The critical item controlling the proposed schedule is delivery of the Beloit machine equipment. The vendor has quoted a fourteen month delivery based on a mid-July commitment date. It is recognized that such a commitment is not possible; however, arrangements have been made with the supplier to commence engineering work prior to the JOPA approval. Prior completion of engineering would allow manufacturing to proceed at an earlier date after project authorization. Any substantial delay in the machine delivery would jeopardize both the December 31, 1978, machine startup date and the project escalation allowance.

The project has been estimated on the basis that the old cylinder mold equipment be scrapped. No allowance has been made for salvage of all or part of the machinery for re-sale as operating equipment.

It is planned to accomplish the new installation utilizing mill labor and supervision, supplemented as necessary by construction labor supplied by outside contractors. Personnel from the Fountain mill will be drawn upon to assist the Angel mill labor force during the installation work.

A Corporate Engineering Project Manager will direct the design engineering, equipment procurement, installation and startup of this project.

WET END REBUILD

ANGEL MACHINE

BATTLE CREEK, MICHIGAN

BACKGROUND FOR REQUEST

For the past three years Battle Creek Mills have had the desire to rebuild the wet end of the Angel Machine. This machine and facilities were designed and built in 1947 and represented a great deal of foresight by those responsible for the project. After 30 years this machine is still one of the top four or five producers of boxboard using secondary fiber. Of greater importance, the facilities are probably better suited for an expansion program than any other machine and building in the industry.

The Angel Machine still makes use of conventional counterflow cylinders for forming five plies of an eight-ply sheet. These formers are definitely a deterrent to quality when running at increased speeds, primarily due to extremely high cross direction weight variations.

Current and forecasted economic conditions are resulting in astronomical increases in costs of manufacturing boxboard. The most obvious solution is, of course, to produce more tons of boxboard by greater production rates, or running more days, or better still, utilizing both solutions. At present the mills are scheduled for 328 days of operation in 1977. Considering 10 holidays with an average of two days lost production for each holiday, only 17 additional days are available for maintenance or increased

business - not much room for added runnings days. Since 1969 the Angel Machine has increased its production rate by 28% and the annual tonnage by 49% (see Table I). The operation is rapidly approaching the limitation of the forming equipment - at least there seems to be no room for dramatic increases.

In the past eight years the Angel Machine hour rate has increased from $484 to $1,042 per hour, an increase of 115%. However, this tells only part of the story. In 1969 the mill ran only 6,530 hours, or 274 days. If the machine had operated 328 days in 1969 as scheduled for this current year, the machine hour rate would have been only $385 per hour. It is not too difficult to visualize the magnitude of a machine hour rate in the near future. Without an improvement in production rates it will become very difficult to remain competitive, especially with competition already announcing new high-producing machines on order or in the process of being installed. A schedule of past performance on the Angel Machine is attached.

In addition to rising operational costs, the industry has to be acutely aware of the secondary fiber market. The purchase price of secondary fiber fluctuates rather dramatically, however few predict any direction up upward in the years to come. Not only does the industry face increasing costs for raw materials, but a rapid change in availability of certain fibers now commonly used. With long and strong white fibers rapidly becoming unavailable, the advantages once enjoyed with the Stevens-Formers (used on liner plies) are disappearing. All pressure type formers

were designed with the principle of quickly matting the fibers in a very restricted area-short and slow draining fibers slow down the machine and fail to bond together satisfactorily. The innovations of some of the new designs in forming units allow an excellent profile and provide the opportunity to reduce the usage of the expensive white fibers and still maintain a tight opaque formation.

In the past few years the multi-ply industry has been offered an almost bewildering variety of different systems to form a sheet of boxboard. To insure the success of an investment of this magnitude, a mill has to be aware of the importance of selecting the forming system best suited to meet the requirements of their particular application.

Again, with the wide range of requirements demanded in the boxboard market in weights, calipers and physical properties, equipment must be selected which offers a great deal of flexibility without being detrimental to quality and operating speeds.

It is necessary to consider many qualitative properties necessary for a given operation. Some of the most important are quality of formation, fiber orientation, retention, ply-bonding strength, sheet structure, profile and fines distribution across the sheet.

The most important criteria in the selection of forming units is the potential production capabilities while maintaining or improving sheet quality. The Angel Machine is capable of producing 1.8 tons/inch/day. The goal is for a unit capable of forming 3 tons/inch/day.

In respect to flexibility, the desire is to have the widest range possible for basis weight. To be able to produce a sheet weighing 40#/MSF as well as one 160#/MSF would be most desirable. However, this wide range would undoubtedly distract from the efficiencies in the range most desired for the forecasted market. The wider the weight range, the more difficult to economically satisfy the requirements with any one forming design.

Recently Battle Creek and Divisional representatives were given the opportunity to witness first hand most all of the recent designs of forming units and discuss their merits not only with manufacturing representatives, but operating personnel as well. An opportunity was made available to evaluate the Voith Company's suction former, sectional formers and mini formers on a fourdrinier wire, the Escher Wyss suction former, Tampella's suction formers and Arcu Formers, Eur-We-Pa vacuum former, Beloit's Strata-Former at Obbola, as well as Kobayashi's Ultra-Formers.

Until recently the new designs offered by Kobayashi appeared to meet the requirements desired in the Battle Creek operation more completely than any other equipment. However, after an extensive evaluation project it became quite obvious to obtain maximum production rates with desired quality, the use of a Fourdrinier wire as a base forming unit with some means of adding additional plies, had the greatest potential.

The opportunity to visit the Beloit-Walmsley Research Center in Bolton, England exposed Battle Creek to a new concept in multi-ply formation. This new concept has been developed from experience gained from the many Inverform machines already in existence (also a Beloit-Walmsley development). This new development called a Bel-Bond makes use of a Fourdrinier wire with the use of a Converflow headbox and a Strata-Flo slice applying two plies, in much the same way as the Obbola machine, followed by four more plies using the Bel-Bond formers.

With a great deal of enthusiasm and conviction, the Battle Creek management proposes this new Beloit design to be used for the rebuild of the Angel Machine.

WET END REBUILD

ANGEL MACHINE

BATTLE CREEK, MICHIGAN

TABLE I
ANGEL MACHINE PRODUCTION

	1969	1970	1971	1972	1973	1974	1975	1976	1977 (Plan)
Tons	46,676	48,189	52,543	56,693	63,048	61,117	55,437	64,291	69,536
Operating Hours	6,530	6,355	6,526	6,681	7,519	7,326	6,612	7,065	7,650
Tons/Operating Hour	7.1	7.6	8.1	8.5	8.4	8.3	8.4	9.1	9.1
Cost/Hour	$484	$522	$534	$595	$636	$810	$939	$1,038	$1,042

WET END REBUILD

ANGEL MACHINE

BATTLE CREEK, MICHIGAN

DESIGN BASIS

WET END FORMING SECTION

I. Production

Product:	Multi-ply folding boxboard
Caliper:	.014" to .028"
Basis Weight:	63#/1000 sq. ft. to 112#/1000 sq. ft. (coated finished weight)
Production Rate:	
Wet End	375 tons/day
Efficiency rate	85%
Coated, salable	320 tons/day
Speed:	450 FPM (.028") to 800 FPM (.014")

II. Equipment

Headboxes:	(1) Beloit dual channel Strata-Flo Converflo primary headbox
	(4) Beloit Converflo secondary headboxe
Headbox Consistency:	0.4% to 1.0%
Wet End Forming Section:	Beloit stationary type fourdrinier with five Bel-Bond forming units
Wire:	146" wide x approximately 166' long
Slice Width:	140"
Maximum Design Speed:	1000 FPM

Press:	(1) Inverted Tri-Nip, 300 PLI, 400 PLI and 500 PLI
	(1) Venti-Nip, 700 PLI
Drive:	
Bel-Bonds	(5) 30 HP - electrical
Couch	(1) Mechanical lineshaft
Lump Breaker	(1) 7.5 HP - electrical
Wire Turning	(1) Mechanical lineshaft
Tri-Nip	(1) 100 HP - electrical
	(3) Mechanical lineshaft
Fan Pumps:	(6) 100 tons/day 3400 GPM 75 Ft. TDH 100 HP 0.5% consistency
Machine Screens:	(6) 100 tons/day 3400 GPM 25 PSI Inlet press. 150 HP 0.5% consistency
Liner Rejects Screens:	(2) 7.5 - 8.0 tons/day .77% consistency 161 - 173 GPM 2 HP
Filler Rejects Screen:	(1) 32.4 tons/day .77% consistency 703 GPM 3 HP
Couch Pit Agitators:	(2) 36" dia. 245 RPM 40 HP
Vacuum:	
Forming Box	900 CFM 2½" hg. 10 HP

Autoslice	5840 CFM 2½" hg. 50 HP
Bel-Bond forming boxes	10,950 CFM 10" hg. 50 HP
Transfer Boxes	(5) 672 CFM ea. 10" hg. ea. 50 HP ea.
Couch Roll	4388 CFM 20" hg. 200 HP
Press Roll	6000 CFM 20" hg. 300 HP
UHLE Boxes	4380 CFM 15" hg. 300 HP
Vacuum Saveall	800 CFM 2" hg. 10 HP

WET END REBUILD

ANGEL MACHINE

BATTLE CREEK, MICHIGAN

DESCRIPTION OF FACILITIES

It is proposed to replace the existing cylinder mold wet end of the Angel Mill boxboard machine at Battle Creek. After careful consideration of the forming equipment currently available, serious attention has been given to the Kobayashi Ultra Forma combination design and the Beloit Fourdrinier machine in combination with multiple Bel-Bond forming units.

Of the two units, it is felt that the Beloit design offers the broadest range of operational advantages, and is recommended for the proposed rebuild.

The design concept of the Beloit forming equipment utilizes a fourdrinier base wire on which wet bonding of multiple plies is achieved with a Beloit unit called the Bel-Bond. The Bel-Bond is a design combination of the Beloit Inverform and the Bel-Baie. Of particular significance is the concept of wet bonding. Each subsequent ply at 0.5 to 1.0 percent consistency is laid down on a previously formed sheet of 10 to 12 percent consistency. Fiber migration in such a wet state is believed to yield ply bonding superior to that which could be expected under dryer conditions. Good bonding between plies will reduce the necessity for starch additives and minimize quality problems.

A ply is formed as low consistency stock from the Bel-Bond headbox is applied on top of the incoming sheet carried by the fourdrinier fabric. The Bel-Bond fabric and converging fourdrinier fabric combine to form a nip which applies increasing pressure to remove water from the newly applied stock layer, promoting firm bonding between the two strata. The water which is removed is conveyed away by the Bel-Bond forming box.

Complete replacement of the existing wet end is proposed, along with modification to the press section, machine stock system and machine vacuum and white water systems.

The new Beloit wet end will be installed on existing foundations and sole plates, and will occupy essentially the same area as the present cylinder forming equipment. New foundations will be required for the primary headbox, new drive equipment, auxiliary pumps and other related equipment.

The proposed wet end is a stationary type fourdrinier designed for a 146" wide x 166' long fabric. Included is a breast roll, suction couch roll, wire return rolls, forming board, vacuum forming box, automatic air guide, automatic stretcher, lump-breaker roll, doctors, showers, savealls, turning roll and porter bar for fabric stringing.

The Bel-Bond units will consist of a lead-in and lead-out roll and a top wire carrying roll, a vacuum saveall, mechanical take-up, automatic air guide, stretcher, autoslice, two compartment vacuum box, support frames, showers, savealls, doctors, and porter bars.

Design of the wet end will be based on four separate stocks laid down on the bottom fourdrinier wire to form a six-ply sheet. Two stocks, normally backliner and filler, will be used to form the first two plies with a dual channel primary Strata-flo headbox at the head of the fourdrinier. The first Bel-Bond following the primary headbox will not be equipped with a headbox itself, but will be used solely to assist dewatering of the top ply from the Strata-flo headbox. The four (4) succeeding Bel-Bond units will be provided with Beloit Converflo headboxes to apply additional stock plies on the sheet previously formed.

Normally, filler stock will be applied by the first two Bel-Bond headboxes with underliner put down with the third Bel-Bond and topliner with the last Bel-Bond unit. Stock piping to each headbox will be arranged so that multiple stocks can be selected for a particular headbox. Flexibility of stock selection to the various units is necessary to insure good operation with a varying wastepaper furnish.

Each secondary Converflo headbox will have a separate stock supply system, as will each channel of the primary Strata-flo headbox. The stock supply to each system will consist of consistency control of each stock, a fan pump to supply stock to the headboxes, a machine screen and automatic valves to regulate basis weight and headbox consistency. Three secondary rejects screens will be provided. Each of the two liner stock systems will have separate rejects screens, while the filler stock systems will have a common rejects screen.

The machine screens, located between the fan pumps and the headboxes, will be the pressure type, and operated with a 5 percent continuous rejects cut. Flow control of the rejects will be utilized to reduce plugging. Secondary rejects screens will be the open vibrating type. Stock feed flow rates have been calculated at 0.5% consistency, as it is expected that a large part of the machine production will be in the lower basis weight ranges.

Should final design tests prove that higher headbox consistencies in the light weight ranges are acceptable, it may be possible to use smaller screens and fan pumps than now anticipated.

The existing wire pit will be modified to accommodate the new stock dewatering arrangement. A new couch pit, complete with agitators, pumps and instrumentation will be added, along with a new sealbox for the 10" hg. vacuum requirements.

New vacuum pumps and blowers will be provided as necessary to accommodate wet end vacuum requirements. The system will be designed to reuse the maximum amount of existing vacuum equipment.

Complete instrumentation systems will be installed as required for the new systems. Electrical facilities will also be expanded to cover the increased electrical requirements. New electrical equipment planned will include a unit substation, medium voltage distribution and starting equipment and low voltage motor control.

The existing machine electrical helper drive equipment will be discarded and replaced with modern SCR controls and static power supplies. The drive system will be designed to maximize load on the existing mechanical lineshaft drive, as the lineshaft is currently operating far below nameplate rating. New electrical helper drives will be installed for each Bel-Bond unit, the couch lumpbreaker roll, and the Tri-nip suction press roll. The couch roll, wire turning roll and the balance of the press roll drives will be driven from the lineshaft.

The proposed press rebuild will maximize reuse of existing equipment. The press section will be composed of a new Tri-Nip section which will consist of a felted Venti-Nip top roll and a felted suction bottom roll. This suction roll will be an existing roll with a new shell. Design loading of the first nip will be 300 PLI.

The second nip will be between the suction roll and a new Microrok covered roll. Design pressure is 400 PLI.

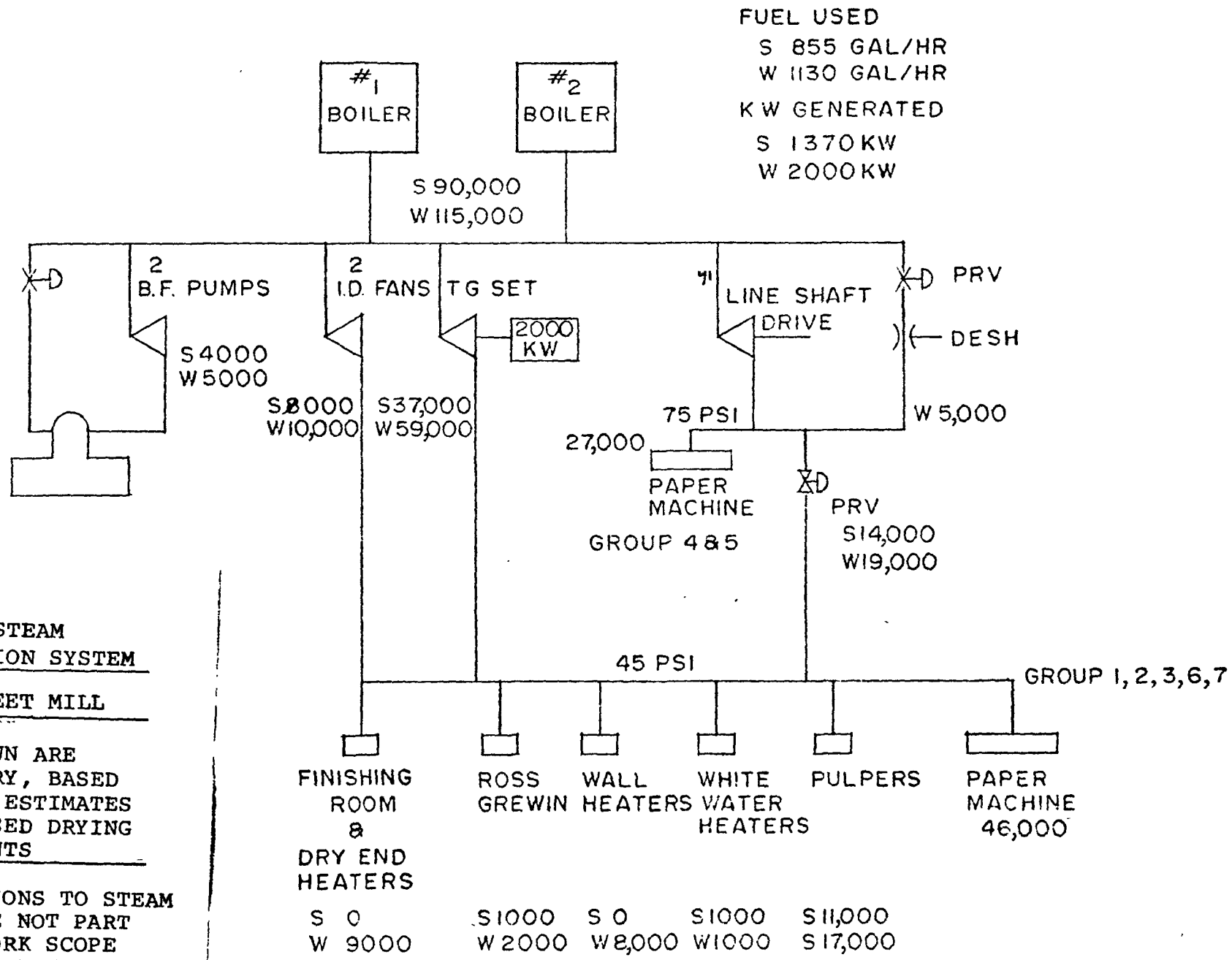
The third nip will be formed by the Microrok roll and a felted Venti-Nip controlled crown roll, which will be recovered and relocated from the existing combination press. Design pressure is 500 PLI.

All necessary doctors, air loading and framing will be supplied. The existing main press will remain and follow the new Tri-Nip section. The existing press will be rebuilt to achieve a design loading of 700 PLI. This increase will be accomplished with the addition of new 29" diameter top and bottom rolls and increased framing and loading capability.

Wherever possible, existing showers, pumps and other auxiliary equipment will be utilized in the rebuild.

Due to the forecasted increases in machine speed, provisions have been made for a three rope system for the coater tower dryer to replace the existing two rope system.

Recirculating air in the coating oven to either reduce energy requirements or increase drying capacity will be accomplished prior to the rebuild. Alterations of the machine hood ventilation system to facilitate drying conditions has also been provided for prior to installation of new machine. The existing line shaft turbine will require minor adjustments along with replacement of governor spring, parts necessary are in mill inventory.



MODIFIED STEAM DISTRIBUTION SYSTEM

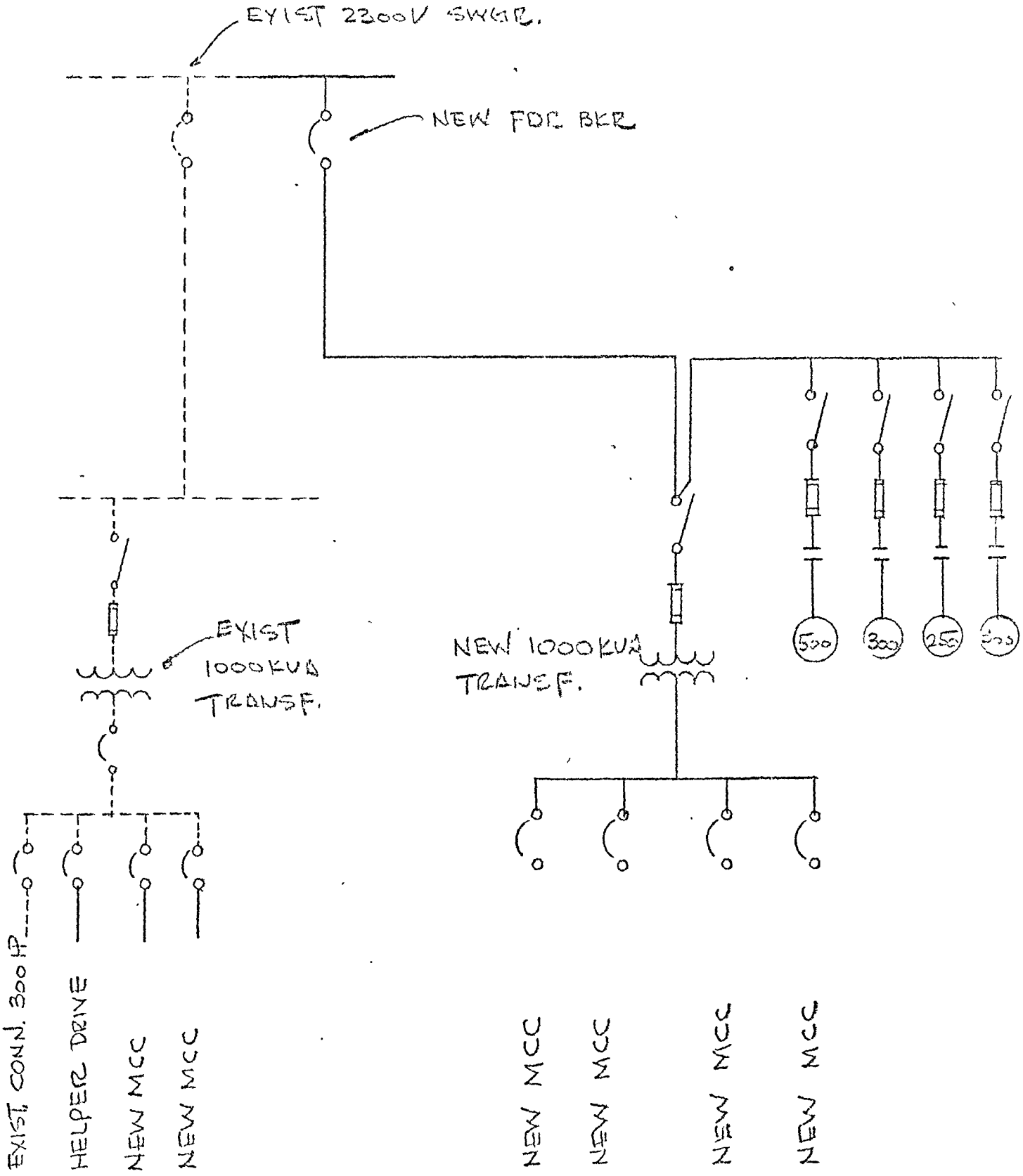
ANGEL STREET MILL

FLOWS SHOWN ARE PRELIMINARY, BASED ON BELOIT ESTIMATES OF INCREASED DRYING REQUIREMENTS

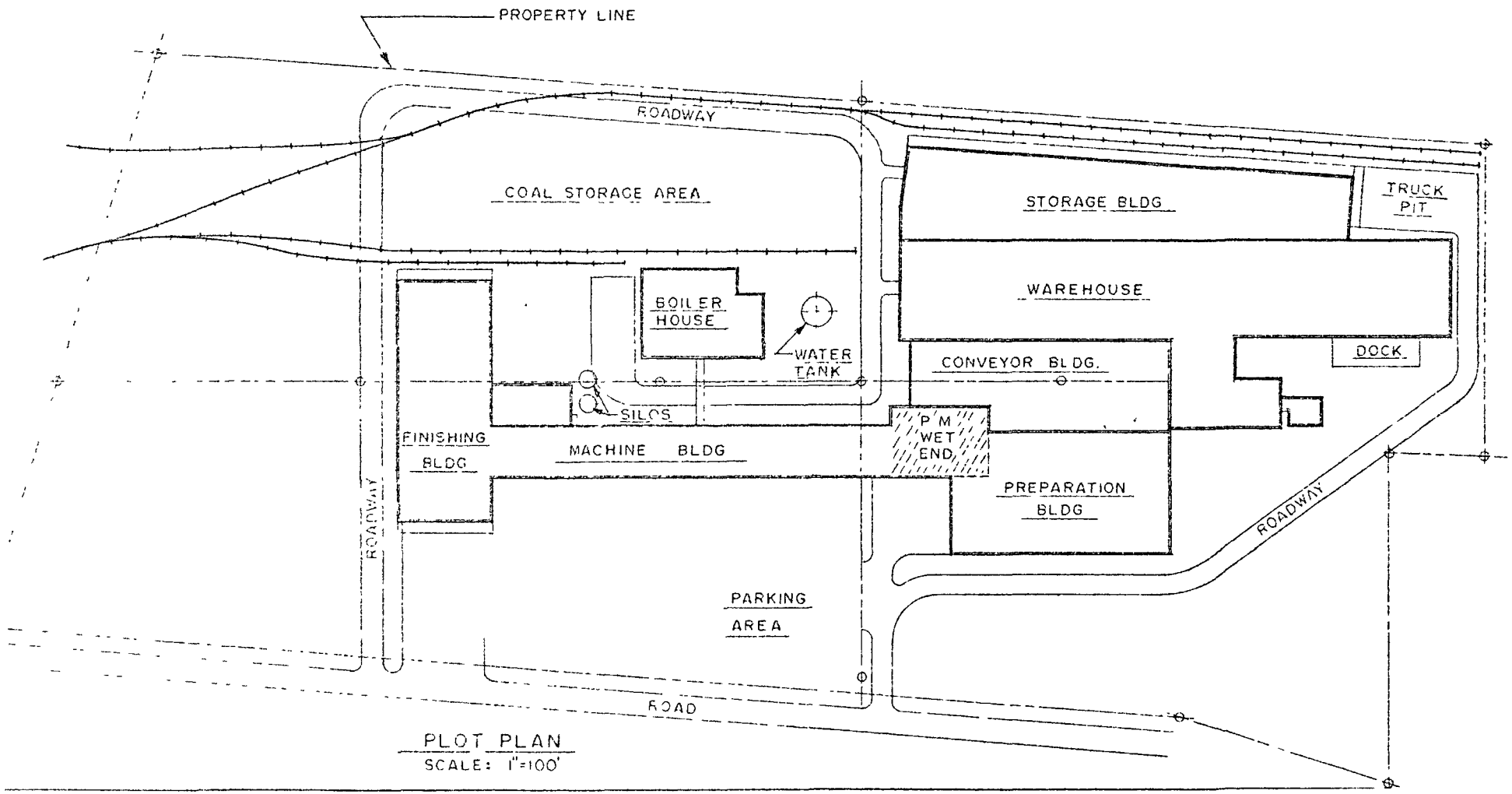
MODIFICATIONS TO STEAM SYSTEM ARE NOT PART OF JOPA WORK SCOPE THIS TO BE ACCOMPLISHED AS NORMAL MAINTENANCE VERY MINIMUMAL EXPENSE

PROPOSED SINGLE LINE DIAGRAM FOR BATTLE CREEK.

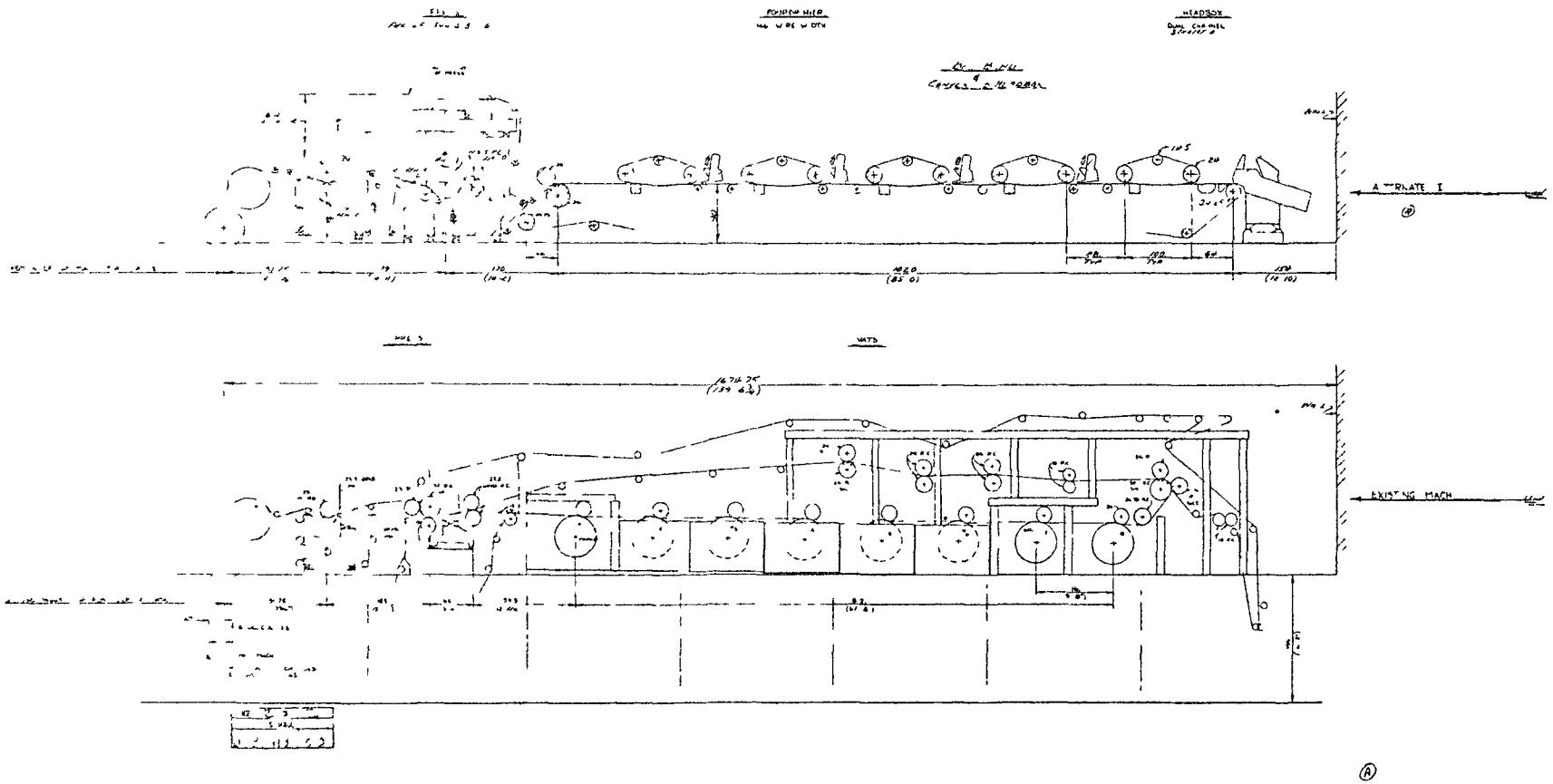
REF:



ST REGIS PAPER C
BATT E CREEK, MIC
PLOT PLAN
BY M B DATE 6-28-



PLOT PLAN
SCALE: 1"=100'



EXISTING AT MILL

NEW EQ P

EXISTING RELOCATED

GRADE
63# TO 140# PER 1000 FT² BOX BOARD

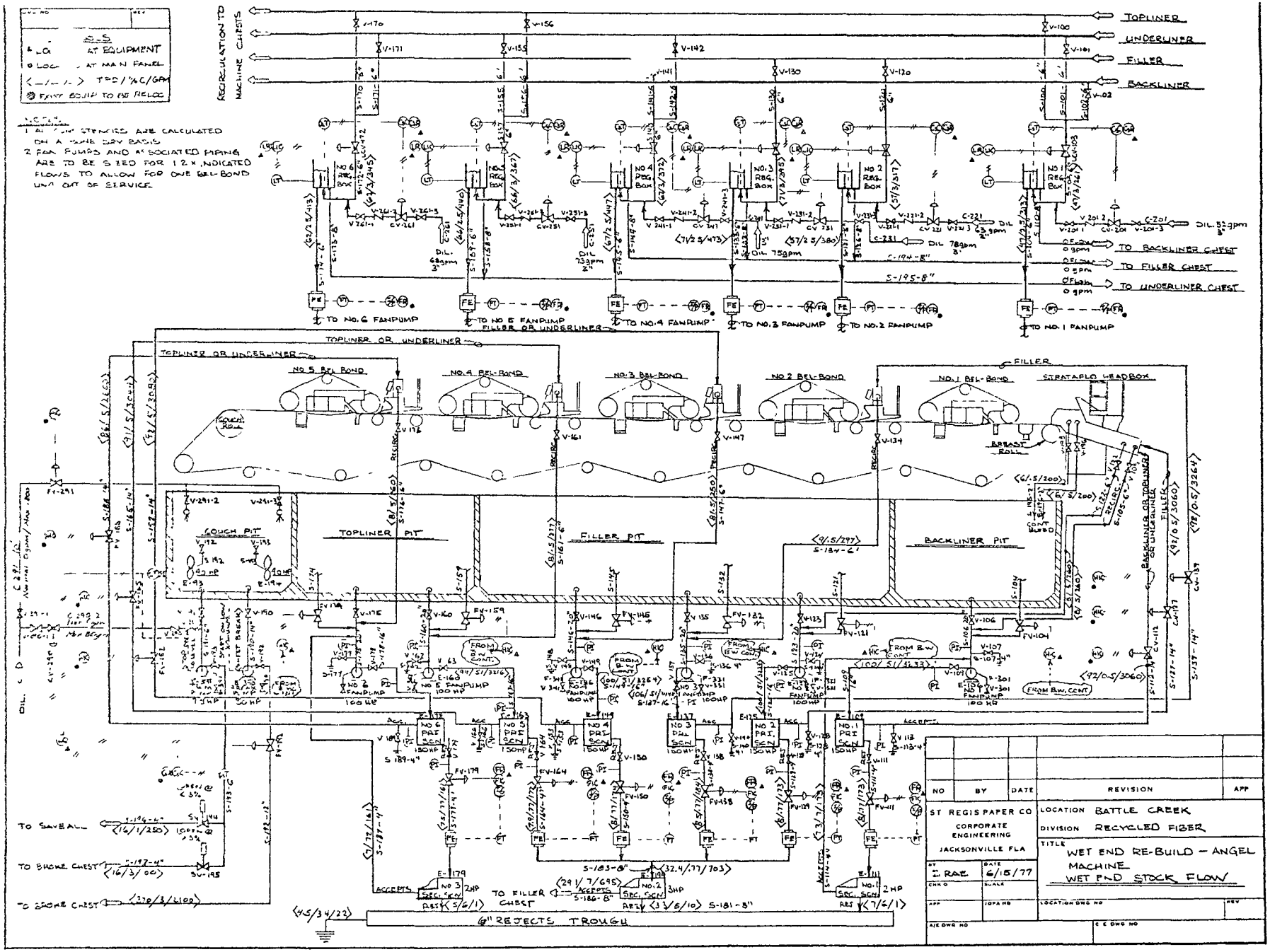
SPEED
000 FPM MAX DRIVE

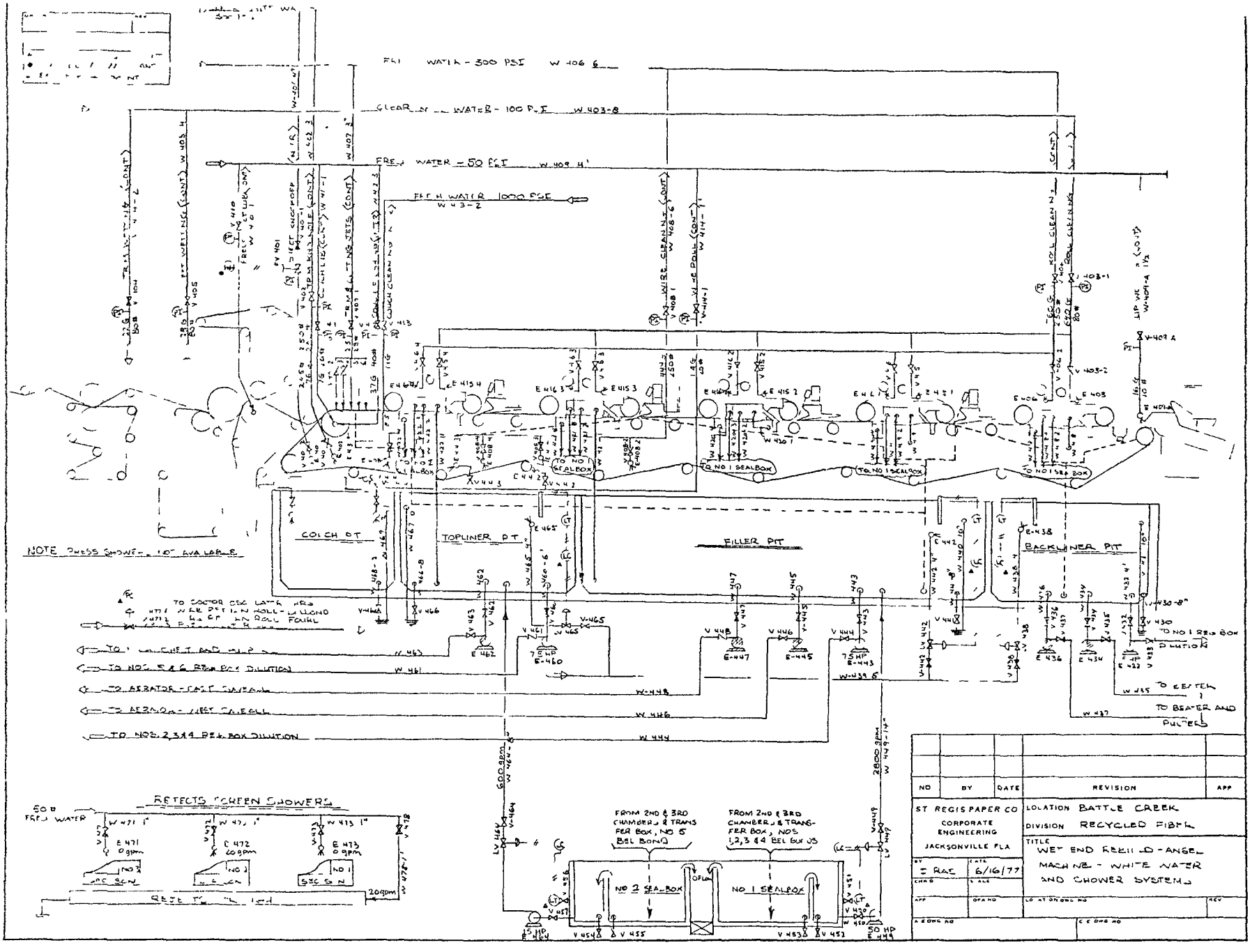
BASEPLATE L/C PER LFC 130413

PROPOSED REBUILD
FOURDRINIER MACH
BATTLE CREEK
SOLDIER
BELOIT CORPORATION
SCALE 50
DATE 3 22 77
PROR BAS
SHEET 1 OF 2

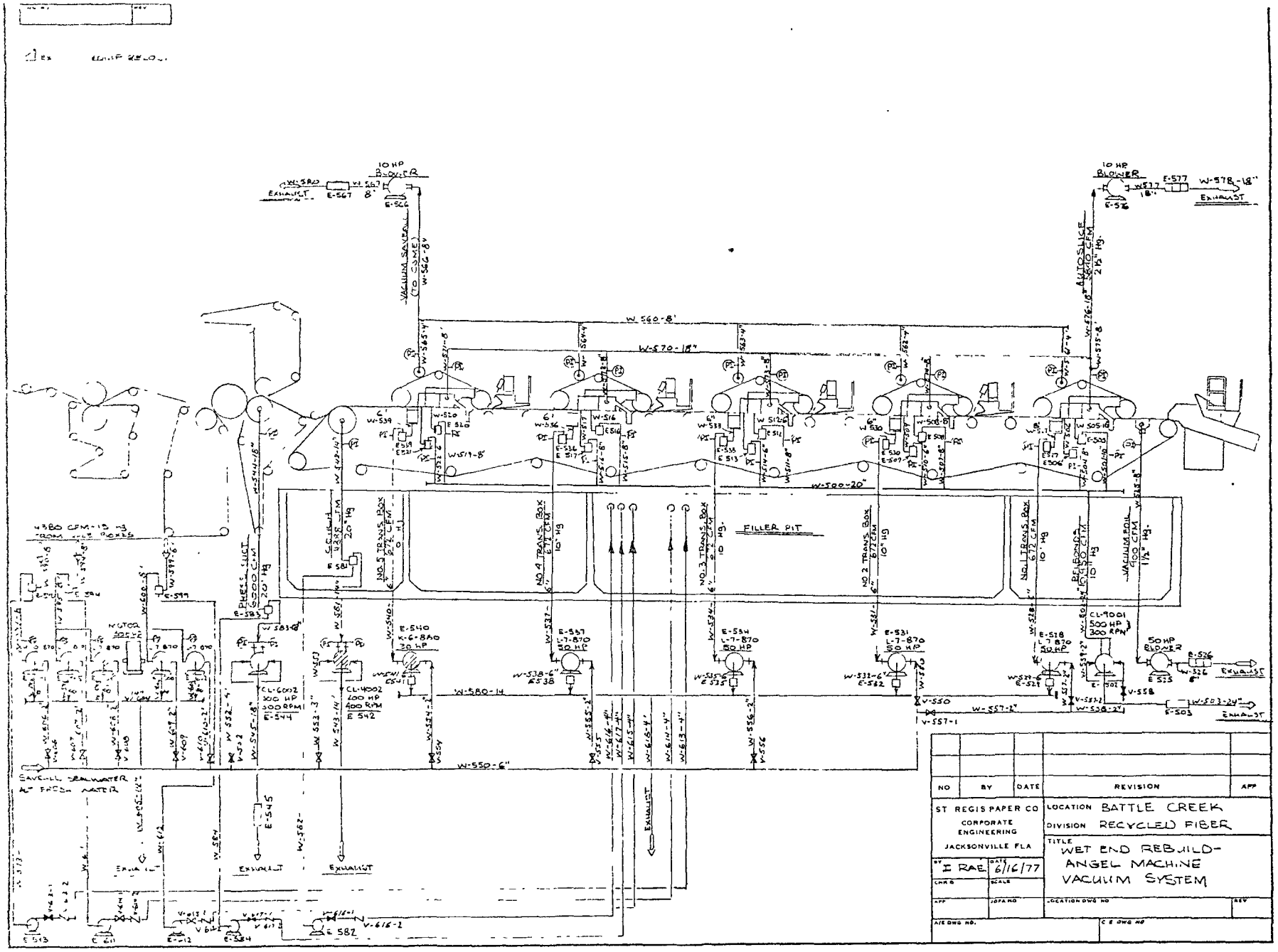
FILE NO 130413

RECEIVED


RECIRCULATION TO MACHINE CHESTS
TOPLINER
UNDERLINER
FILLER
BACKLINER
TO BACKLINER CHEST
TO FILLER CHEST
TO UNDERLINER CHEST
TO NO. 6 FANPUMP
TO NO 5 FANPUMP FILLER OR UNDERLINER
TO NO. 4 FANPUMP
TO NO. 3 FANPUMP
TO NO. 2 FANPUMP
TO NO. 1 FANPUMP
TOPLINER OR UNDERLINER
NO 5 BEL BOND
NO. 4 BEL-BOND
NO. 3 BEL-BOND
NO 2 BEL-BOND
NO. 1 BEL-BOND
STRATAFLO HEADBOX
FILLER
COUCH ROLL
BREAST ROLL
COUCH PIT
TOPLINER PIT
FILLER PIT
BACKLINER PIT
BACKLINER OR TOPLINER
FILLER
TO SAVEALL
TO BROKE CHEST
TO BROKE CHEST
TO FILLER CHEST
6" REJECTS TROUGH
ST REGIS PAPER CO
CORPORATE ENGINEERING
JACKSONVILLE FLA
LOCATION BATTLE CREEK
DIVISION RECYCLED FIBER
TITLE WET END RE-BUILD – ANGEL MACHINE
WET END STOCK FLOW
NO
BY
DATE
REVISION
APP
L. RAE
6/15/77



FRESH WATER - 300 PSI W 406 6
CLEAR WATER - 100 PSI W 403-8
FRESH WATER - 50 PSI W 409 4
FRESH WATER 1000 PSI W 43-2
COUCH PIT
TOPLINER PIT
FILLER PIT
BACKLINER PIT
NOTE PRESS SHOWER NOT AVAILABLE
TO NO 1 SEALBOX
TO NO 1 REG BOX DILUTION
TO BEATER
TO BEATER AND PULPERS
TO NOS 5 & 6 REG BOX DILUTION
TO AERATOR - EAST SAVEALL
TO AERATOR - WEST SAVEALL
TO NOS 2,3 & 4 REG BOX DILUTION
RETECTS SCREEN SHOWERS
50 # FRESH WATER
FROM 2ND & 3RD CHAMBERS & TRANSFER BOX, NO 5 BEL BOND
FROM 2ND & 3RD CHAMBERS & TRANSFER BOX, NOS 1,2,3 & 4 BEL BOX US
NO 2 SEALBOX
NO 1 SEALBOX
600 gpm
2800 gpm
20 gpm
NO
BY
DATE
REVISION
APP
ST REGIS PAPER CO
CORPORATE ENGINEERING
JACKSONVILLE FLA
LOCATION BATTLE CREEK
DIVISION RECYCLED FIBER
TITLE WET END REBUILD - ANGEL MACHINE - WHITE WATER AND SHOWER SYSTEMS
6/16/77


10 HP BLOWER
EXHAUST
VACUUM SAVEALL (TO CSME)
W-560-8"
W-570-18"
W-500-20"
W-580-14
W-550-6"
FILLER PIT
NO. 5 TRANS. BOX
NO. 4 TRANS. BOX
NO. 3 TRANS. BOX
NO. 2 TRANS. BOX
NO. 1 TRANS. BOX
BELLBOND
VACUUM FOIL
AUTOSLICE
PRESS SUCT
MOTOR
CL-6002 300 HP 300 RPM
CL-4002 400 HP 400 RPM
CL-9001 500 HP 300 RPM
50 HP BLOWER
SAVEALL SEALWATER AT FRESH WATER
NO | BY | DATE | REVISION | APP
ST REGIS PAPER CO
CORPORATE ENGINEERING
JACKSONVILLE FLA
LOCATION BATTLE CREEK
DIVISION RECYCLED FIBER
TITLE WET END REBUILD-ANGEL MACHINE VACUUM SYSTEM
BY I RAE
DATE 6/16/77
CHK'D
SCALE
APP
JOPA NO
LOCATION DWG NO
REV
A/E DWG NO.
C E DWG NO

BELOIT CORPORATION
PAPER MACHINERY DIVISION

BELOIT, WISCONSIN 53511, U.S
AREA CODE 608/365-3311 TWX-910-290-2
INTERNATIONAL TELEX 025-7
CABLE ADDRESS: PAPERCH

June 2, 1977

RECEIVED
JUN 10 1977
CORPORATE ENGINEERING
ST. REGIS PAPER COMPANY

Member Beloit G

Mr. Lou Philipps
St. Regis Paper Company
79 East Fountain Street
Battle Creek, Michigan 49016

Subject: New Wet End for Angel Machine

Dear Lou:

We are pleased to submit our revised quotation covering a new forming section, press section and drive changes to produce .014" to .028" or .030" coated box board at a rate of 375 tons per 24 hours. The forming section will produce six plies which will enable you to minimize top liner usage without overloading the filler plies and can also provide heavier calipers on some grades.

Following is a list of new equipment to be furnished by Beloit. A fully descriptive contract specification will be submitted as required.

HEADBOXES:

(1) Dual channel Strata-Flo Converflo Headbox for the primary position complete with mountings, controls, and baseplates.

(4) Bel Bond Converflo Headboxes complete with mountings and controls.

FOURDRINIER:

(1) Stationary type Fourdrinier for 146" wide x approximately 166' long fabric and will include breast roll, forming board, vacuum foil box, table rolls, foils, suction couch roll, turning roll, wire return rolls, air guide, two stretchers, doctors, showers, savealls, couch press footwalks, baseplates and porter bars for fabric installation.

BELOIT CORPORATION
PAPER MACHINERY DIVISION

BELOIT, WISCONSIN 5351
AREA CODE 608/365-3311 TWX-910 2
INTERNATIONAL TELEX
CABLE ADDRESS PAPERCH

June 2, 1977

RECEIVED
JUN 10 1977
CORPORATE ENGINEERING
ST. REGIS PAPER COMPANY

Member Beloit C

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BEL BOND:

(5) Bel Bond units complete with 24" wire rolls, mechanical take up, automatic air guide, stretcher, autoslice, two compartment vacuum box with HDP strips, support frames, showers, savealls, doctors, separators and porter bars for fabric installation.

PRESS:

The press section will be as shown on drawing LF130413-3-5-0 and will include an inverted Tri-Nip press with new suction roll shell, 47" diameter center roll, doctors, framing, air loading, controls and footwalks. This will be followed by a 700 PLI press with new 29" diameter press rolls and frames.

All felt equipment will be existing.

DRIVES:

(2) Hypoid gear drive units with air clutches, pullies, and controls for fourdrinier couch and turing roll.

(1) Transfer case to be used with existing drive for Tri-Nip Press.

(1) Hypoid gear box to be used with existing clutch and pullies for main press.

Helper drive system consisting of (5) 30 HP drives for Bel Bond units, 7.5 H.P. for couch press and 100 H.P. for Tri-Nip press, static power supply and controls.

PRICE:

The total price for the equipment as outlined above will be Three Million, One Hundred Thousand Dollars ($3,100,000.00).

Based on our current workload and a commitment by mid-July, delivery can be completed within approximately 14 months.

We appreciated the opportunity to meet with you June 1 at which time the basic proposal was agreed upon. We hope to be favored with your order and have the priviledge of working with you on this project.

Sincerely,

Dick

R. E. Johnson
Regional Sales Manager

jmh

BELOIT CORPORATION
PAPER MACHINERY DIVISION

BELOIT, WISCONSIN 53511, U.S.A.
AREA CODE 608/365-3311 TWX-910-2[illegible]9-2680
INTERNATIONAL TELEX 0[illegible]-7456
CABLE ADDRESS PAPERCHINE

June 16, 1977

Member Beloit Group

Mr. Lou Philipps
St. Regis Paper Company
79 East Fountain Street
Battle Creek, Michigan 49016

Subject: Spares for Proposed Angel Rebuild

Dear Lou:

Following are the recommended spare components for the proposed Bel Bond wet end and press section.

(2) Bel Bond rolls with bearings
(1) Fourdrinier breast roll with bearings
(1) Fourdrinier wire roll with bearings
(1) Set Bel Bond forming strips
(1) Set forming board strips
(1) Fourdrinier suction box cover
(1) Suction couch shell
(1) Rubber covered suction press roll shell
(1) 47" Diameter center press roll with bearings
(1) 29" Diameter press roll with bearings

The total price for the above spares is Two Hundred Fifty-One Thousand Dollars ($251,000.00).

It may be possible to rejournal your old 24" diameter press rolls and use them as spares for the Bel Bond units and fourdrinier breast and wire turning rolls. You also may be able to use your existing suction press roll shell at lower nip loadings. Deleting these items from the above list represents a price reduction of approximately Eighty Thousand Dollars ($80,000.00).

The spares should, of course, be ordered at the same time as the equipment for the rebuild.

If I can be of further help, please let me know.

Sincerely,

R. E. Johnson
Regional Sales Manager

jmh

THIS QUOTATION IS SUBJECT TO BUILDER'S TERMS AND CONDITIONS OF SALE ON REVERSE SIDE

Item I

TWO (2) BELOIT-JONES Corrosive Service Integral Wall Mounted Agitators, Size 30, Model 3333, generally as described in Sales Bulletin SB-55-008 enclosed, to be powered by the customer's 25 HP, 1750 RPM Motor with a 284T Frame. The unit drives a 36" diameter fixed pitch three-bladed propeller of 316 Stainless Steel at 245 RPM on a 3" diameter solid shaft and is complete with V-Belt and Belt Guard. Details of construction are as described in our Specification Sheet 55-INT-S/S-304D enclosed.

Reference Drawings: C55-123103 and C55-123021

Reference Sketch: 11-77-144

Approximate Weight: 1,360 Pounds/Each

PRICE.....$ 10,006.00/LOT

Extra For Shut-Off Seal

TWO (2) Inflatable Type Shut-Off Seal to permit repacking unit without draining contents of tank as described in enclosed Drawing C55-123086.

PRICE.....$ 868.00/LOT

U.S. MOTORS
MODIFIABLE - 1.15 SERVICE FACTOR

CORRO-DUTY MOTORS - TYPE TC
3 PHASE/60 HERTZ/460 VOLT

HP	RPM	FRAME	LIST PRICE	ST. REGIS CONTRACT PRICE
1	1800	143T	$ 208	$ 102
	1200	145T	250	123
	900	182T	333	163
1½	3600	143T	238	117
	1800	145T	224	110
	1200	182T	274	134
	900	184T	402	197
2	3600	145T	260	127
	1800	145T	232	114
	1200	184T	308	151
	900	213T	463	227
3	3600	182T	292	143
	1800	182T	272	133
	1200	213T	364	178
	900	215T	610	299
5	3600	184T	350	172
	1800	184T	350	172
	1200	215T	514	252
	900	254T	818	401
7½	3600	213T	410	201
	1800	213T	454	222
	1200	254T	652	319
	900	256T	1,045	512
10	3600	215T	488	239
	1800	215T	548	269
	1200	256T	800	392
	900	284T	1,222	599

NOTES:

1) Price includes USEM Standard Terminal Box. Please refer to attached comparis of USEM and Nema volumns.

2) If next larger size is required add $20 net per motor.

3) Price includes permanent marking tag per specification EM-2.

HP	RPM	FRAME	LIST PRICE	ST. PEGIS CONTRACT PRICE
5	3600	254T	$ 616	$ 302
	1800	254T	750	368
	1200	284T	1,074	526
	900	286T	1,624	796
20	3600	256T	836	410
	1800	256T	916	449
	1200	286T	1,306	640
	900	324T	1,990	975
25	3600	284TS	1,072	525
	1800	284T	1,146	562
	1200	324T	1,600	784
	900	326T	2,322	1,138
30	3600	286TS	1,286	630
	1800	286T	1,334	654
	1200	326T	1,802	883
	900	364T	2,763	1,354
40	3600	324TS	1,698	832
	1800	324T	1,778	871
	1200	364T	2,330	1,142
	900	365T	3,363	1,648
50	3600	326TS	2,128	1,043
	1800	326T	2,076	1,017
	1200	365T	2,678	1,312
	900	404T	4,061	1,990
60	3600	364TS	2,546	1,248
	1800	364T	2,588	1,268
	1200	404T	3,158	1,547
	900	405T	4,653	2,280

NOTES:

1) Price includes USEM Standard Terminal Box. Please refer to attached compai of USEM and Nema volumns.

2) If next larger size is required add $20 net per motor.

3) Price includes permanent marking tag per specification EM-2.

HP	RPM	FRAME	LIST PRICE	ST. REGIS CONTRACT PRICE
75	3600	365TS	$3,348	$ 1,641
	1800	365T	3,202	1,569
	1200	405T	3,724	1,825
	900	444T	5,218	2,557
100	3600	405TS	4,386	2,149
	1800	405T	3,952	1,936
	1200	444T	5,218	2,557
	900	445T	7,712	3,779
125 (1)	3600	444TS	5,520	2,705
	1800	444T	5,108	2,503
	1200	445T	6,248	3,062
150 (4)	3600	445TS	6,628	3,248
	1800	445T	5,900	2,891
	1200	447T	8,996	4,408
200 (4)	3600	447TS	8,436	4,134
	1800	447T	7,193	3,525

NOTES:

1) Price includes USEM Standard Terminal Box. Please refer to attached compar of USEM and Nema volumns.

2) If next larger size is required add $20 net per motor.

3) Price includes permanent marking tag per specification EM-2.

4) Uni-directional fan, clockwise rotation (facing take off shaft) vs. standar Specify CCW on order if required.

BIRD MACHINE COMPANY, INC.

SALES CONTRACT

DATE June 21, 1977

The BIRD MACHINE COMPANY, INC. of South Walpole, Massachusetts, U S A.
Hereafter called "Bird"
agrees to sell and

ST. REGIS PAPER COMPANY

Hereafter called "Purchaser"
agrees to buy
The Machines Specified and Described Below:

Item A
ONE (1) - Model 8 Bird-Jonsson Screen complete with frame Aqua-Purge Shower, eccentrics, bearings, vat and .078" x 12% open area plates, standard inlets, tailings trough, cleanout door, motors, controls, sheaves and belts. Including OSHA guard.

BUDGET PRICE FOR ONE----------$15,750
BUDGET PRICE FOR TWO----------$31,500

As an alternate:

Model 8 Bird-Jonsson Screen in 304 SS construction, equipped as above with 316 SS screen plate.

BUDGET PRICE FOR ONE----------$14,750
BUDGET PRICE FOR TWO----------$29,500

Item B
ONE (1) - Model 24 Bird-Jonsson Screen in 316 SS construction complete with frame, Aqua-Purge Shower, eccentrics, bearings, vat, weir, standard inlets, tailings trough, cleanout door, 3 HP motor, controls, sheaves and belts, OSHA guard and .094" x 12% open area plate.

BUDGET PRICE FOR ONE----------$27,850
BUDGET PRICE FOR TWO----------$55,700

As an alternate:

Model 24 Bird-Jonsson Screen complete as above in 304 SS, but including 316 SS screen plate.

BUDGET PRICE FOR ONE----------$23,900
BUDGET PRICE FOR TWO----------$47,800

THE BLACK CLAWSON COMPANY
605 Clark Street
Middletown, Ohio 45042

Buyer Ref. No.

Quotation No. S-77-1265

Name of Buyer: St. Regis Paper Co.

Date: May 24, 1977

Address: 79 E. Fountain Street
Battle Creek, Michigan 49016

We hereby offer for a limited period of 30 days following the date hereof the items described below and/or in the specifications, if any, consisting of _____ pages attached hereto. This offer is subject to the terms and conditions contained on this and the other side hereof and in said specifications, if any, and to others whatsoever.

TO ORDER, PLEASE RETURN ONE SIGNED COPY.

DESCRIPTION and PRICE

Two (2) 30-PS Selectifier Screens

Two (2) 10" AN-1 Pumps

See specifications and quotation attached

Shipment to be made approximately _____ to 20 (weeks) after acceptance of this order and receipt of final engineering details required for manufacture. (If this standard shipment schedule is not satisfactory, alternate schedules usually can be arranged to meet Buyer's requirements.)

Shipment via common carrier, except rail — unless otherwise specified by Buyer.

TERMS OF PAYMENT:

25% with order
45% payable eight (8) weeks after order is received
25% payable sixteen (16) weeks after order is received
5% payable thirty (30) days after shipment

Exception: Buyer will provide all safety devices and requirements of public authorities and insurance underwriters.

Terms of Sale: All prices are F.O.B. Seller's shipping points, unless otherwise stated. Buyer paying all expenses from time of shipment including but not limited to freight, trucking, cartage, handling, and insurance. The Buyer will reimburse Seller for any of such expenses beyond such points and such taxes as Seller may pay. All sales, use and excise taxes, customs duties and other taxes to Seller or Buyer in connection with this sale are Buyer's obligation. As a condition precedent to Buyer asserting any claims or backcharges against Seller, Buyer must pay the price due and payable here including any charges with respect to change orders and extra work. If Buyer is in default of any payment as provided for herein, Seller without prejudice to any other remedy has the option suspending performance until the Buyer cures the default and extending the contract delivery date by a time at least equal to the period of suspension, or charging Buyer interest at the rate of twelve (12%) per annum on any past due payments. Payment shall not be withheld because minor parts of the equipment sold hereunder not necessary to the start up of the equipment have not been shipped.

Advertising material whether submitted herewith or separately is intended exclusively for the purpose of illustrating Black Clawson equipment of the general type described herein and shall not be part of these specifications or of any contract based thereon.

ACCEPTED:

by _____
Authorized Signature

by Emmett W. Johnson
Authorized Signature
THE BLACK CLAWSON COMPANY

AN.	DESCRIPTION	PRICE
2	30 PS Black Clawson Selectifier Screen(s) (Patent Pending). Body parts in contact with stock will be type 316 stainless steel. Equipped with a 5/16" thick stainless cylinder having .018 " slots for bar rotating element operating at 560 RPM. Unit complete with V-belt drive. Minimum inlet pressure each screen-25 psi. Approximate shipping weight of skidded screen 8,300# each. Unit to be similar to 41P-12271 Price Each, less motor, reject valve and controls ---------- Two (2)	$44,[illegible].00 $89,[illegible]74.00

SPECIFICATIONS

It is equipped with 14"ASME inlet and 14" ASME flanged outlet, and is designed to withstand a maximum of 75# hydraulic pressure. The screen is mechanically capable of handling 3600 GPM @ 2.5 % consistency.

Unit furnished with a multiple spring mechanical seal, alloy steel vertical [illegible] carried by two bearings, fabricated steel base, fabricated steel adjustable motor bracket, and equipped with a heavy trash box and a stainless fitted handwheel operated slide valve, permitting trash box to be closed off from the Selectifier Screen while the trash box is being cleaned.

2	Pressure gauge set, each set consists of two (2) PMC transmitters, (1) air set, (2) 0-60 psi pressure gauges in panel (suitable for wall mounting), 1/4" tubing furnished by purchaser. @ $387.00	$774.00
2	150 HP, 1200 RPM _____ horizontal motor suitable for vertical mounting and V-belt service, 3-60-____ volts.	By Customer

(See supplemental specifications and quotation, if any, for possible price adjustment)

f ilitate removal of material that will not pass through the cylinder, th
[illegible] is equipped with a flanged opening for assembling a reject valve

R AUTOMATIC PURGE, the following is required:

	___" DeZurik v-port ball valve, complete with combination filter regulator and gauge (for pre-setting continuous bleed position) of _____ stainless fitted construction.	
	Skinner Three-Way solenoid control valve (115 volt)	
2	4" Type 316 stainless steel fitted cylinder operated knife v-orifice reject valve. @ $595.00	$1,190.00
2	Hannifin 4-way single solenoid control valve (115 volts) @ $100.00	$ 200.00
2	Crown air filter lubricator @ $53.00	$ 106.00
1	Wall mounted control panel for 2 screen operation. Approximate shipping weight 400 # each.	$1,767.00

P IFICATIONS FOR CONTROL PANEL
[illegible] contains a start-stop spring return selector switch, pilot light, curren transformer and indicating ammeter for each screen drive motor, a motor drive interval timer, and electronic timer for purge time length, a manual-off-automatic selector switch and pilot light to actuate the reject valve. The 3 un hru 10 unit panels have a motor driven program switch all wired to terminal blocks, assembled and painted. 115 volts required for panel.

FOR MANUAL BLEED-OFF, the following is required:

	___" DeZurik v-port ball valve, complete with combination filter regulator and gauge (for pre-setting continuous bleed position) of _____ stainless fitted construction.	
	___" Type _____ stainless steel fitted handwheel operated knife v-orifice reject valve.	

(See supplemental specifications and quotation, if any, for possible price adjustment.)

Date

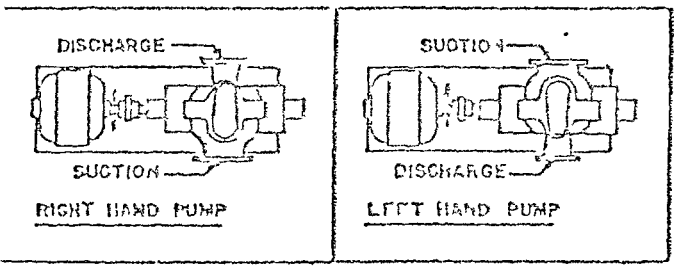
SPECIFICATIONS AND QUOTATION — CLASS "A" PUMPS

	DESCRIPTION	PRICE
	10 " Class AN-1 Heavy-duty Black Claw pump of cast iron bronze fitted construction, complete with flexible coupling, motor rails and base, which is extended for motor. At .75% consistency	
	pump rated at 3400 GPM 76 Head 78 BHP	
	Impeller 9-3/4" diameter per Curve C -330°	
	Approximate Shipping Weight 2,925 # each	
	Price less motor and controls	$7,627.00
	Two (2)	$15,254.00

he cast iron horizontally split, double suction centrifugal casing s equipped with integral packing boxes, bearing housings and mounts on a cast iron base. The rotating element consists of an alloy steel shaft with Timken Cartridge Bearings. The solid design side plates, open design impeller, packing box bushings and sealing rings will be cast bronze

Unit similar to Bulletin MB-206

1	100HP, 1800 RPM, Horizontal Induction-type Ball Bearing Motor. (3-60- Volts)	By Customer
1	Fabricated steel coupling guard	By Customer



The following will expedite delivery of your pump.

A. Please advise hand of pump.

B. Please indicate your preference of coupling.

C. If purchaser is supplying motor, we need a motor print or sufficient motor information with frame number, as soon as possible, to size motor coupling bore, motor rails and base extension for motor.

(See supplemental specifications and quotation, if any, for possible price adjustment.)

FORM 5215

May 24, 1977

ST. REGIS PAPER COMPANY CORPORATE ENGINEERING

TELEPHONE CALL CONFIRMATION

Local ___ Placed X Date 6/22/77 C.E.Project No. 37-271-2.1

L.D. X Rec. ___ Project Title Wet End Rebuild

R.I. Rae of Corporate Engineering

Talked with Jack Spann of Nash, Brookfield, Wisconsin (414)786-7154

Nash suggests the following to meet Beloit's vacuum requirements.

Requirement	CFM	Vac.	Pump	HP	RPM	Type	Price*
2nd & 3rd Bel-Bond Compt.	10950	10"	CL9001	500	300	Sync.	$44,120
ALT.			CL14001	500	240	Sync.	-
Couch	4388	20"	Existing CL-4002	200	400	Ind.	-
Press	6000	20"	CL6002	300	300	Ind.	$31,258
Transfer Boxes	3360	10"	Existing L-7 Pumps	50	870	Ind.	-
Uhle Boxes	4380	15"	CL-4001	200	1200	Ind.	$22,482

*Motors not included.
Stated prices are not exact. Quote is in mail to St. Petersburg office. Should be available end of week.

Separator/silencers are required on discharge of each pump to take care of sealwater. WSPA, two per pump. Price is included in original quote.

Suction separators are as follows:

1000 CFM for Vacuum Foil

Size 24 x 54 TC w/legs
C.S. $1883
S.S. $2740
Size 24 x 54 TC w/lugs
C.S. $890
S.S. $1092

672 CFM for Transfer Boxes

Size 16 x 42 w/legs
C.S. $1541
S.S. $1666
Size 16 x 42 w/lugs
C.S. $826
S.S. $940

Couch Separator - 4388 CFM

Size 36 x 72 w/legs
C.S. $2653
S.S. $4652

Press Separator - 6000 CFM

Size 42 x 84 w/legs
C.S. $3615
S.S. $5445

Uhle Boxes - 1500 CMF ea. Box

Size 300TC w/o legs
C.S. $ 890
S.S. $1092

R.I. Rae

R.I. Rae

RIR:mm

cc: R.A. Armstrong
G.C. Davis
R.J. Kindl
L.J. Philipps

ST. REGIS PAPER COMPANY CORPORATE ENGINEERING

TELEPHONE CALL CONFIRMATION

Local ___ Placed X Date 6/22/77 C.E.Project No. 37-271-2.1

L.D. X Rec. ___ Project Title Wet End Rebuild

R.I. Rae of Corporate Engineering

Talked with Jim Nelson of Wash., St. Petersburg (813)576-7311

Price of L-7-870, w/o motor is $9,319.

R.I. Rae

R.I. Rae

RIR:mm

cc: R.A. Armstrong
G.C. Davis
R.J. Kindl
L.J. Philipps

Form 2457 1A

PROPOSAL

CHICAGO BLOWER CORPORATION

Axial-Centrifugal Fans & Blowers • Mechanical Draft Fans • Air Conditioning Equipment

1675 GLEN ELLYN ROAD • GLENDALE HEIGHTS, ILL. 60137 • AREA CODE 312 858-2600

SUBMITTED BY:

Don M. Hutchinson
CHICAGO BLOWER SALES OF ATLANTA
Post Office Box 28912
Atlanta, Georgia 30328 404-393-4203
(AN INDEPENDENT MANUFACTURER'S REPRESENTATIVE)

DATE: June 23, 1977

REFERENCE: Battle Creek Rebuild
Budget Prices
Chicago Blower Quote #2195

TO: Mr. R. E. Beres
St. Regis Paper Company
2400 Gulf Life Tower
Jacksonville, Florida 32202

TERMS. Net 30 Days

F.O.B.: SHIPPING POINT Glendale Heights, Illino

Dear Mr. Beres:

The following prices confirm the prices given to you by telephone. The silencer price has been increased since our conversation; however, this is still an estimate and can possibly be reduced depending upon specifications.

1 Chicago Blower Size 2600 Pressure Air Fan, Arrangement 1, for V-belt drive operation.....$1960.00 Eac

Add for Shaft Seal.....$ 78.00 "

Add for Built-in Stub Evase Discharge.....$ 106.00 "

Add for Outlet Damper for large end of evase.....$ 529.00 "

Add for Constant Speed V-Belt Drive 3500 rpm/3011 rpm.....$ 236.00 "

1 Silencer complete with flange to match fan inlet flange. Silencer is industrial grade 18 ga. construction.....$ 472.00 Eac

Performance: Based on the use of an evase discharge on the fan - 5840 cfm, 2.5" Hg (34" sp wg), 3011 rpm, 46.7 bhp, 70°, sea level.

Shipment: 19 weeks.

RECEIVED
PURCHASING
JUN 27 1977
CORPORATE ENGINEERING
ST. REGIS PAPER

- CONTINUED -

PLEASE ISSUE YOUR PURCHASE ORDER TO: CHICAGO BLOWER CORPORATION, C/O OUR LOCAL SALI REPRESENTATIVE'S ADDRESS. THANK YOU.

This Quotation is Subject to Acceptance within 15 Days

2 Chicago Blower Size 2I-7½-12 Pressure Blowers, Arrangement 1, for V-belt drive operation.....$601.00 Each

Add for Flanged Inlet (needed for connection of silencer).....$ 81.00 "

Add for Blast Gate for inlet or outlet.....$105.00 "

Add for Constant Speed V-Belt Drive 3500 rpm/3500 rpm.....$ 88.00 "

2 Silencers complete with flange to match fan inlet flange. Silencers are industrial grade 18 ga. construction.....$277.00 Each

Performance 900 cfm, 1½" Hg (11.8 oz.), 3500 rpm, 6.1 bhp, 70°, sea level.

Shipment: 14 weeks.

The silencers selected for both of the fans are for mounting on the fan inlet and assume that the fan discharge would be into some process or other area. The silencers have been selected for an overall rating of 85 dbA based on five feet distance. Overall sound will be affected by other near-by machinery and by the room in which it is located.

Chicago Blower prices are firm for six (6) months after receipt of order. Prices for purchased material such as V-belt drives and silencers are subject to change if prices to Chicago Blower are changed.

Very truly yours,
CHICAGO BLOWER CORPORATION

D. M. Hutchinson
Manufacturer's Representative
Chicago Blower Sales of Atlanta

DMH:fms
Attachment

PLEASE ISSUE YOUR PURCHASE ORDER TO: CHICAGO BLOWER CORPORATION, C/O OUR LOCAL SALES REPRESENTATIVE'S ADDRESS. THANK YOU.

This Quotation is Subject to Acceptance within 15 Days

Subject to Terms and Conditions Shown on Reverse Side

ghouse Electric Corporation Industry & Defense

4151 Woodcock Drive
Jacksonville Florida 32207
(904) 396-3061

June 24, 1977

RECEIVED
PURCHASING
JUN 27 1977
CORPORATE ENGINEERING
ST. REGIS PAPER

Mr. Tony Bires
St. Regis Paper Company
Gulf Life Tower
Jacksonville, Florida 32207

Subject: Battle Creek Rebuild

Dear Tony:

This is to confirm the estimating prices supplied to you by telephone for the subject project. Quotation estimates are as follows:

Item 1 - Quantity 1 - 300 HP squirrel cage induction motor, 2300 volts, 3 phase, 60 hertz, 1200 RPM, 1.15 service factor, horizontal, Weather Protected Type I enclosure, standard torques and inertias.

Net Price: $8,153.00

Delivery: 26 Weeks

Item 2 - Quantity 1 - 500 HP synchronous motor, 2300 volts, 3 phase, 60 hertz, 300 RPM, 2 bearing pedestal type, open-dripproof enclosure, class B insulation, 90 degrees C. rise by resistance, 40 degrees C. ambient, 1.15 service factor, horizontal, 0.8 power factor, brushless excitation, standard inrush, full voltage starting, NEMA load WK squared and inertias.

Net Price: $69,735.00

Delivery: 52 Weeks

Subject to the Terms and Conditions on the Back of this Quotation

GENERAL ELECTRIC

QUOTATION NO.

Unless otherwise stated, this quotation (Form 10004, [illegible] Rev.) expires 15 days from its date and may be modified or withdrawn by Seller prior to any acceptance. All communications should refer to the quotation number and be addressed to our office at:

P.O. Box 17[illegible]
Jac[illegible], Florida [illegible]
June 2[illegible], 1[illegible]7

GENERAL ELECTRIC COMPANY
INDUSTRIAL SALES DIVISION
HEADQUARTERS 1285 BOSTON AVE.
BRIDGEPORT, CONN. 06602

PROP. 3[illegible]

Mr. Tony [illegible]
St. [illegible] Company
Gulf Life Tower
Jacksonville, Florida 32207

Dear Mr. [illegible]:

We wish to confirm our telephone conversation wherein we gave you estimating prices on motors for your Battle Creek rebuild, as follows:

ITEM #1

1- Type K, 300 HP, 1200 RPM, 2300 volt, 3 phase, 60 cycle squirrel cage induction motor, 1.15 SF, [illegible] enclosure.

NET ESTIMATING PRICE. $7,719.00

ITEM #2

1- 500 HP, 1800 RPM, ditto.

NET ESTIMATING PRICE. $9,019.00

ITEM #3

1- Type K, 300 HP, 900 RPM, ditto.

NET ESTIMATING PRICE. $8,829.00

The above prices are f.o.b. point of shipment, purchaser to pay transportation charges. Shipment approximately 20 weeks after receipt of order.

Prices stated herein are subject to attached Price Clause 6A.

If you require additional data, please let us hear from you.

Very truly yours,

J. B. Peebles, Jr.

J. B. PEEBLES, JR.

JBP/cc

NOTICE: Sale of any products or services covered by this quotation is conditioned upon the terms contained herein (including those on the back of this letter). Any additional or different terms proposed by Buyer are objected to and will not be binding upon Seller unless specifically assented to in writing by Seller's authorized representative.

ST. REGIS PAPER COMPANY CORPORATE ENGIN PTLG

TELEPHONE CALL COMMUNICATION

Loc ___ Placed ___ Date 6/27/77 C.E. Project No. 37-271-3

L.D. x Rec. x Project Title Wet End Rebuild - Angel Machine

R. I. Rae of Corporate Engineering

Talked with R. E. Johnson of Beloit

REJ: Beloit has done further checking on outside material escalation and can now guarantee that escalation will not exceed 3% of the total purchase price, rather than the 5% earlier mentioned.

REJ: Beloit received an order for a Belbond machine last week. Cannot identify buyer as it has not yet been officially announced.

R. I. Rae

R. I. Rae

bh

cc: R. A. Armstrong
G. C. Davis
L. J. Philipps

Form CE 21

CORPORATE ENGINEERING

REPORT DATE 7/1/77

PREPARED BY D. E Wansor

LEGEND

- Original Schedule
- Actual & Current
- Start Construction
- Compliance — Enviro
- Schedule Order
- Schedule Delivery
- Actual Order
- Actual Delivery
- Completion As Recorded On Previous Issue of Sch

PROGRESS SCHEDULE

REPORT NO _____ FOR _____ 19__

PROJECT NO 37-271-2.1 TITLE FT END REBUILD - ANCEL MACHINE JOBA 116-CAP

DIV/LOC RECYCLED FIBER/BATTLE CREEK, MI

Start	Present Completion	DESCRIPTION	Approval 1977 Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct.	Nov.	Dec.
		ENGINEERING																
		PROCUREMENT																
		Wet End Press Section and Drives																
		Fan Pumps and Motors																
		Screens																
		Vacuum Pumps and Motors																
		Shower Pumps, Motors and Agitators																
		Blowers and Silencers																
		Unit Substation																
		Switchgear and MCCs																
		Instrumentation																
		CONSTRUCTION																
		Demolition and Relocation																
		Control Room																
		Set Sole Plates																
		Equipment Erection																

FORM 10-342

ESSENTIAL RESOURCES REQUIRED

DIVISION/LOCATION	JOPA	DATE
Recycled Fiber/ Battle Creek, MI	118-C 117-E	7/15/77

I. ENERGY	ANNUAL REQUIREMENTS		AVAILABLE	
	ESTIMATED QUANTITY	ESTIMATED COST	YES	LIMITED
1. ELECTRICAL (PURCHASED)	KW 5,180,400	145,051	X	
2. NATURAL GAS	CUFT. 33,875,000	59,620	X	
3. PROPANE	GALS.			
4. COAL	TONS			
5. OIL	GALS. 1,335,411	467,394	X	
6. WASTE	944,000	65,750	X	
7.				

II. RAW MATERIALS	ANNUAL REQUIREMENTS		AVAILABLE	
	ESTIMATED QUANTITY	ESTIMATED COST	YES	LIMITED
A. FIBRE 1. WOOD				
2. PULP				
3. WASTE (PAPER)	Tons 26,765	2,452,745	X	
4. PAPER				
5. PAPERBOARD				
6.				
B. CHEMICALS 1.	Tons 1,463	29,260	X	
2.				
3.				
4.				

III. ENVIRONMENTAL & GOVERNMENTAL REGULATIONS

1. AIR
2. WATER Refer to E. T. Ton's Letter Dated 6/22/77, attached.
3. LAND USE
4. OTHER (OSHA) F.D.A., ETC.

IV. DISCUSS LIMITING DEGREE OF ANY INDIVIDUAL FACTOR:

WET END REBUILD - ANGEL MACHINE

BATTLE CREEK, MICHIGAN

DETAIL OF ESSENTIAL RESOURCES CALCULATION

Increased production based on 78 tons per day, 329 days per year.

Effluent treatment charges based on averages per ton of production.

Flow: 12,099 gals. per ton @ $103.36 per million gallons
TSS: 29.01 lbs. per ton @ 41.82 per thousand pounds
BOD: 23.65 lbs. per ton @ 21.36 per thousand pounds

Coating cost based on production of 18 point board @ 114# per ton at a coating material cost of $20.00 per ton.

Natural gas consumption based on an average cost of $1.76 M Cu. Ft. at a usage of 1355 Cu. Ft. per ton of production.

Oil consumption based on a cost of $.35 per gallon. Fuel usage based on a summer increase of 171 gallons per hour 5 months per year and winter increase of 200 gallons per hour 7 months per year.

$\frac{5}{12} \times 329 \times 24 \times 154 =$ 506,331 gal.

$\frac{7}{12} \times 329 \times 24 \times 180 =$ 829,080 gal.

Total 1,335,411 gal.

1,335,411 gal. x $0.35/gal. = $467,394

Waste paper requirements based on 1.1 tons per ton of production less coating of 114 pounds per ton. Cost $92.78 per ton less coating at a cost of $20.00 per ton.

Purchased Power based on 2.8¢ per KW hour at 290 T/D plant load is 5000 kW, with 1600 kW generated.

5000 kW - 1600 kW = 3400 kW purchased

3400 x 24 x 329 = 26,846,400 kW Hr.

Based on 1976 purchased power, incremental increase is

26,846,400 - 21,666,000 = 5,180,400 kW Hr.

INTER-OFFICE CORRESPONDENCE

GULF LIFE TOWER
JACKSONVILLE, FLORIDA 32207

DATE: June 22, 1977

FROM: E. T. Tonn

TO: R. I. Rae

Subject: Effluent Treatment Service Costs
Wet End Rebuild - Angel Machine
Battle Creek Recycled Fiber Mill
C.E. Project: 37-271-2.1

Dear Irv:

In response to your request, attached is the computation of the increase in effluent treatment service cost estimated for the additional 78 tons per day expected from the Angel machine wet end rebuild at the Battle Creek mill.

Because no significant water or fiber conservation or effluent reduction measures are included in the scope of the project, the estimated costs have been based on the current experience of the existing Angel machine.

The rates and capacity of the current waste treatment contract between the Battle Creek mill and the City of Battle Creek was used in computing the estimated effluent treatment service costs. The mill, however, has received from the City a 90 day notice, as required by the contract, advising of the City's intent to renegotiate treatment service rates. The mill intends during the contract renegotiation to seek an increase in treatment capacity so that surcharge penalties may be reduced or avoided. The estimated service costs reported herein are subject to the revisions to be made in the renegotiated contract.

Based on the current waste treatment contract and current experience of the existing Angel machine, the additional 78 tons production from the rebuild of the wet end would result in an increase in treatment costs of $301.07 per day. The effluent treatment cost for the total mill production would increase from $3.30 per ton to $3.38 per ton.

If you have any questions, please advise.

Very truly yours,

E. T. Tonn

ETT/abl

cc: R. A. Armstrong
C. Cushman
G. C. Davis
H. R. Emery
L. J. Phillips
R. S. Welch

June 29, 1977
E. T. Tom

Wet End Rebuild

Angel Machine

Basis of Computation

1. A production increase by wet end rebuild of the Angel machine of 212 T/D to 290 T/D or 78 T/D.

2. The current waste treatment contract (April 3, 1959 and supplemental of October 31, 1967) between St. Regis Paper Company and City of Battle Creek (see Exhibit "A" for summary of rates and capacity).

3. The 1976 average effluent amounts for the Angel mill: Gals. effluent/ton, lbs. suspended solids/ton, and lbs. BOD/ton.

4. The 1976 average effluent treatment service costs for the total mill.

5. The following assumption.
   Because there is no provision in the project for increasing saveall capacity and other measures of reducing existing water consumption, BOD and suspended solids, effluent amounts for the additional capacity of the rebuilt Angel machine are calculated on the basis of gals/ton and lbs./ton experienced on the existing Angel machine.

Computation

A. Average effluent amounts per ton for Angel mill - 1976

Flow: 12,099 Gals/Ton
Suspended Solids: 29.01 Lbs/Ton
BOD: 23.65 Lbs/Ton

B. Calculated increase in effluent amounts resulting from wet end rebuild - 78 Tons/Day production increase

Flow:

78 T/D x 12,099 Gals/Ton = 943,722 Gals/D

Suspended Solids:

78 T/D x 29.01 Lbs/Ton = 2,263 Lbs/D

BOD:

78 T/D x 23.65 Lbs/Ton = 1,845 Lbs/D

Computation (continued)

C. Calculated increase in effluent service costs for flow, suspended solids and BOD resulting from wet end rebuild

Flow:

$103.36/MG x 0.944 MG/D = $97.57/D

Suspended Solids:

$41.82/1000 Lbs x 2,263 Lbs/D = $94.60/D

BOD:

$21.36/1000 Lbs x 1,845 Lbs/D = $39.41/D

TOTAL $231.58/D

D. Calculated demand factor (surcharge) resulting from the additional flow, suspended solids and BOD

	Total Mill 1976 Ave.	Additional Due to Rebuild	Total Mill	Contract Limit	% Exc
Flow, MGD	4,1228	0.944	5,0688	5.0	
Suspended Solids, Lbs/Ton	11,038	2,262	13,300	10,000	3
BOD, Lbs/Ton	9,580	1,845	11,425	6,500	7

Surcharge:

Flow - Ignore		
Suspended Solids	16 x $4.84 =	$ 77.44/D
BOD	16 x 6.73 =	107.68
TOTAL		$185.12/D
Less 1976 Surcharge		115.63
Net Surcharge Increase		$ 69.49/D

E. Total increase in treatment service costs due only to the production increase of 78 Tons/Day.

Effluent Service Costs	$231.58/D
Demand Factor (Surcharge)	69.49
TOTAL	$301.07/D

F. Comparison of 1976 total mill treatment service costs with the total estimated mill treatment service costs resulting from the Angel Machine wet end rebuild

	1976	Increase Due to Rebuild*	Total
Flow	$155,966.15	$32,002.96	$187,969.11
Suspended Solids	168,948.54	31,028.80	199,977.34
BOD	74,890.79	12,926.48	87,817.27
Surcharge	42,155.20	22,792.72	64,947.92
Capital Costs	57,276.00	----	57,276.00
Total Costs	$499,236.68	$98,750.96**	$597,987.64
Tons Production	151,150	25,584	176,734
Cost Per Ton	$3.30	---	$3.38

* Based on 328 operating days.

** Negotiations with the City of Battle Creek for increased capacity in the municipal Sewage Treatment Plant is presently in progress. The ultimate desire to eliminate all surcharges appears to be possible. Recognizing these possibilities, we have conservatively reduced the expense of mill effluent treatment calculations by $33,000.

EXHIBIT "A"

Summary Of Rates And Capacity
From Waste Treatment Contract
St. Regis Paper Company and City of Little Creek
April 3, 1959 And Supplement 1 Of October 31, 1967

Total Treatment Capacity

Flow - 5 million gallons per day

Suspended Solids - 10,000 lbs. per day

BOD - 6,500 lbs. per day

Unit Rates

Flow - $103.36 per million gallons

Suspended Solids - $41.82 per 1,000 lbs.

BOD - $21.36 per 1,000 lbs.

Capital Costs

$57,276 per year payable in 12 equal monthly installments

Demand Factor

Demand factor penalty payments apply when the average daily Flow BOD, or Suspended Solids for any calendar month exceed the total treatment capacity (see above). The penalty is computed as follows

	EXCESS	FACTOR		CAPITAL DAILY RATE				
Flow	0-10%	2	x	$9.81	x	Days	in	Month
	10-20%	4	x	"	x	"	"	"
	20-30%	8	x	"	x	"	"	"
	30% & Up	12	x	"	x	"	"	"
BOD	0-10%	2	x	$6.73	x	Days	in	Month
	10-20%	4	x	"	x	"	"	"
	20-30%	8	x	"	x	"	"	"
	30% & Up	16	x	"	x	"	"	"
Suspended Solids	0-10%	2	x	$4.84	x	Days	in	Month
	10-20%	4	x	"	x	"	"	"
	20-30%	8	x	"	x	"	"	"
	30% & Up	16	x	"	x	"	"	"

BASIS OF ASSUMPTIONS

The development of an economic justification for a project involving an expenditure of over 6.3 million dollars with a projection of 65 months' payback, naturally entails the use of many assumptions. Some of the major assumptions, not necessarily in order of importance, are summarized as follows:

1. The Angell Mill effluent would increase in the same increments of flow, BOD and suspended solids as current experience dictates. In actuality there should be a reduction in both flow and BOD on a per ton basis.
   An added assumption concerns the ability to negotiate a contract with the Battle Creek Sewage Treatment facilities for increased capacity.

2. The economic justification virtually disregarded the potential for improved cost savings resulting from the reduction of liner usage. The payback as presented is primarily justified by increased production. The reduction of white fibers in the topliner plies due to better formation and profiles, has definite potential.

3. There was no economic consideration given to improved quality. Hopefully a more consistent and reproducible quality product would assist sales and possibly allow some slight premium.

Basis of Assumptions

4. There was no allowance attributed to a reduction in mechanical downtime expected from a new and more simplified wet end operation. Wire changes are anticipated to be less frequent than current felt changes.

5. The economic justification was based on the sale of 10,000 new tons the first year and 15,000 additional tons the second year. However, with experience, improved efficiency and sales efforts, additional tonnage over the 25,000 tons could be sold in the third, fourth and fifth years.

Again, many assumptions were made in putting together this project, not with a crystal ball, but with good logical backup information.

WET END REBUILD - ANGEL MACHINE
RETURN CALCULATIONS SUMMARY

ANNUAL INCREASE 25,000 TONS

DATA:

Capital Cost:	$6,300,000
Assumed New Production	290 T/Day
Current Budget	212 T/Day

1. Increased Production:

   290 - 212 T/Day = 78 T/Day
   329 Days x 78 = 25,662

2. Contributions Per Ton: $103.76

3. Contribution $103.76 x 25,000 Tons = $2,594,000

4. Additional Net Operating Income: $2,594,000

5. Additional Net Annual Income:

   $2,594,000 x 52% = $1,349,000

6. Months Payback:

   ($6,300,000 ÷ 1,349,000) 12 = 56 Months

7. ROI: 41%

WET END REBUILD - ANGELL

CONTRIBUTION

Additional Income for 25,000 Tons $2,594,000

$$\frac{\$2,594,000}{25,000} = \$103.76/\text{Ton}$$

Additional Costs Due to Producing 25,000 Tons

Material	$ 86.96*
Conversion	57.40
S & A	.28
	$144.64

Sales	$248.40
Cost	144.64
	$103.76

* Current raw materials costs per ton are $93.77. Due to better profile of moisture and formation, reduction in fiber costs will equal $1.76 per all tons manufactured (not just the 25,000 tons). Equating this savings to the 25,000 tons identifies the cost for the additional tonnage as $86.96/ton

ANALYSIS OF CHANGE
INCREASE VOLUME 25,000 TONS
($000 Omitted)

	1977 Full Year Estimate	1979 Projection Without JOPA	Change	1980 Projection
Tons	153,000	160,000	25,000	185,000
Net Sales	$ 38,000	$ 39,739	$6,210	$ 45,949
Direct Material	$ 14,347	$ 15,003	$2,174	$ 17,177
Conversion Costs:				
Fixed:				
Salaries, Payroll taxes,)				
Vacation & Holidays, Lease)				
Charges, Pension & Group Insurance)	$ 3,285	$ 3,305	$ 8	$ 3,313
Depreciation	586	586	394	980
Property Taxes & Insurance	612	612	151	763
Total Fixed	$ 4,483	$ 4,503	$ 553	$ 5,056
Semi-Variable				
Repair Labor, Payroll Taxes, Repair)				
Material, Machine Clothing)	$ 2,422	$ 2,422	-	$ 2,422
Effluent Treatment	482	502	65	567
Total Semi-Variable	$ 2,904	$ 2,924	$ 65	$ 2,989
Variable				
Direct Labor	$ 3,886	$ 4,064	$ 59	$ 4,123
Payroll Taxes	512	538	11	549
Indirect Labor, Payroll Taxes, Water	1,243	1,305	-	1,305
Fuel	4,752	4,989	527	5,516
Electricity	1,071	1,124	145	1,269
Other Converting Expenses	428	510	75	585
Total Variable	$ 11,892	$ 12,530	$ 817	$ 13,347
Total Conversion	$ 19,279	$ 19,957	$1,435	$ 21,392
Cost of Sales	$ 33,626	$ 34,960	$3,609	$ 38,569
Gross Profit	$ 4,374	$ 4,779	$2,601	$ 7,380
Selling & Administration	$ 919	$ 919	$ 7	$ 926
Net Operating Income	$ 3,455	$ 3,860	$2,594	$ 6,454

WET END REBUILD - ANGEL MACHINE

COST OF SALES COMPARISON

YEAR	1977		1979 WITHOUT JOPA		1979 WITH JOPA		1980 WITH JOPA	
TONS	153,000	Cost Per Ton	160,000	Cost Per Ton	170,000	Cost Per Ton	185,000	Cost Per Ton
MATERIAL	$14,347M	$ 93.77	$15,003M	$ 93.77	$15,867M	$ 93.34	$17,177M	$ 92.85
LABOR	3,886M	25.40	4,064M	25.40	4,088M	24.05	4,123M	22.29
DEPRECIATION	586M	3.83	586M	3.67	980M	5.77	980M	5.30
OTHER COSTS	14,807M	96.78	15,307M	95.66	15,898M	93.51	16,289M	88.05
TOTAL COST OF SALES	$33,626M	$219.78	$34,960M	$218.50	$36,833M	$216.67	$38,569M	$208.49

MATERIAL COSTS BY MILL: - Year 1979

88,000 Tons @ $93.77 - FOUNTAIN
82,000 Tons @ $92.87 - ANGEL
170,000 Tons @ $93.34 = $15,867M

Year 1980

88,000 Tons @ $93.77 - FOUNTAIN
97,000 Tons @ $92.01 - ANGEL
185,000 Tons @ $92.85 = $17,177M

DIRECT LABOR: Additional Three People for 25,000 Tons = $59,000
Start up year added cost is: $24,000

ADDITIONAL OTHER COSTS DUE TO VOLUME INCREASE

YEAR	1979	1980
TONS	10M	25M
Demolition Costs	$ 100M	$ -
Fringe Benefits	8M	19M
Taxes & Insurance	151M	151M
Effluent	26M	65M
Fuel Oil	187M	467M
Dryer Gas	24M	60M
Electricity	58M	145M
Converting Supplies	37M	75M
TOTAL OTHER COSTS	$ 591M	$ 979M
W/O JOPA OTHER COSTS	15,307M	15,307M
PROJECTED OTHER COSTS	$15,898M	$16,289M

ST. REGIS PAPER COMPANY

BATTLE CREEK MILLS

GRADE CODES AND SPECIFICATIONS

ST. REGIS BATTLE CREEK MILLS
GRADE CODE SYSTEM

	MACHINE	GRADE	CALIPER	FURNISH, TREATMENT AND DENSITY
Example	1	01	20	00

To be written as: 101 - 2000

Key:

MACHINE

1
2
3

GRADE

01	CLAYBRITE
02	ANGELITE
03	ANGELBRITE 50
04	ANGELBRITE 70
05	BENDING CHIP - CEREAL
06	BENDING CHIP - PET FOOD & SOAP
07	SPECIAL NEWS - HARD SIZED

CALIPER

In MIls

FURNISH OR TREATMENT, STD. DENSITY		ADDED DENSITY
00	STANDARD FURNISH	10
01	KRAFT BACK	11
02	EXTRA STRENGTH KRAFT BACK	12
03	INCREASED KRAFT, TOP AND BACK	13
04	ACETATE COATING	14
05	HERCON- BACK SIDE	15
06	PVA - BACK SIDE	16
07	WAX HOLDOUT TREATMENT	17
08	WET FINISH	18

SUMMARY OF TARGET SPECS

JANUARY 3, 1983

PRODUCT: ANGELITE

MACHINE: #3

	Caliper:								WET FINISH	
PROPERTY	.012	.014	.016	.018	.020	.022	.024		.019	.020
Basis Wt. lbs/1000	51	57	63	69	74	80	86		72	76
Moisture, %	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5
Brightness	78	78	78	78	78	78	78		78	78
Taber, MD	70	120	170	215	280	360	450		255	285
Taber, CD	30	45	50	75	105	125	160		90	100
ZDT	50	50	50	50	50	50	50		50	50
IGT	420	420	420	420	420	420	420		420	420
Gluability	20	20	20	20	20	20	20		20	20
Water Drop	5	5	5	5	5	5	5		5	5
Other										

SUMMARY OF TARGET SPECS

PRODUCT: ANGELBRITE 50

JANUARY 3, 1983

MACHINE: #3

PROPERTY	Caliper: .012	.014	.016	.018	.020	.022	.024			
Basis Wt. lbs/1000	53	59	65	70	75	81	87			
Moisture, %	6.5	6.5	6.5	6.5	6.5	6.5	6.5			
Brightness	78	78	78	78	78	78	78			
Taber, MD	75	130	190	235	290	380	470			
Taber, CD	35	50	70	90	120	135	170			
ZDT	50	50	50	50	50	50	50			
IGT	420	420	420	420	420	420	420			
Gluability	20	20	20	20	20	20	20			
Water Drop	5	5	5	5	5	5	5			
Other										

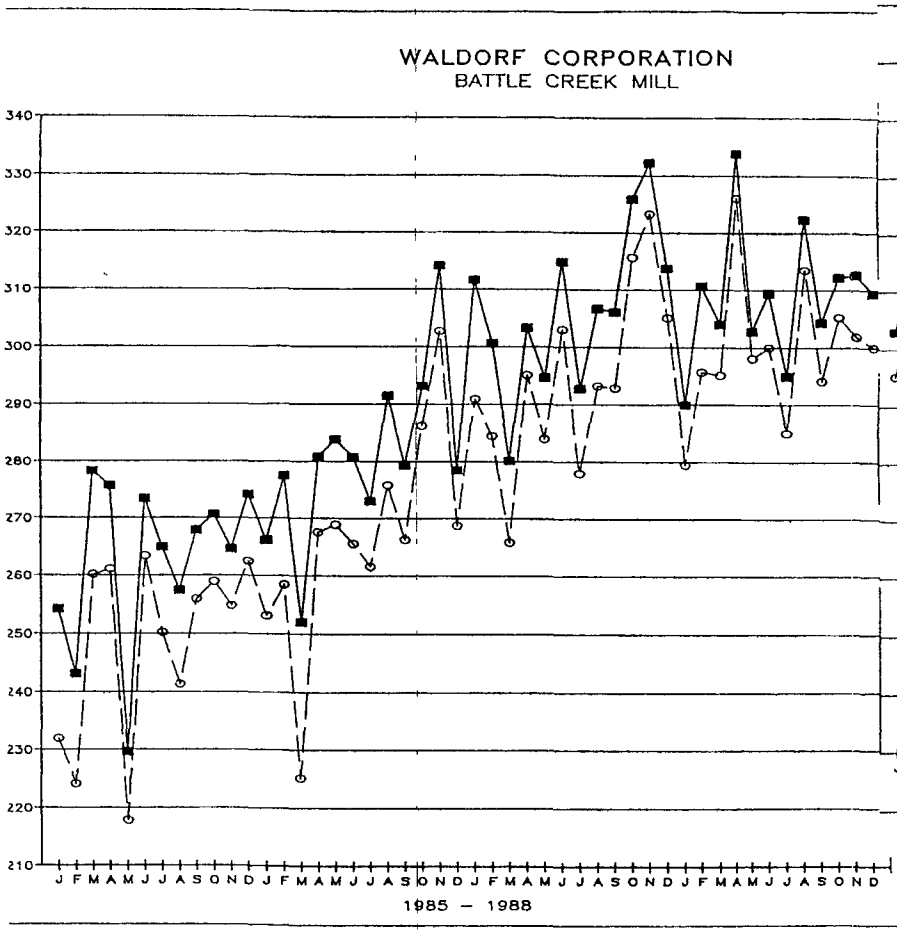
SUMMARY OF TARGET SPECS

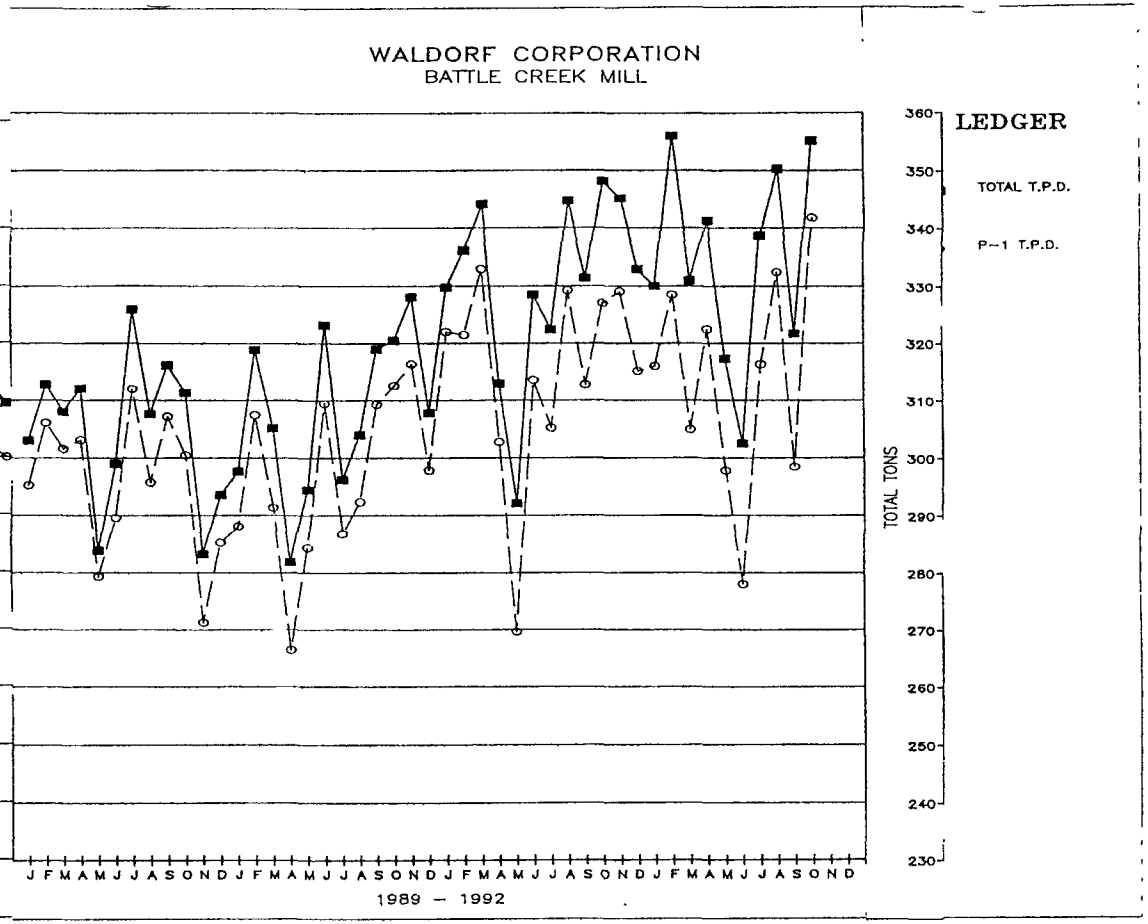
PRODUCT: ANGELBRITE 70

JANUARY 3, 1983

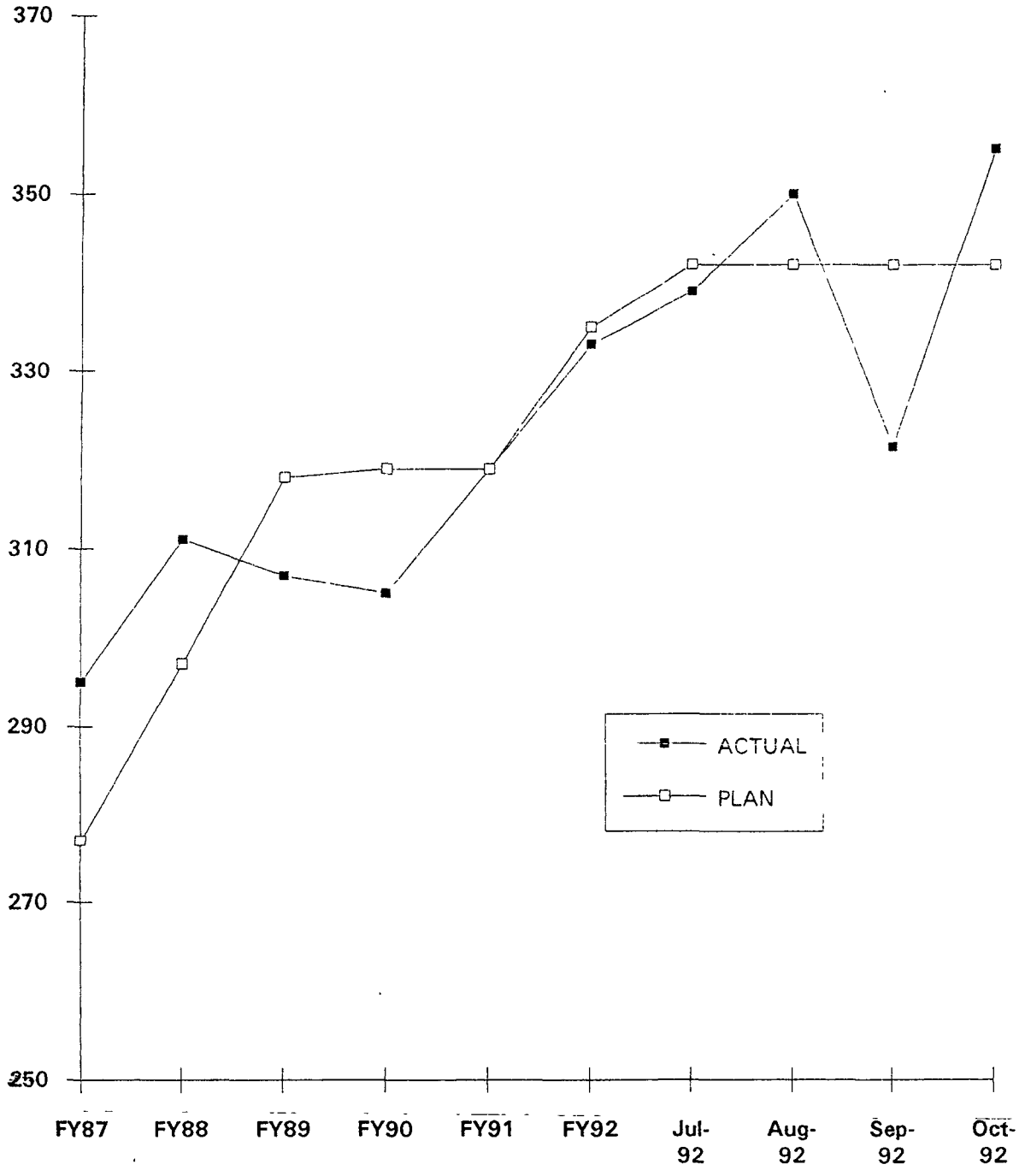
MACHINE: #3

PROPERTY	Caliper: .012	.014	.016	.018	.020	.022	.024	.026		
Basis Wt. lbs/1000	55	65	70	77	82	88	95	99		
Moisture, %	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5		
Brightness	78	78	78	78	78	78	78	78		
Taber, MD	85	130	180	245	310	405	490	550		
Taber, CD	40	65	75	100	125	165	190	220		
ZDT	50	50	50	50	50	50	50	50		
IGT	420	420	420	420	420	420	420	420		
Gluability	20	20	20	20	20	20	20	20		
Water Drop	5	5	5	5	5	5	5	5		
Other Brightness Back	70	70	70	70	70	70	70	70		


WALDORF CORPORATION
BATTLE CREEK MILL
340
330
320
310
300
290
280
270
260
250
240
230
220
210
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1985 – 1988


WALDORF CORPORATION
BATTLE CREEK MILL
LEDGER
TOTAL T.P.D.
P-1 T.P.D.
TOTAL TONS
360
350
340
330
320
310
300
290
280
270
260
250
240
230
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1989 – 1992

GROSS TONS PER DAY



ANGELL MILL
TONS/TPD 1985/ACTUAL

ays per.	MONTH	Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
335.8	TOTAL 1984 TPD - Actual	196	6	6	23	231
354	1985 BUDGET TPD	229	4	5	19	257
23	JANUARY - TPD Actual	219	7	6	22	254
28	FEBRUARY - TPD Actual	210	10	4	19	243
38	MARCH - TPD Actual	240	8	12	18	278
28	APRIL - TPD Actual	245	11	5	15	276
28	MAY - TPD Actual	208	3	7	12	230
29	JUNE - TPD Actual	241	14	9	10	274
	JULY - TPD Actual					
	AUGUST - TPD Actual					
	SEPTEMBER- TPD Actual					
	OCTOBER - TPD Actual					
	NOVEMBER- TPD Actual					
	DECEMBER- TPD Actual					

C

KEY SUMMARY OF PRODUCTION TONS

301	ANGELCOTE
302	ANGELITE
303	AB 50
304	AB 70
307	CHIP
320	CORE STOCK
321	TOPLINER
390	EXPERIMENTAL

SUMMARY OF PRODUCTION TONS

MACHINE # 3

MONTH ENDING 6/29/85 RUN 7/01/85 18.54.44 MS

PRIME SPC	ROLL TONS	TO SHEET TONS	PRIMARY TONS	%	SIDE ROLLS RIBBONS	%	TOTAL 1ST QUALITY	%	ODD LOT TONS	%	TOTAL PRODUCTION	SALABLE HOURS	TOTAL T.P.H.	PRI T.
301-1500	4	12	16	57	9	32	25	89	3	11	28	5.74	4.88	2
301-1600	61	110	171	86	7	4	178	89	22	11	200	14.48	13.81	11
301-1700	45		45	100			45	100			45	3.08	14.61	14
301-1800	315	23	338	88	46	12	384	100	1		385	29.18	13.19	11
301-2000	89	48	137	88	18	12	155	100			155	11.38	13.62	12
301-2100	120		120	75	34	21	154	97	5	3	159	10.17	15.63	11
301-2200	127		127	76	26	16	153	92	14	8	167	12.83	13.02	9
301-2400	193		193	85	14	6	207	92	19	8	226	16.51	13.69	11
301-2600	139		139	83	15	9	154	92	14	8	168	12.45	13.49	11
SUB-TOTAL	1,093	193	1,286	84	169	11	1,455	95	78	5	1,533	115.82	13.24	11
302-1400	1,243	145	1,388	89	137	9	1,525	98	38	2	1,563	127.87	12.22	10
302-1600	50	342	392	87	45	10	437	96	16	4	453	33.70	13.44	11
302-1800	64	57	121	80	30	20	151	100			151	9.95	15.18	12
302-1900	33	526	559	69	236	29	795	98	20	2	815	55.27	14.75	10
302-1908	1,309		1,309	97			1,309	97	42	3	1,351	98.52	13.71	1
302-2000	148		148	83	14	8	162	91	16	9	178	12.66	14.06	1
302-2200	34		34	77	7	16	41	93	3	7	44	3.44	12.79	9
302-2208	619		619	94			619	94	42	6	661	48.41	13.65	1
302-2300	32		32	100			32	100			32	2.23	14.35	1
SUB-TOTAL	3,532	1,070	4,602	88	469	9	5,071	97	177	3	5,248	392.05	13.39	1
303-1608	118		118	86			118	86	19	14	137	11.48	11.93	1
303-2008	126		126	98			126	98	3	2	129	11.89	10.85	1
303-2208	79		79	100			79	100			79	6.31	12.52	1
303-2408	108		108	96			108	96	4	4	112	9.34	11.99	1
SUB-TOTAL	431		431	94			431	94	26	6	457	39.02	11.71	1
304-2000	18		18	78			18	78	5	22	23	1.83	12.57	
304-2200	12		12	71			12	71	5	29	17	2.03	8.37	
SUB-TOTAL	30		30	75			30	75	10	25	40	3.86	10.36	
307-2100	79		79	89	10	11	89	100			89	7.60	11.71	1
SUB-TOTAL	79		79	89	10	11	89	100			89	7.60	11.71	1
320-1000	487		487	100			487	100			487	52.80	9.22	
320-1200	73		73	100			73	100			73	6.83	10.69	1
SUB-TOTAL	560		560	100			560	100			560	59.63	9.39	
TOTAL	5,725	1,263	6,988	88	648	8	7,636	96	291	4	7,927	617.98	12.83	1

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D THRU 6/29/85 RUN 7/01/85 18.55.19 MSC

RIME SPC	ROLL TONS	TO SHEET TONS	PRIMARY TONS	%	SIDE ROLLS RIBBONS	%	TOTAL 1ST QUALITY	%	ODD LOT TONS	%	TOTAL PRODUCTION	SALABLE HOURS	TOTAL T.P.H.	PRIM T.P
301-1500	132	12	144	75	34	18	178	92	15	8	193	19.13	10.09	7.
301-1600	590	682	1,272	92	50	4	1,322	96	57	4	1,379	105.52	13.07	12.
301-1700	81		81	89	8	9	89	98	2	2	91	6.56	13.87	12.
301-1800	679	85	764	89	80	9	844	98	19	2	863	65.06	13.26	11.
301-1900		21	21	68	8	26	29	94	2	6	31	2.63	11.79	7.
301-2000	1,898	136	2,034	83	179	7	2,213	90	240	10	2,453	178.06	13.78	11.
301-2100	214		214	76	62	22	276	98	5	2	281	17.69	15.88	12.
301-2200	656		656	82	75	9	731	91	72	9	803	61.19	13.12	10.
301-2400	945	21	966	75	199	15	1,165	90	128	10	1,293	99.30	13.02	9.
301-2600	526	39	565	78	77	11	642	89	80	11	722	57.30	12.60	9.
SUB-TOTAL	5,721	996	6,717	83	772	10	7,489	92	620	8	8,109	612.44	13.24	10.
302-1400	4,705	245	4,950	84	539	9	5,489	93	382	7	5,871	476.25	12.33	10.
302-1600	1,359	1,693	3,052	87	304	9	3,356	96	136	4	3,492	262.52	13.30	11.
302-1800	897	1,340	2,237	84	171	6	2,408	91	243	9	2,651	199.00	13.32	11.
302-1900	148	898	1,046	70	395	27	1,441	97	45	3	1,486	105.03	14.15	9.
302-1908	8,193	539	8,732	92	275	3	9,007	95	493	5	9,500	699.07	13.59	12.
302-2000	835	29	864	89	44	5	908	94	62	6	970	69.05	14.05	12.
302-2200	665	53	718	85	66	8	784	93	57	7	841	65.55	12.83	10.
302-2208	2,408	30	2,438	92	54	2	2,492	94	157	6	2,649	187.74	14.11	12
302-2300	364		364	92	13	3	377	96	17	4	394	29.62	13.30	12.
302-2400	348	17	365	89	17	4	382	93	28	7	410	33.52	12.23	10
SUB-TOTAL	19,922	4,844	24,766	88	1,878	7	26,644	94	1,620	6	28,264	2,127.35	13.29	11
303-1200	81		81	81	7	7	88	88	12	12	100	12.92	7.74	6
303-1608	716		716	89			716	89	86	11	802	73.36	10.93	9
303-2000					26	90	26	90	3	10	29			
303-2008	808		808	83	46	5	854	88	122	13	976	79.56	12.27	10
303-2200	27		27	75	2	6	29	81	7	19	36	3.42	10.53	7
303-2208	204		204	95	3	1	207	96	8	4	215	18.68	11.51	10
303-2408	825		825	86			825	86	136	14	961	77.93	12.33	10
303-2608		5	5	28			5	28	13	72	18	1.48	12.16	3
SUB-TOTAL	2,661	5	2,666	85	84	3	2,750	88	387	12	3,137	267.35	11.73	9
304-1200	31		31	86	5	14	36	100			36	5.16	6.98	6
304-1600	227		227	75	10	3	237	78	67	22	304	28.51	10.66	7
304-1800	19	31	50	76	1	2	51	77	15	23	66	4.01	16.46	12
304-2000	50	26	76	78	6	6	82	85	15	15	97	8.68	11.18	8
304-2200	46	14	60	77			60	77	18	23	78	7.19	10.85	8
SUB-TOTAL	373	71	444	76	22	4	466	80	115	20	581	53.55	10.85	8
307-1600	78		78	76	10	10	88	85	15	15	103	9.19	11.21	8
307-2100	445		445	88	43	9	488	97	17	3	505	43.65	11.57	10
SUB-TOTAL	523		523	86	53	9	576	95	32	5	608	52.84	11.51	9
320-1000	3,940		3,940	100			3,940	100			3,940	444.79	8.86	8
320-1200	264		264	100			264	100			264	27.92	9.46	9
SUB-TOTAL	4,204		4,204	100			4,204	100			4,204	472.71	8.89	8
321-1200	128		128	85			128	85	23	15	151	14.59	10.35	8

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D THRU 6/29/85 RUN 7/01/85 18.55.19 MSC

PRIME SPC	ROLL TONS	TO SHEET TONS	PRIMARY TONS	%	SIDE ROLLS RIBBONS	%	TOTAL 1ST QUALITY	%	ODD LOT TONS	%	TOTAL PRODUCTION	SALABLE HOURS	TOTAL T.P.H.	PRIM T.P
SUB-TOTAL	128		128	85			128	85	23	15	151	14.59	10.35	8.
390-1100	29		29	100			29	100			29	5.00	5.80	5.
SUB-TOTAL	29		29	100			29	100			29	5.00	5.80	5.
396-2000	163		163	80	27	13	190	93	14	7	204	15.92	12.81	10.
SUB-TOTAL	163		163	80	27	13	190	93	14	7	204	15.92	12.81	10.
TOTAL	33,724	5,916	39,640	88	2,836	6	42,476	94	2,811	6	45,287	3,621.75	12.50	10.

GRADE EFFICIENCIES
MONTH - JUNE

SALABLE HOURS	GRADE	STANDARD SALABLE TPH	ACTUAL SALABLE TPH	% OF STANDARD	% O/L STANDARD	% O/L ACTUAL
127.87	12-14 AL	12.77	12.22	95.7	6.0	2.4
98.92	16-19 AL	13.68	14.34	104.8	6.0	2.5
98.52	19 pt. Kellogg	13.68	13.71	100.2	6.0	3.1
64.51	20-22 AL	13.68	13.69	100.0	6.0	6.9
2.23	23-26 AL	13.68	14.35	104.9	6.0	--
52.48	15-19 AC	14.58	12.53	85.9	6.0	4.0
34.38	20-22 AC	14.58	13.99	95.9	6.0	4.0
28.96	23-26 AC	14.58	13.68	93.8	6.0	8.4
---	12-14 AB 50	12.77	--	--	8.0	--
11.48	15-19	13.68	11.93	87.2	8.0	13.9
18.20	20-22	13.68	11.43	83.6	8.0	1.4
9.34	23-26	13.68	11.99	87.6	8.0	3.6
---	12-14 AB 70	12.77	--	--	10.0	--
---	15-19	13.68	--	--	10.0	--
3.86	20-22	13.68	10.36	75.7	10.0	25.0
59.63	10-12 Core Stock	8.86	9.39	105.9	--	--
---	12 pt. Top Liner	12.30	--		8.0	--
7.60	H.S. Chip	12.77	11.71	91.7	6.0	--
	All Other	13.68	--		6.0	
617.98	TOTAL	13.18	12.83	97.3		4.0

ANGELL MILL

TONS/TPD 1985/ACTUAL

Days Oper.	MONTH	Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
335.8	TOTAL 1984 TPD - Actual	196	6	6	23	231
354	1985 BUDGET TPD	229	4	5	19	257
23	JANUARY - TPD Actual	219	7	6	22	254
28	FEBRUARY - TPD Actual	210	10	4	19	243
	MARCH - TPD Actual					
	APRIL - TPD Actual					
	MAY - TPD Actual					
	June - TPD Actual					
	July - TPD Actual					
	August - TPD Actual					
	September- TPD Actual					
	October - TPD Actual					
	November - TPD Actual					
	December - TPD Actual					

SUMMARY OF PRODUCTION TONS
MACHINE # 3
MONTH ENDING 2/21/85 RUN 2/22/85 14.03.19

PRIME SPC	ROLL TONS	TO SHEET TONS	PRIMARY TONS	PRIMARY %	SIDE ROLLS RIBBONS	SIDE ROLLS %	TOTAL 1ST QUALITY	TOTAL 1ST QUALITY %	ODD LOT TONS	ODD LOT %	TOTAL PRODUCTION	SALABLE HOURS	TOTAL T.P.H.	PRI T.
301-1500	55		55	80	9	13	64	93	5	7	69	6.44	10.71	8
301-1600	156	173	329	93	10	3	339	96	13	4	352	27.69	12.71	11
301-1800	9		9	100			9	100			9	.97	9.28	9
301-2000	301		301	84	43	12	344	96	13	4	357	25.13	14.21	11
301-2200	95		95	76	7	6	102	82	23	18	125	11.70	10.68	8
301-2400	164		164	72	47	21	211	92	18	8	229	17.75	12.90	9
301-2600	91		91	64	24	17	115	80	28	20	143	11.92	12.00	7
SUB-TOTAL	871	173	1,044	81	140	11	1,184	92	100	8	1,284	101.60	12.64	10
302-1400	298		298	82	35	10	333	91	31	9	364	30.66	11.87	9
302-1600	224	157	381	86	40	9	421	95	21	5	442	36.58	12.08	10
302-1800	175	165	340	68	16	3	356	72	141	28	497	37.92	13.11	8
302-1900		249	249	76	70	21	319	97	9	3	328	25.34	12.94	9
302-1908	1,453		1,453	90	73	5	1,526	95	84	5	1,610	116.23	13.85	12
302-2000	324	29	353	93	7	2	360	95	19	5	379	27.22	13.92	12
302-2208	384		384	91	3	1	387	91	36	9	423	32.22	13.13	11
302-2300	25		25	100			25	100			25	2.10	11.90	11
302-2400	65		65	90			65	90	7	10	72	5.71	12.61	11
SUB-TOTAL	2,948	600	3,548	86	244	6	3,792	92	348	8	4,140	313.98	13.19	11
303-1608	160		160	88			160	88	21	12	181	15.33	11.81	10
303-2008	21		21	68	3	10	24	77	7	23	31	4.39	7.06	4
SUB-TOTAL	181		181	85	3	1	184	87	28	13	212	19.72	10.75	9
304-1200	10		10	100			10	100			10	2.35	4.26	4
304-1600	48		48	61	2	3	50	63	29	37	79	6.20	12.74	7
304-1800	7	31	38	76			38	76	12	24	50	2.76	18.12	13
304-2000	11		11	46	4	17	15	63	9	38	24	2.77	8.66	3
304-2200	20		20	87			20	87	3	13	23	2.05	11.22	9
SUB-TOTAL	96	31	127	68	6	3	133	72	53	28	186	16.13	11.53	
307-2100	117		117	93	5	4	122	97	4	3	126	10.67	11.81	10
SUB-TOTAL	117		117	93	5	4	122	97	4	3	126	10.67	11.81	10
320-1000	828		828	100			828	100			828	94.27	8.78	1
SUB-TOTAL	828		828	100			828	100			828	94.27	8.78	1
390-1100	29		29	100			29	100			29	5.00	5.80	5
SUB-TOTAL	29		29	100			29	100			29	5.00	5.80	1
TOTAL	5,070	804	5,874	86	398	6	6,272	92	533	8	6,805	561.37	12.12	10

Key: 301 = ANGELCOTE
302 = ANGELITE
303 = ANGELBRITE 50
304 = ANGELBRITE 70
307 = Chip
320 = CORE Stock
390 = Experimental

SUMMARY OF PRODUCTION TONS

MACHINE # 3

Y-T-D THRU 2/21/85 RUN 2/22/85 14.05.50 MS

PRIME SPC	ROLL TONS	TO SHEET TONS	PRIMARY TONS	%	SIDE ROLLS RIBBONS	%	TOTAL 1ST QUALITY	%	ODD LOT TONS	%	TOTAL PRODUCTION	SALABLE HOURS	TOTAL T.P.H.	PRI T.
301-1500	55		55	80	9	13	64	93	5	7	69	6.44	10.71	8
301-1600	176	202	378	92	16	4	394	96	16	4	410	31.50	13.02	12
301-1700	20		20	74	5	19	25	93	2	7	27	1.73	15.61	11
301-1800	59		59	98			59	98	1	2	60	5.09	11.79	11
301-2000	546		546	76	74	10	620	86	101	14	721	50.25	14.35	10
301-2200	322		322	81	23	6	345	87	52	13	397	30.60	12.97	10
301-2400	299	6	305	73	76	18	381	91	36	9	417	32.53	12.82	9
301-2600	91		91	64	24	17	115	80	28	20	143	11.92	12.00	7
SUB-TOTAL	1,568	208	1,776	79	227	10	2,003	89	241	11	2,244	170.06	13.20	10
302-1400	829		829	81	107	10	936	91	93	9	1,029	84.73	12.14	9
302-1600	256	256	512	87	55	9	567	96	23	4	590	47.96	12.30	10
302-1800	329	605	934	81	35	3	969	84	190	16	1,159	86.80	13.35	10
302-1900		249	249	76	70	21	319	97	9	3	328	25.34	12.94	[illegible]
302-1908	2,551		2,551	89	147	5	2,698	94	181	6	2,879	204.83	14.06	1
302-2000	324	29	353	93	7	2	360	95	19	5	379	27.22	13.92	1
302-2200	278		278	86	6	2	284	88	39	12	323	24.72	13.07	1
302-2208	811	30	841	92	3		844	93	67	7	911	66.13	13.78	1
302-2300	37		37	69			37	69	17	31	54	3.42	15.79	1
302-2400	65	17	82	88			82	88	11	12	93	7.77	11.97	1
SUB-TOTAL	5,480	1,186	6,666	86	430	6	7,096	92	649	8	7,745	578.92	13.38	1
303-1200	2		2	67			2	67	1	33	3	.62	4.84	
303-1608	270		270	90			270	90	31	10	301	26.81	11.23	1
303-2008	223		223	83	18	7	241	90	28	10	269	22.84	11.78	
303-2208	22		22	88	3	12	25	100			25	1.77	14.12	1
303-2608		5	5	45			5	45	6	55	11	1.48	7.43	
SUB-TOTAL	517	5	522	86	21	3	543	89	66	11	609	53.52	11.38	
304-1200	10		10	100			10	100			10	2.35	4.26	
304-1600	48		48	61	2	3	50	63	29	37	79	6.20	12.74	
304-1800	7	31	38	76			38	76	12	24	50	2.76	18.12	1
304-2000	11		11	46	4	17	15	63	9	38	24	2.77	8.66	
304-2200	20		20	87			20	87	3	13	23	2.05	11.22	
SUB-TOTAL	96	31	127	68	6	3	133	72	53	28	186	16.13	11.53	
307-1600	23		23	64	4	11	27	75	9	25	36	2.97	12.12	
307-2100	178		178	92	12	6	190	98	4	2	194	16.58	11.70	[illegible]
SUB-TOTAL	201		201	87	16	7	217	94	13	6	230	19.55	11.76	[illegible]
320-1000	1,457		1,457	100			1,457	100			1,457	169.35	8.60	
SUB-TOTAL	1,457		1,457	100			1,457	100			1,457	169.35	8.60	
5 321-1200	128		128	85			128	85	23	15	151	14.59	10.35	
SUB-TOTAL	128		128	85			128	85	23	15	151	14.59	10.35	
4 390-1100	29		29	100			29	100			29	5.00	5.80	
SUB-TOTAL	29		29	100			29	100			29	5.00	5.80	
3 TOTAL	9,476	1,430	10,906	86	700	6	11,606	92	1,045	8	12,651	1,027.12	12.32	

2

7

WALDORF CORP
ANGEL MILL
GRADE PROFITABILITY

PERIOD: DECEMBER 89 YTD

GRADE	TONS PROD	% OF TOTAL	COST TON*	NSP TON*	+000'S PROFIT STD TONS	+000's EST ACT PROFIT	STD PROF PER MHR	EST PROF PER MHR
A'COTE	14,733	28.2%	$310	$441	$2,011	$1,824	$1,943	$1,763
A'LITE	22,829	43.7%	307	439	3,183	2,777	1,893	1,651
AB50	3,746	7.2%	354	484	483	496	1,744	1,791
AB60	2,785	5.3%	398	536	403	355	1,768	1,557
A'WHITE	540	1.0%	425	563	63	92	1,736	2,543
RE STK	3,610	6.9%	393	535	529	484	1,302	1,190
CHIP	3,628	7.0%	224	351	491	400	1,630	1,327
LITE'WTS	312	0.6%	499	582	26	25	837	791
OTHER								
TOTAL	52,183	100.0%	$317	$451	$7,190	$6,453	$1,799	$1,614

NOTES:
A. TONS ARE GOOD TONS PRODUCED-NOT SOLD.
B. THE COST/TON IS STD PRODUCTIVITY & OVERHEAD.MATLS ARE EST. ACTUAL
C. NET SELLING PRICE/TON IS ACTUAL GROSS LESS ESTIMATES FOR FRT,CLAIMS,&DISC.
D. EST. ACTUALS REFLECT ACTUAL PRODUCTIVITY.

WALDORF CORP
ANGEL MILL
GROSS TONS/DAY

PERIOD	CUSTOMER TONS	SIDE ROLL TONS	PRIME TONS	ODDLOT TONS	GROSS TONS
FY 1989 ACT	284	15	299	8	307
FY 1990 PLAN	292	16	308	11	319
JULY	296	16	312	14	326
AUGUST	284	11	295	12	307
SEPTEMBER	295	12	307	9	316
OCTOBER	291	9	300	11	311
NOVEMBER	264	7	271	12	283
DECEMBER	274	11	285	8	293
JANUARY					
FEBRUARY					
MARCH					
APRIL					
MAY					
JUNE					
TOTAL FY 90					

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 6/30/89 RUN 7/05/89 13.11.46 MSC

	GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	10-11	.7	77.11	709	9.82	9.19	93.5	429.50	446.95
ANGELCOTE	14-15	.5	36.56	496	14.21	13.57	95.4	312.68	320.98
ANGELCOTE	16-17	5.4	416.58	5,589	14.62	13.42	91.7	295.91	310.78
ANGELCOTE	18-19	5.6	387.40	5,786	15.02	14.94	99.4	289.42	290.31
ANGELCOTE	20-21	8.1	585.45	8,460	15.15	14.45	95.3	283.37	291.29
ANGELCOTE	22-23	4.4	311.72	4,568	14.50	14.65	101.0	290.68	288.91
ANGELCOTE	24-25	1.8	134.34	1,833	13.77	13.64	99.0	300.30	302.06
GRADE TOTAL		26.5	1,949.16	27,441	14.58	14.08	96.5	295.92	302.34
ANGELITE	14-15	8.1	689.56	8,442	12.90	12.24	94.8	311.81	321.73
ANGELITE	16-17	4.5	335.41	4,733	14.05	14.11	100.4	293.36	292.63
ANGELITE	18-19	15.4	1,110.71	16,008	14.56	14.41	98.9	280.94	282.72
ANGELITE	20-21	10.4	731.83	10,874	14.73	14.86	100.8	283.95	282.46
ANGELITE	22-23	8.7	666.15	9,105	14.52	13.67	94.1	282.03	292.74
ANGELITE	24-25	.1	6.95	80	13.30	11.51	86.5	298.82	328.48
ANGELITE	26	.5	53.51	476	13.06	8.90	68.1	297.36	386.87
GRADE TOTAL		47.7	3,594.12	49,718	14.20	13.83	97.3	289.12	294.57
AB 50	12-13	.1	14.38	110	9.95	7.65	76.8	419.90	492.06
AB 50	14-15	.1	3.85	54	12.56	14.03	111.7	367.44	346.59
AB 50	16-17	.8	77.48	859	12.68	11.09	87.4	349.76	377.29
AB 50	18-19	1.5	116.21	1,596	13.41	13.73	102.3	336.64	332.32
AB 50	20-21	5.0	390.18	5,199	13.47	13.32	98.8	332.31	334.41
AB 50	22-23		1.62	23	12.87	14.20	110.3	337.90	319.71
AB 50	24-25	.1	8.92	105	12.30	11.77	95.6	344.61	353.96
GRADE TOTAL		7.6	612.64	7,946	13.25	12.97	97.8	337.81	343.46
ANGELWHITE	12-13		2.83	20	9.87	7.07	71.6	451.17	543.35
ANGELWHITE	14-15	.3	24.90	300	12.34	12.05	97.6	405.06	409.88
ANGELWHITE	16-17	.1	8.70	117	12.72	13.45	105.7	405.43	394.76
GRADE TOTAL		.4	36.43	437	12.24	12.00	98.0	408.73	416.64
ANGELWHITE	10-11	1.1	126.24	1,197	9.50	9.48	99.7	432.22	432.77
GRADE TOTAL		1.1	126.24	1,197	9.50	9.48	99.7	432.22	432.77
AB 60	12-13	.1	5.08	59	9.95	11.61	116.6	439.62	405.45
AB 60	14-15	.1	8.89	93	12.05	10.46	86.8	395.65	426.66
AB 60	16-17	.8	67.84	842	12.34	12.41	100.5	376.13	375.01
AB 60	18-19	.9	76.58	888	13.11	11.60	88.4	343.45	368.22
AB 60	20-21	.5	44.50	567	13.22	12.74	96.3	354.24	361.41
AB 60	22-23	.5	49.86	529	12.37	10.61	85.7	364.01	397.52
AB 60	24-25	.2	14.47	157	12.11	10.85	89.5	371.73	397.10
GRADE TOTAL		3.1	267.22	3,135	12.65	11.73	92.7	362.48	378.49
CHIP	16-17	1.3	99.79	1,345	14.88	13.48	90.5	224.42	241.15
CHIP	18-19	2.9	230.60	3,052	15.22	13.24	86.9	223.59	247.54
CHIP	20-21	1.1	92.86	1,164	15.24	12.53	82.2	224.19	258.99
CHIP	22-23	.5	36.88	526	15.06	14.26	94.6	225.91	235.02
CHIP	24-25	.1	7.25	105	14.97	14.48	96.7	226.88	232.41
GRADE TOTAL		5.9	467.38	6,192	15.13	13.25	87.5	224.12	247.23

SUMMARY OF PRODUCTION TONS

MACHINE # 3

Y-T-D ENDING 6/30/89 RUN 7/05/89 13.12.05 MSC

GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
CORE STOCK 10-11	7.7	859.42	8,070	9.16	9.39	102.5	382.63	376.26
GRADE TOTAL	7.7	859.42	8,070	9.16	9.39	102.5	382.63	376.26
TOTAL	100.0	7,912.61	104,136	13.59	13.16	96.8	306.19	311.95

WALDORF CORP
GROSS TONS/DAY

PERIOD	CUSTOMER TONS	SIDE ROLL TONS	PRIME TONS	ODDLOT TONS	GROSS TONS
1988 ACTUAL	282	19	301	10	311
1989 PLAN	288	18	306	12	318
JULY 1988	272	13	285	10	295
AUGUST 1988	296	17	313	9	322
SEPTEMBER 1988	275	19	294	10	304
OCTOBER 1988	290	15	305	7	312
NOVEMBER 1988	289	13	302	11	313
DECEMBER 1988	282	19	301	8	309
JANUARY 1989	278	17	295	8	301
FEBRUARY 1989	294	12	306	7	313
MARCH 1989	283	18	301	6	307
APRIL 1989	289	14	303	9	312
MAY 1989	277	13	290	6	296
JUNE 1989	276	14	290	9	299
TOTAL FY 1989	284	15	299	8	307

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 12/31/88 RUN 1/04/89 7.17.07

	GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	10-11	.9	48.10	446	10.70	9.27	86.6	397.47	433.53
ANGELCOTE	14-15	.4	14.17	205	14.30	14.47	101.1	307.90	305.84
ANGELCOTE	16-17	3.5	141.46	1,825	14.96	12.90	86.2	298.14	324.85
ANGELCOTE	18-19	6.9	237.40	3,593	15.10	15.13	100.1	290.00	289.67
ANGELCOTE	20-21	8.1	292.15	4,214	15.22	14.42	94.7	284.59	293.70
ANGELCOTE	22-23	4.5	158.65	2,361	14.95	14.88	99.5	286.35	287.14
ANGELCOTE	24-25	1.8	66.48	916	14.42	13.78	95.5	290.08	298.13
GRADE TOTAL		26.1	958.41	13,560	14.81	14.15	95.5	294.61	303.72
ANGELITE	14-15	10.5	435.89	5,520	13.28	12.66	95.3	307.44	316.24
ANGELITE	16-17	5.3	197.12	2,775	14.34	14.08	98.1	300.18	303.40
ANGELITE	18-19	14.8	527.42	7,742	14.34	14.68	102.3	294.65	290.61
ANGELITE	20-21	10.5	366.86	5,505	14.52	15.01	103.3	289.42	283.80
ANGELITE	22-23	8.2	317.40	4,287	14.52	13.51	93.0	287.12	300.00
ANGELITE	24-25	.2	6.95	80	13.62	11.51	84.5	295.27	328.91
ANGELITE	26	.1	8.55	67	13.47	7.84	58.2	293.56	426.77
GRADE TOTAL		49.6	1,860.19	25,976	14.15	13.96	98.6	295.91	299.00
AB 50	12-13	.2	14.38	110	10.81	7.65	70.7	410.89	506.41
AB 50	16-17	.8	38.74	440	12.40	11.36	91.6	355.90	374.35
AB 50	18-19	1.2	48.12	649	12.50	13.49	107.9	348.39	333.71
AB 50	20-21	4.9	190.88	2,554	12.70	13.38	105.3	340.01	330.01
AB 50	22-23		1.62	23	12.70	14.20	111.8	336.09	315.31
GRADE TOTAL		7.1	293.74	3,776	12.54	12.85	102.4	346.93	345.02
ANGELWHITE	10-11	2.1	111.11	1,096	10.50	9.86	93.9	403.00	418.45
GRADE TOTAL		2.1	111.11	1,096	10.50	9.86	93.9	403.00	418.45
AB 60	14-15	.1	6.16	67	12.30	10.88	88.4	368.51	395.04
AB 60	16-17	.1	7.47	78	12.40	10.44	84.1	358.21	396.04
AB 60	18-19	1.1	49.60	601	12.35	12.12	98.1	350.66	354.46
AB 60	20-21	.7	30.27	372	12.70	12.29	96.7	342.19	348.75
AB 60	22-23	.3	15.51	171	12.70	11.03	86.8	338.06	367.85
AB 60	24-25	.1	7.58	67	12.30	8.84	71.8	342.11	421.66
GRADE TOTAL		2.4	116.59	1,356	12.48	11.63	93.1	347.66	363.94
CHIP	16-17	1.7	62.44	899	14.83	14.40	97.1	240.09	245.12
CHIP	18-19	2.2	82.01	1,130	15.25	13.78	90.3	234.82	252.22
CHIP	20-21	1.4	61.28	728	14.16	11.88	83.8	234.82	266.12
CHIP	22-23	.1	4.25	59	15.25	13.88	91.0	234.82	250.92
CHIP	24-25		.45	6	14.49	13.33	91.9	234.82	249.01
GRADE TOTAL		5.4	210.43	2,822	14.81	13.41	90.5	236.38	254.13
CORE STOCK	10-11	7.2	407.07	3,742	8.92	9.19	103.0	388.85	381.15
GRADE TOTAL		7.2	407.07	3,742	8.92	9.19	103.0	388.85	381.15
TOTAL		100.0	3,957.54	52,328	13.54	13.22	97.6	310.31	314.89

ANGEL MILL
GROSS TONS/DAY

PERIOD	CUSTOMER TONS	SIDE ROLL TONS	PRIME TONS	ODDLOT TONS	TOTAL GROSS TONS
1988 ACTUAL	282	19	301	10	311
1989 PLAN	288	18	306	12	318
JULY 1988	272	13	285	10	295
AUGUST 1988	296	17	313	9	322
SEPTEMBER 1988	275	19	294	10	304
OCTOBER 1988	290	15	305	7	312
NOVEMBER 1988	289	13	302	11	313
DECEMBER 1988	282	19	301	8	309

ANGEL MILL
1987-1988 E.B.I.T. - ACTUAL vs. PLAN
000's omitted

	PLAN		ACTUAL		VARIANCE	
	Month	YTD	Month	YTD	Month	YTD
1987						
JULY	44		82	--	38	--
AUGUST	469	513	405	487	(64)	(26)
SEPTEMBER	557	1070	590	1077	33	7
OCTOBER	598	1668	842	1919	244	251
NOVEMBER	497	2165	478	2397	(19)	232
DECEMBER	118	2283	352	2749	234	466
1988						
JANUARY	503	2786				
FEBRUARY	470	3256				
MARCH	556	3812				
APRIL	555	4367				
MAY	660	4967				
JUNE	578	5545				

ANGEL MILL

TONS/DAY

	Customer Tons	Side Roll/ Ribbon	Sub Total	Odd Lot	Total
1987 ACTUAL	265	17	282	13	295
1988 PLAN	273	12	285	12	297
JULY 1987	266	13	279	14	293
AUGUST 1987	275	18	293	13	306
SEPTEMBER 1987	268	25	293	13	306
OCTOBER 1987	292	24	316	10	326
NOVEMBER 1987	301	22	323	9	332
DECEMBER 1987	285	20	305	9	314

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 12/31/87 RUN 1/04/88 9.01.10 MSC064

GRADE		% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	14-15	.5	19.35	267	14.47	13.80	95.3	310.50	318.16
ANGELCOTE	16-17	13.4	483.09	7,178	14.96	14.86	99.3	297.20	298.22
ANGELCOTE	18-19	5.3	183.12	2,810	15.03	15.35	102.1	290.04	286.93
ANGELCOTE	20-21	4.0	137.34	2,118	15.22	15.42	101.3	285.35	283.43
ANGELCOTE	22-23	2.1	80.24	1,099	14.95	13.70	91.6	285.52	299.28
ANGELCOTE	24-25	1.4	55.09	732	14.42	13.29	92.1	289.74	303.03
GRADE TOTAL		26.7	958.23	14,204	14.97	14.82	98.9	292.99	294.71
ANGELITE	10-11	1.7	94.06	886	10.64	9.42	88.5	362.84	390.94
ANGELITE	12-13		1.33	5	11.07	3.76	33.9	340.63	728.60
ANGELITE	14-15	8.1	356.27	4,361	13.28	12.24	92.1	302.18	316.38
ANGELITE	16-17	5.0	199.38	2,683	14.34	13.46	93.8	291.18	301.46
ANGELITE	18-19	17.0	630.21	9,098	14.34	14.44	100.6	287.44	286.35
ANGELITE	20-21	9.7	359.42	5,191	14.52	14.44	99.4	282.76	283.62
ANGELITE	22-23	12.6	470.17	6,718	13.45	14.29	106.2	280.48	271.35
ANGELITE	24-25	.1	3.55	31	13.62	8.73	64.0	287.20	379.91
ANGELITE	26	.3	17.74	167	13.47	9.41	69.8	291.05	363.24
GRADE TOTAL		54.5	2,132.13	29,140	13.82	13.67	98.9	291.32	294.70
AB 50	12-13	.9	52.34	475	10.81	9.08	83.9	383.96	422.67
AB 50	14-15	1.6	66.47	831	11.92	12.50	104.8	362.40	353.62
AB 50	16-17	.9	40.56	505	12.15	12.45	102.4	352.36	347.89
AB 50	18-19	.4	16.38	194	12.30	11.84	96.2	346.12	353.24
AB 50	20-21	4.6	186.68	2,476	12.48	13.26	106.2	338.63	328.01
AB 50	22-23	.1	1.73	33	12.48	19.08	152.8	333.42	270.94
GRADE TOTAL		8.5	364.16	4,514	12.09	12.40	102.5	351.33	349.37
AWhite	14-15	.9	33.52	469	13.16	13.99	106.3	336.81	326.52
AWhite	20-21		1.92	19	13.84	9.90	71.5	309.96	374.76
GRADE TOTAL		.9	35.44	488	13.20	13.77	104.3	335.36	329.13
AB 60	14-15	.1	6.25	59	11.91	9.44	79.2	361.77	411.27
AB 60	16-17	.1	3.90	39	12.15	10.00	82.3	366.88	406.78
AB 60	18-19	.1	2.83	28	12.30	9.89	80.4	345.64	390.31
AB 60	20-21	.4	20.45	226	12.48	11.05	88.5	338.24	361.61
AB 60	22-23	.1	7.47	75	12.48	10.04	80.4	332.94	376.84
GRADE TOTAL		.8	40.90	427	12.35	10.44	84.5	344.11	378.27
Chip	16-17	.9	29.08	469	14.79	16.13	109.0	233.73	221.65
Chip	20-21	.2	11.80	133	12.48	11.27	90.3	273.63	292.64
GRADE TOTAL		1.1	40.88	602	14.12	14.73	104.3	245.25	242.14
CORE STOCK	10-11	6.8	405.97	3,614	8.92	8.90	99.7	369.63	370.18
GRADE TOTAL		6.8	405.97	3,614	8.92	8.90	99.7	369.63	370.18
ALL OTHER	16-17		5.20	19	13.60	3.65	26.8	310.50	740.80
ALL OTHER	18-19	.8	34.85	454	14.00	13.03	93.0	233.73	244.55
ALL OTHER	22-23		1.84	23	14.00	12.50	89.2	233.73	251.18
GRADE TOTAL		.7	41.89	496	13.95	11.84	84.8	243.26	306.44
ALL OTHER	10-11	.1	7.30	36	10.99	4.93	44.8	376.74	635.91
GRADE TOTAL			7.30	36	10.99	4.93	44.8	376.74	635.91
TOTAL		100.0	4,026.90	53,521	13.42	13.29	99.0	305.15	308.61

WALDORF CORP.
RAW MATERIAL
DECEMBER YTD, 1987

		ACTUAL Lbs.	CONSUMPTION $	COST/TON	STANDARD Lbs	ALLOWED $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
05	Coated Blanks	155,566	11,679	150.15	56,934	3,038	106.72	(8,641)	(98,632)	(5,263)	(3,378)
06	News Blanks	2,351,221	164,860	140.23	1,973,878	106,782	108.20	(58,078)	(377,343)	(20,413)	(37,665)
07	CPO	8,998,080	816,403	181.46	8,985,816	765,701	170.42	(50,702)	(12,264)	(1,045)	(49,657)
09	Flyleaf	6,393,835	255,049	79.78	792,559	20,607	52.00	(234,442)	(5,601,276)	(145,636)	(88,805)
12	Prt. Bleach Kraft	4,035,386	230,577	114.28	663,845	0	102.00	(230,577)	(3,371,541)	(171,949)	(58,628)
17	Groundwood	503,796	72,696	288.59	180,686	0	280.00	(72,696)	(323,110)	(45,235)	(27,461)
18	DLK	20,756,331	1,188,503	114.52	18,197,549	764,962	84.07	(423,541)	(2,558,782)	(107,562)	(315,978)
19	News Regular	27,705,723	832,106	60.07	28,497,992	655,912	46.03	(176,194)	792,269	18,235	(194,429)
20	Boxboard Cuttings	17,867,484	510,265	57.12	25,713,588	688,338	53.54	178,073	7,846,104	210,036	(31,962)
21	Mix Paper	20,114	347	34.50	0	0	44.00	(347)	(20,114)	(443)	96
22	Sections	8,928,159	220,502	49.39	939,525	14,092	30.00	(206,410)	(7,988,634)	(119,830)	(86,581)
24	Manifold Ledger	288,853	24,537	169.89	0	0	118.00	(24,537)	(288,853)	(17,042)	(7,495)
30	D/I News	(19,600)	(658)	67.14	9,099,798	243,123	53.43	243,781	9,119,398	243,647	134
50	Special Ledger	8,077,072	557,555	138.06	9,702,544	618,133	127.42	60,578	1,625,472	103,556	(42,978)
51	H.W. PULP	361,292	88,095	487.67	615,233	150,732	490.00	62,637	253,941	62,216	422
41	Br.Kr.Env.Cutt.	1,394,816	144,377	207.02	1,452,968	128,766	177.25	(15,611)	58,152	5,154	(20,764)
	Beater Rolls	(1,804,000)	(121,681)	134.90	0	0	135.00	121,681	1,804,000	121,770	(89)
40	Carrier Kraft	156,570	5,469	69.86	0	0	75.00	(5,469)	(156,570)	(5,871)	402
	TOTAL	106,170,698	5,000,680	94.20	106,872,915	4,160,186	77.85	(840,494)	702,217	124,323	(964,817)

CAPITAL SPENDING

FISCAL 1988

(Carry Overy ARA's)

		A/C	APPROVED $	SPENT THRU 6/30/87	SPENT THRU 12/31/87	COMMENTS
	Carry Forward Projects					
156	New Coater Roll	1276	$11,000	0	$13,519	Closed 12/87
155	Filler Chest Pump	1277	10,000	0	-----	Closed 11/87
199	Backliner Consistency Control	1283	21,000	0	-----	Closed 11/87
201	Dryer Syphons	1281	43,000	22,664	42,170	Closed 9/30/87
211	Turbine Rebuild	2211	94,000	96,195	96,195	Closed 11/87
235	Water Project	2235	140,000	56,603	72,452	
239	Rewinder Drive	2239	140,000	78,407	139,063	Closed 12/87
247	Rotor B/L Pulper	2247	18,000	0	19,538	Close in Jan. '88
248	B/L Pulper Pump	2248	14,000	6,278	13,353	Close in Jan. '88
249	Rewinder Motor	2249	29,000	0	27,284	Closed 9/87
289	Spare Rotating Element	none	13,000	0	----	
290	T.L. Screen	2290	10,000	0	---	
303	Consistency Controls	2303	16,000	7,960	18,000	Closed 12/87
	Sub. Total		$ 559,000	$268,107	$441,574	
	Carryover $ YTD				$173,467	

CAPITAL SPENDING
FISCAL 1988

ARA		A/C	$ APPROVED	SPENT THRU 6/30/87	SPENT THRU 12/31/87	COMMENTS
385	Line Shaft Turbine	3385	30,000		8,148	
386	Elec. System Improve.	3386	24,000		---	
387	Broke Beater Consis.	3387	23,000		---	
415	New Scale	3415	5,000		4,295	Closed 12/87
416	.012 Mach. Screen	3416	8,000		---	
417	Metal Detection	3417	7,000		7,175	Closed 12/87
420	Dock Plate-Kellogg whs.	3420	12,000		8,330	
421	Security Camera	3421	5,500		5,711	Closed 12/87
429	Gloss Calender	3429	249,000		48,238	
443	Recover, Grind Rice Barton Roll	3443	13,000		---	
444	New Auto Slice Fan	3444	10,000		---	
445	Dryer Siphon Replace.	3445	35,000		---	
446	Latex Coating Silo	3446	35,000		12,309	
450	New WaterBox Back Side	3450	12,000		13,457	
451	Metal Covered Mount Hope Roll Rewinder	3451	11,000		---	
452	New 16" Air Shaft Rewinder	3452	13,000		---	
	Sub. Total		$492,500		$107,663	
	Carryover ARA's				$173,457	
	Spent 1988				$281,130	

ANGEL MILL
1987-1988 E.B.I.T. - ACTUAL vs. PLAN
000's omitted

	PLAN		ACTUAL		VARIANCE	
	Month	YTD	Month	YTD	Month	YTD
1987						
JULY	44		82	—	38	—
AUGUST	469	513	405	487	(64)	(26)
SEPTEMBER	557	1070	590	1077	33	7
OCTOBER	598	1668	842	1919	244	251
NOVEMBER	497	2165	478	2397	(19)	232
DECEMBER	118	2283	352	2749	234	466
1988						
JANUARY	503	2786	427	3176	(76)	390
FEBRUARY	470	3256	(111)	3065	(581)	(191)
MARCH	556	3812	661	3726	105	(86)
APRIL	555	4367	726	4452	171	85
MAY	600	4967	1233	5685	633	718
JUNE	578	5545	732	6417	154	872

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 6/30/88 RUN 7/01/88 14.41.55 M

	GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	10-11	.1	19.02	137	10.99	7.20	65.5	375.48	486.46
ANGELCOTE	14-15	1.0	82.58	1,120	14.47	13.56	93.7	309.65	320.24
ANGELCOTE	16-17	9.3	685.02	9,987	14.96	14.58	97.4	296.56	300.49
ANGELCOTE	18-19	5.1	364.77	5,520	15.07	15.13	100.3	289.56	288.97
ANGELCOTE	20-21	6.9	486.99	7,453	15.22	15.30	100.5	284.99	284.22
ANGELCOTE	22-23	2.7	208.25	2,894	14.95	13.90	92.9	285.22	296.62
ANGELCOTE	24-25	1.6	127.09	1,731	14.42	13.62	94.4	289.40	298.58
GRADE TOTAL		26.7	1,973.72	28,842	14.95	14.61	97.7	292.06	296.43
ANGELITE	12-13		4.17	11	11.07	2.64	23.8	341.47	978.70
ANGELITE	14-15	8.0	706.62	8,582	13.28	12.15	91.4	302.94	318.48
ANGELITE	16-17	4.2	339.56	4,581	14.34	13.49	94.0	292.46	302.36
ANGELITE	18-19	15.4	1,157.06	16,573	14.34	14.32	99.8	288.71	288.93
ANGELITE	20-21	8.5	640.71	9,157	14.52	14.29	98.4	284.03	286.53
ANGELITE	22-23	12.3	928.85	13,222	14.52	14.23	98.0	281.68	284.85
ANGELITE	24-25		3.55	31	13.62	8.73	64.0	288.35	381.06
ANGELITE	26	.6	56.97	609	13.47	10.69	79.3	292.32	335.83
GRADE TOTAL		49.0	3,837.49	52,766	14.20	13.75	96.8	289.29	295.70
AB 50	12-13	.5	58.43	539	10.81	9.22	85.2	379.23	414.27
AB 50	14-15	2.5	221.28	2,702	11.92	12.21	102.4	357.78	353.29
AB 50	16-17	.8	68.68	866	12.15	12.61	103.7	348.15	341.38
AB 50	18-19	.6	52.36	651	12.30	12.43	101.0	342.14	340.22
AB 50	20-21	4.6	375.73	4,989	12.48	13.28	106.4	334.97	324.09
AB 50	22-23	.1	6.43	80	12.48	12.44	99.6	330.07	330.65
GRADE TOTAL		9.1	782.91	9,827	12.16	12.55	103.2	346.32	341.72
ANGELWHITE	14-15	1.0	79.81	1,053	13.16	13.19	100.2	336.41	336.02
ANGELWHITE	20-21	.2	17.77	180	13.84	10.13	73.1	310.59	370.22
ANGELWHITE	26		5.72	26	13.44	4.55	33.8	310.75	638.55
GRADE TOTAL		1.2	103.30	1,259	13.29	12.19	91.7	330.55	358.65
ANGELWHITE	10-11	1.9	221.71	2,042	10.64	9.21	86.5	363.35	397.03
GRADE TOTAL		1.9	221.71	2,042	10.64	9.21	86.5	363.35	397.03
AB 60	12-13		.97	8	10.80	8.25	76.3	380.25	443.05
AB 60	14-15	.2	16.14	177	11.92	10.97	92.0	358.67	375.05
AB 60	16-17	.1	8.80	102	12.15	11.59	95.3	349.15	358.12
AB 60	18-19	.3	26.84	307	12.30	11.44	93.0	343.00	356.78
AB 60	20-21	.3	24.12	281	12.48	11.65	93.3	335.81	348.68
AB 60	22-23	.2	17.96	194	12.48	10.80	86.5	330.77	358.87
AB 60	24-25	.1	7.28	84	12.30	11.54	93.8	330.58	342.65
AB 60	26		2.02	23	12.15	11.39	93.7	329.21	341.59
GRADE TOTAL		1.2	104.13	1,176	12.26	11.29	91.9	341.38	357.73
CHIP	16-17	1.2	93.62	1,339	14.97	14.30	95.5	233.80	240.61
CHIP	18-19	2.2	159.77	2,341	15.25	14.65	96.0	233.80	239.76
CHIP	20-21	.2	21.72	263	13.74	12.11	88.1	272.92	296.75
CHIP	24-25		.55	4	14.49	7.27	50.1	240.88	392.32
GRADE TOTAL		3.6	275.66	3,947	15.03	14.32	95.2	236.90	244.84

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 6/30/88 RUN 7/01/88 14.42.13

GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
CORE STOCK 10-11	6.9	821.38	7,498	8.92	9.13	102.3	371.89	366.27
GRADE TOTAL	6.9	821.38	7,498	8.92	9.13	102.3	371.89	366.27
ALL OTHER 16-17		5.20	19	13.60	3.65	26.8	309.65	739.95
ALL OTHER 18-19	.4	34.85	454	14.00	13.03	93.0	233.80	244.62
ALL OTHER 22-23		1.84	23	14.00	12.50	89.2	233.80	251.25
GRADE TOTAL	.4	41.89	496	13.95	11.84	84.8	243.22	306.40
ALL OTHER 10-11		7.30	36	10.99	4.93	44.8	375.48	634.65
GRADE TOTAL		7.30	36	10.99	4.93	44.8	375.48	634.65
TOTAL	100.0	8,169.49	107,889	13.55	13.21	97.4	305.00	310.36

ANGEL MILL

TONS/DAY

	Customer Tons	Side Roll/ Ribbon	Sub Total	Odd Lot	Total
1987 ACTUAL	265	17	282	13	295
1988 PLAN	273	12	285	12	297
JULY 1987	266	13	279	14	293
AUGUST 1987	275	18	293	13	306
SEPTEMBER 1987	268	25	293	13	306
OCTOBER 1987	292	24	316	10	326
NOVEMBER 1987	301	22	323	9	332
DECEMBER 1987	285	20	305	9	314
JANUARY 1988	267	12	279	11	290
FEBRUARY 1988	275	21	296	15	311
MARCH 1988	282	13	295	9	304
APRIL 1988	308	18	326	8	334
MAY 1988	278	20	298	5	303
JUNE 1988	283	17	300	9	309
1988 ACTUAL	282	19	301	10	311

WALDORF CORPORATION
RAW MATERIAL
JUNE YTD 1988

		ACTUAL Lbs.	CONSUMPTION $	COST/TON	STANDARD Lbs	ALLOWED $	COST/TON	VARIANCE $	USAGE Lbs	USAGE $	PRICE VARIANCE
05	Coated Blanks	254,058	19,014	149.68	164,930	9,033	109.54	(9,981)	(89,128)	(4,881)	(5,100)
06	News Blanks	5,349,161	387,551	144.90	4,371,656	241,056	110.28	(146,495)	(977,505)	(53,900)	(92,595)
07	CPO	18,336,909	1,792,271	195.48	18,651,870	1,579,133	169.33	(213,138)	314,961	26,666	(239,803)
09	Flyleaf	9,910,188	445,725	89.95	230,273	6,463	56.13	(439,262)	(9,679,915)	(271,683)	(167,579)
12	Prt. Bleach Kraft	6,503,727	375,397	115.44	1,242,443	45,979	74.01	(329,418)	(5,261,284)	(194,703)	(134,715)
17	Brown Bags	781,033	109,611	280.68	0	0	280.00	(109,611)	(781,033)	(109,345)	(266)
18	DLK	43,167,276	2,413,890	111.84	32,372,874	1,476,854	91.24	(937,036)	(10,794,402)	(492,442)	(444,594)
19	News Regular	60,069,217	1,870,787	62.29	59,712,222	1,555,790	52.11	(314,997)	(356,995)	(9,301)	(305,696)
20	Boxboard Cuttings	37,509,981	1,125,510	60.01	52,530,366	1,491,788	56.80	366,278	15,020,385	426,558	(60,279)
21	Mix Paper	20,114	347	34.50	0	0	44.00	(347)	(20,114)	(443)	96
22	Sections	15,965,802	431,355	54.03	871,169	15,365	35.27	(415,990)	(15,094,633)	(266,227)	(149,763)
24	Manifold Ledger	295,593	25,999	175.91	0	0	118.00	(25,999)	(295,593)	(17,440)	(8,559)
30	O/I News	(19,600)	(658)	67.14	20,296,802	601,082	59.23	601,740	20,316,402	601,662	78
50	Special Ledger	14,657,718	1,043,827	142.43	20,495,152	1,293,473	126.22	249,646	5,837,434	368,407	(118,761)
51	H.W. PULP	767,817	165,541	431.20	1,399,361	350,500	500.94	184,959	631,544	158,184	26,776
41	Br.Kr.Env.Cutt.	2,283,106	245,677	215.21	3,103,630	274,670	177.00	28,993	820,524	72,616	(43,623)
	Beater Rolls	(3,950,000)	(287,938)	145.79	0	0	135.00	287,938	3,950,000	266,625	21,313
40	Carrier Kraft	278,485	11,143	80.02	0	0	75.00	(11,143)	(278,485)	(10,443)	(699)
	TAL	212,180,585	10,175,048	95.91	215,442,748	8,941,186	83.00	(1,233,862)	3,262,163	489,909	(1,723,771)

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 12/31/86 RUN 1/05/87 15.25.52 MSC064

	GRADE	% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	15-19	8.7	304.40	4,209	13.85	13.83	99.8	277.97	278.22
ANGELCOTE	20-22	8.4	287.86	4,062	13.85	14.11	101.8	271.66	268.49
ANGELCOTE	23-26	2.6	88.69	1,261	13.42	14.22	105.9	274.12	264.14
GRADE TOTAL		19.7	680.95	9,532	13.79	14.00	101.5	274.80	272.27
ANGELITE	12-14	9.8	378.92	4,727	12.00	12.47	103.9	315.04	307.57
ANGELITE	15-19	11.2	382.63	5,414	13.42	14.15	105.4	282.72	273.57
ANGELITE	1908	16.8	588.86	8,107	13.42	13.77	102.6	282.72	278.21
ANGELITE	20-22	17.5	604.11	8,479	13.42	14.04	104.6	278.30	270.47
ANGELITE	23-26	.7	28.47	347	13.00	12.19	93.7	284.45	296.88
GRADE TOTAL		56.0	1,982.99	27,074	13.14	13.65	103.8	287.57	280.84
AB 50	12-14	3.1	142.32	1,488	11.88	10.46	88.0	348.38	375.58
AB 50	15-19	1.0	45.21	495	12.72	10.95	86.0	320.00	350.24
AB 50	20-22	8.8	352.30	4,266	12.72	12.11	95.2	310.92	320.34
AB 50	23-26	2.3	101.75	1,096	12.30	10.77	87.5	311.51	339.00
GRADE TOTAL		15.2	641.58	7,345	12.47	11.45	91.8	319.96	337.66
AB 70	15-19	.1	5.38	58	12.03	10.78	89.6	375.02	397.95
AB 70	20-22	.1	7.75	51	12.03	6.58	54.6	363.96	527.77
AB 70	23-26	.1	2.38	27	11.55	11.34	98.1	357.88	361.70
GRADE TOTAL		.3	15.51	136	11.96	8.77	73.3	366.86	457.25
AB 60	20-22	.9	45.07	449	12.72	9.96	78.3	314.95	366.79
GRADE TOTAL		.9	45.07	449	12.72	9.96	78.3	314.95	366.79
CRESCENT	15-19	.1	4.79	47	12.00	9.81	81.7	270.69	314.39
CRESCENT	20-22	.6	32.26	278	12.00	8.62	71.8	270.69	347.45
GRADE TOTAL		.7	37.05	325	12.00	8.77	73.0	270.69	343.18
CORE STOCK	10-11	7.0	359.47	3,389	9.38	9.43	100.5	343.62	342.39
GRADE TOTAL		7.0	359.47	3,389	9.38	9.43	100.5	343.62	342.39
TOP LINER	12-14	.1	6.60	71	12.00	10.76	89.6	317.75	340.60
GRADE TOTAL		.1	6.60	71	12.00	10.76	89.6	317.75	340.60
ALL OTHER	15-19		1.61	17	14.00	10.56	75.4	242.73	297.39
GRADE TOTAL			1.61	17	14.00	10.56	75.4	242.73	297.39
TOTAL		99.9	3,770.83	48,338	12.76	12.82	100.4	296.64	297.30

ANGEL MILL

TONS/DAY

	Customer Tons	Side Roll/ Ribbon	Odd Lot	TOTAL
1986 Actual	238	17	15	270
1987 PLAN	253	10	14	277
JULY 1986	252	10	11	273
AUGUST 1986	266	10	16	292
SEPTEMBER 1986	252	14	13	279
OCTOBER 1986	276	10	7	293
NOVEMBER 1986	280	23	11	314
DECEMBER 1986	254	15	10	279
JANUARY 1987	275	16	21	312
FEBRUARY 1987	263	22	16	301
MARCH 1987	244	22	14	280
APRIL 1987	272	23	8	303
MAY 1987	261	23	11	295
JUNE 1987	283	20	12	315
1987 Average:	265	17	13	295

SUMMARY OF PRODUCTION TONS
MACHINE # 3
Y-T-D ENDING 6/30/87 RUN 7/01/87 12.40.16

GRADE		% TOTAL TONS	SALABLE HRS	TONS	STD TPH	ACT TPH	% STD	STD/TON	EST ACT/TON
ANGELCOTE	15-19	10.6	740.75	10,594	13.85	14.30	103.2	287.50	282.09
ANGELCOTE	20-22	8.8	615.89	8,823	13.85	14.33	103.4	280.94	275.18
ANGELCOTE	23-26	2.2	156.48	2,203	13.42	14.08	104.9	283.06	274.75
GRADE TOTAL		21.6	1,513.12	21,620	13.81	14.29	103.4	284.37	278.52
ANGELITE02	10-11	.4	44.74	412	12.00	9.21	76.7	318.78	378.84
ANGELITE	12-14	9.8	791.56	9,806	12.00	12.39	103.2	318.78	312.54
ANGELITE	15-19	11.8	829.44	11,789	13.42	14.21	105.8	289.59	279.73
ANGELITE	1908	14.0	1,006.04	14,000	13.42	13.92	103.7	279.75	273.73
ANGELITE	20-22	20.1	1,404.61	20,100	13.42	14.31	106.6	283.17	272.14
ANGELITE	23-26	1.5	117.72	1,474	13.00	12.52	96.3	289.65	296.82
GRADE TOTAL		57.6	4,194.11	57,581	13.13	13.73	104.5	290.90	283.48
AB 50	12-14	2.7	271.01	2,681	11.88	9.89	83.2	360.98	401.30
AB 50	15-19	1.3	116.98	1,296	12.72	11.08	87.1	331.72	359.41
AB 50	20-22	6.9	557.37	6,914	12.72	12.40	97.4	322.11	326.94
AB 50	23-26	1.1	101.75	1,096	12.30	10.77	87.5	311.51	339.00
GRADE TOTAL		12.0	1,047.11	11,987	12.46	11.45	91.8	332.21	350.98
AB 70	12-14		2.85	34	11.55	11.93	103.2	364.07	357.51
AB 70	15-19	.1	5.38	58	12.03	10.78	89.6	339.81	362.74
AB 70	20-22	.1	7.75	51	12.03	6.58	54.6	334.22	498.03
AB 70	23-26		2.38	27	11.55	11.34	98.1	332.02	335.84
GRADE TOTAL		.2	18.36	170	11.89	9.26	77.8	340.20	415.55
AB 60	15-19		2.33	25	12.03	10.73	89.1	339.81	363.77
AB 60	20-22	1.1	93.59	1,075	12.72	11.49	90.3	320.59	341.43
AB 60	23-26	.1	6.92	85	11.55	12.28	106.3	332.02	319.77
GRADE TOTAL		1.2	102.84	1,185	12.63	11.52	91.2	321.79	340.48
CRESCENT	15-19	.1	12.74	121	12.00	9.50	79.1	279.85	331.36
CRESCENT	20-22	.5	53.93	499	12.00	9.25	77.0	270.69	328.89
GRADE TOTAL		.6	66.67	620	12.00	9.30	77.5	272.44	329.36
CORE STOCK	10-11	6.9	738.08	6,943	9.38	9.41	100.3	350.44	349.70
GRADE TOTAL		6.8	738.08	6,943	9.38	9.41	100.3	350.44	349.70
TOP LINER	12-14	.1	6.60	71	12.00	10.76	89.6	321.14	343.99
GRADE TOTAL			6.60	71	12.00	10.76	89.6	321.14	343.99
ALL OTHERO	10-11		3.95	13	9.38	3.29	35.0	350.44	778.63
ALL OTHER	15-19		1.61	17	14.00	10.56	75.4	244.20	296.48
GRADE TOTAL			5.56	30	10.72	5.40	50.3	319.67	639.01
TOTAL		100.0	7,692.45	100,207	12.79	13.03	101.8	301.37	299.83

WALDORF CORPORATION
ANGELL MILL ACTUAL SALES VS. PLAN
DECEMBER YTD 1985

	ACTUAL					PLAN								SALES			
	NET TONS	NET SALES	PER TON	GROSS PROFIT TON	TOTAL GROSS PROFIT	NET TONS	NET SALES	PER TON	GROSS PROF. TON	TOTAL GROSS PROFIT	VARIANCE TONS	VARIANCE GROSS PROFIT	PRICE VARIANCE	VOLUME VARIANCE	OTHER
TRADE:															
ANGELCOTE	8,753	2,964	339	58	508	7,767	450	344	58	450	986	58	(44)	57	45
ANGELITE	18,311	6,501	355	53	964	14,410	807	359	56	807	3,901	157	(73)	218	12
AB 50	3,113	1,327	426	107	332	2,597	322	438	124	322	516	10	(37)	64	(17)
AB 70	220	98	444	99	22	487	38	412	78	38	(267)	(16)	7	(21)	(2)
CORE	2,854	1,206	423	53	150	3,690	240	438	65	240	(836)	(90)	(43)	(54)	7
CHIP	952	335	352	60	57	469	17	301	37	17	483	40	49	18	(27)
SUB-TOTAL	34,203	12,431	363	59	2,033	29,420	1,874	372	64	1,874	4,783	159	(141)	282	18
Side Roll/Ribbons	2,681	450	186	(110)	(295)	2,784	(262)	195	(94)	(262)	(103)	(33)	(24)	(10)	1
Odd Lot	2,789	500	161	(34)	(94)	3,360	(67)	175	(20)	(67)	(571)	(27)	(39)	(38)	50
TRADE	39,673	13,381	337	41	1,644	35,564	1,545	339	43	1,545	4,109	99	(204)	234	69
INTER-COMPANY															
ANGELCOTE	3,099	1,041	336	49	152	3,740	228	347	61	228	(641)	(76)	(34)	(39)	(3)
ANGELITE	167	57	343	31	5	1,403	63	348	45	63	(1,236)	(58)	—	(57)	(1)
AB 50	672	249	371	67	45	468	49	418	104	49	204	(4)	(32)	21	7
ALL OTHER	232	69	301	36	8	—	—				232	8	—	8	—
TOTAL INTER COMPANY	4,170	1,416	340	50	210	5,609	340	355	60	340	(1,441)	(130)	(66)	(67)	3
TOTAL PRIME	38,373	13,847	361	58	2,243	35,029	2,214	369	63	2,214	3,342	29	(207)	215	21
TOTAL	43,843	14,797	338	42	1,855	41,172	1,885	341	45	1,885	2,668	(31)	(270)	167	72

ANGELL MILL
TONS/TPD 1985 ACTUAL

MONTH	Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
Champion International					
TOTAL 1984 TPD - Actual	196	6	6	23	231
1985 BUDGET TPD	229	4	5	19	257
JANUARY - TPD Actual	219	7	6	22	254
FEBRUARY - TPD Actual	210	10	4	19	243
MARCH - TPD Actual	240	8	12	18	278
APRIL - TPD Actual	245	11	5	15	276
MAY - TPD Actual	208	3	7	12	230
JUNE - TPD Actual	241	14	9	10	274
JULY - TPD Actual 9 days Champion	217	--	5	12	234
JULY - TPD Actual 15 days Waldorf	231	10	9	15	265
Waldorf					
AUGUST - TPD Actual 31 days	221	15	5	16	257
SEPTEMBER - TPD Actual	237	11	8	12	268
OCTOBER - TPD Actual	245	6	7	12	270
NOVEMBER - TPD Actual	240	3	6	10	265
DECEMBER - TPD Actual	246	11	5	12	274

(7)

WALDORF CORPORATION
GRADE EFFICIENCY
DECEMBER YTD 1985

SALABLE HOURS	GRADE	STANDARD SALABLE TPH	ACTUAL SALABLE TPH	% OF STANDARD	% O/L STANDARD	% O/L STANDAF
327.27	12-14 AL	12.77	11.93	93.4	6.0	3.7
395.16	16-19	13.68	13.11	95.8	6.0	6.1
391.17	19 Kellogg	13.68	13.24	96.8	6.0	5.0
337.02	20-22	13.68	13.65	99.8	6.0	8.3
83.12	23-26	13.68	12.24	89.5	6.0	5.5
316.87	15-19 AC	14.58	13.40	91.9	6.0	2.5
574.72	20-22	14.58	13.83	94.9	6.0	3.4
128.60	23-26	14.58	12.68	86.9	6.0	6.7
115.28	12-14 AB 50	12.77	9.68	75.8	8.0	5.4
56.30	15-19	13.68	10.55	77.1	8.0	6.7
206.51	20-22	13.68	12.30	89.9	8.0	7.3
	23-26	13.68				
44.85	20 AB 60	13.68	12.02	87.9	8.0	6.5
3.76	12-14 AB 70	12.77	10.11	79.2	10.0	18.4
13.06	15-19	13.68	10.49	76.7	10.0	6.6
10.79	20-22	13.68	12.33	90.1	10.0	24.8
2.35	24	13.68	14.47	105.8	10.0	20.6
306.97	10 Core	8.86	8.99	101.5		
20.78	12-13	10.96	8.57	78.2		
4.97	12 Topliner	12.30	3.82	31.0		
75.77	Chip	12.77	10.88	85.2		
	All Other	13.68				
3415.32	Total	13.32	12.48	93.7		

WALDORF CORP.
RAW MATERIAL
DECEMBER YTD 1985

1,200 ACT LB.

		ACTUAL CONSUMPTION Lbs	$	COST/TON	YTD Lbs	STANDARD $	COST/TON	USAGE Lbs	USAGE $	PRICE VARIANCE
01	Hard Whites	919,584	98,298	213.79	140,287	17,396	248.01	(779,297)	(96,636)	15,733
03	Book Stock	508,266	22,364	88.00	0	0	85.00	(508,266)	(21,601)	(763)
04	Soft Whites	0	0	0.00	547,322	69,510	254.00	547,322	69,510	0
05	Coated Blanks	41,760	1,418	67.91	450,731	13,973	62.00	408,971	12,678	(123)
06	News Blanks	1,661,603	56,735	68.29	2,125,337	93,517	88.00	463,734	20,405	16,378
07	CPO	10,239,021	753,667	147.21	6,434,435	579,096	180.00	(3,804,586)	(342,411)	167,840
09	Flyleaf	70,475	1,654	46.93	0	0	77.00	(70,475)	(2,713)	1,060
11	Mix Shavings	0	0	0.00	0	0	0.00	0	0	0
12	Prt. Bleach Kraft	0	0	0.00	0	0	0.00	0	0	0
16	Old Corrugated	0	0	0.00	0	0	0.00	0	0	0
17	Groundwood	0	0	0.00	0	0	81.00	0	0	0
18	DLK	13,955,991	366,444	52.51	16,884,931	557,210	66.00	2,928,940	96,656	94,109
19	News Regular	23,275,574	461,009	39.61	19,502,212	516,816	53.00	(3,773,362)	(99,995)	155,802
20	Boxboard Cuttings	17,457,289	386,669	44.30	27,100,401	731,712	54.00	9,643,112	260,364	84,678
21	Mix Paper	206,784	2,272	21.97	0	0	26.00	(206,784)	(2,688)	416
22	Sections	3,929,784	48,098	24.48	0	0	36.00	(3,929,784)	(70,736)	22,638
24	Manifold Ledger	2,342,709	154,328	131.75	3,577,084	241,450	135.00	1,234,375	83,319	3,803
25	Bleach Kraft Cutting	0	0	0.00	0	0	0.00	0	0	0
30	O/I News	455,213	10,572	46.45	2,462,049	77,553	63.00	2,006,836	63,214	3,767
40	Carrier Kraft	100,085	2,500	49.96	0	0	44.00	(100,085)	(2,202)	(298)
45	Lt. Prt. Bleached	0	0	0.00	47,417	4,457	187.99	47,417	4,457	0
46	Lt. Prt. White Bags	0	0	0.00	0	0	236.00	0	0	0
47	TMP Cuttings	0	0	0.00	0	0	77.00	0	0	0
50	Special Ledger	7,627,055	393,733	103.25	4,104,958	235,069	114.53	(3,522,097)	(201,692)	43,029
51	Pulp	65,114	3,781	116.13	0	0	255.00	(65,114)	(8,302)	4,521
	Beater Rolls	(1,286,125)	(79,859)	124.19			125.00	1,286,125	80,383	(524)
				0.00						
	TOTAL	81,570,182	2,683,682	65.80	83,377,164	3,137,758	75.27	1,806,982	(157,990)	612,066

ANGEL MILL
TONS/TPD 1985/1986 ACTUAL

MONTH	Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
JULY, 1985	231	10	9	15	265
1985					
AUGUST - TPD Actual 31 Days	221	15	5	16	257
SEPTEMBER - TPD Actual	237	11	8	12	268
OCTOBER - TPD Actual	245	6	7	12	270
NOVEMBER - TPD Actual	240	3	6	10	265
DECEMBER - TPD Actual	246	11	5	12	274
1986					
JANUARY - TPD Actual	235	6	7	18	266
FEBRUARY - TPD Actual	233	18	7	19	277
MARCH - TPD Actual	203	15	7	27	252
APRIL - TPD Actual	248	12	8	13	281
MAY - TPD Actual	251	13	5	15	284
JUNE - TPD Actual	253	6	6	15	280
YTD	238	10	7	15	270
July		4			
Aug					

WALDORF CORPORATION
GRADE EFFICIENCY
JUNE YTD, 1986

%	SALABLE HOURS	GRADE	STANDARD SALABLE TPH	ACTUAL SALABLE TPH	% OF STANDARD	% OF STANDARD	% O/L STANDARD
6.0	736.82	12-14 AL	12.77	12.09	94.7	6.0	6.8
	802.43	16-19	13.68	13.58	99.2	6.0	5.5
	971.67	19 Kelloggs	13.68	13.54	98.9	6.0	7.0
	907.18	20-22	13.68	13.73	100.3	6.0	7.4
	174.83	23-26	13.68	12.29	89.0	6.0	6.2
	632.64	15-19 AC	14.58	13.60	93.3	6.0	4.2
	922.65	20-22	14.58	13.75	94.3	6.0	4.2
	177.01	23-26	14.58	12.64	86.7	6.0	6.2
	189.48	12-14 AB 50	12.77	9.79	76.6	8.0	10.1
	119.77	15-19	13.68	10.75	78.6	8.0	5.3
	630.97	20-22	13.68	12.09	88.4	8.0	6.2
		23-26	13.68				
	100.90	20 AB 60	13.68	11.26	82.3	8.0	11.7
	10.59	12-14 AB 70	12.77	10.86	85.0		24.3
	13.06	15-19	13.68	10.49	76.7		6.6
	17.81	20-22	13.68	12.07	88.2		25.1
	13.01	24	13.68	10.91	79.8		33.8
	721.60	10 Core	8.86	9.05	102.1		
	23.41	12-13	10.96	8.59	78.3		
		12 Top Liner	12.30				
	132.41	Chip	12.77	11.11	87.0		3.0
	4.97	Other	13.68	3.82	27.9		
	7303.21	Total	13.27	12.58	94.8		

7/7/86

WALDORF CORP.
RAW MATERIAL
JUNE - YTD

		ACTUAL CONSUMPTION Lbs	$	COST/TON	YTD Lbs	STANDARD $	COST/TON	USAGE Lbs	USAGE $	PRICE VARIANCE
01	Hard Whites	1,289,503	136,491	211.70	248,533	30,819	248.00	(1,040,970)	(129,082)	23,410
03	Book Stock	516,988	30,204	116.85	0	0	85.00	(516,988)	(21,972)	(8,232)
04	Soft Whites	0	3,774	0.00	1,297,795	164,820	254.00	1,297,795	164,820	(3,774)
05	Coated Blanks	1,033,877	36,662	70.92	1,031,722	31,983	62.00	(2,155)	(67)	(4,612)
06	News Blanks	3,826,177	143,156	74.83	5,125,822	225,538	88.00	1,299,645	57,185	25,198
07	CPO	✓ 21,357,033	1,584,560	148.39	13,918,465	1,252,659	180.00	(7,438,568)	(669,469)	337,568
09	Flyleaf	1,042,486	26,499	50.84	0	0	77.00	(1,042,486)	(40,136)	13,636
11	Mix Shavings	0	0	0.00	0	0	0.00	0	0	0
12	Prt. Bleach Kraft	0	0	0.00	0	0	0.00	0	0	0
16	Old Corrugated	0	0	0.00	0	0	0.00	0	0	0
17	Groundwood	0	0	0.00	0	0	81.00	0	0	0
18	DLK	29,295,715	909,500	62.09	33,823,922	1,116,196	66.00	4,528,207	149,432	57,265
19	News Regular	48,835,430	1,012,193	41.45	45,552,289	1,207,143	53.00	(3,283,141)	(87,004)	281,953
20	Boxboard Cuttings	35,759,730	788,507	44.10	55,558,446	1,500,079	54.00	19,798,716	534,566	177,006
21	Mix Paper	705,654	10,130	28.71	0	0	26.00	(705,654)	(9,174)	(956)
22	Sections	8,701,813	103,805	23.86	0	0	36.00	(8,701,813)	(156,633)	52,828
24	Manifold Ledger	2,684,784	172,642	128.61	7,805,528	526,870	135.00	5,120,744	345,648	8,580
25	Bleach Kraft Cutting	0	0	0.00	0	0	0.00	0	0	0
30	O/I News	3,239,586	86,631	53.48	5,613,071	176,810	63.00	2,373,485	74,764	15,415
40	Carrier Kraft	498,457	12,268	49.22	0	0	44.00	(498,457)	(10,966)	(1,302)
45	Lt. Prt. Bleached	0	0	0.00	90,372	8,495	187.99	90,372	8,495	0
46	Lt. Prt. White Bags	0	0	0.00	0	0	236.00	0	0	0
47	TMP Cuttings	0	0	0.00	0	0	77.00	0	0	0
50	Special Ledger	18,537,109	970,568	104.72	9,396,225	539,317	114.79	(9,140,884)	(524,661)	93,411
51	H.W. PULP	566,769	70,801	249.84	0	0	255.00	(566,769)	(72,263)	1,462
	Beater Rolls	(3,658,574)	(231,225)	126.40			125.00	3,658,574	228,661	2,564
				0.00						
	TOTAL	174,232,537	5,867,166	67.35	179,462,190	6,780,729	75.57	5,229,653	(157,857)	1,071,419

ANGELL MILL

TONS/TPD 1984/ACTUAL

Days Oper.	MONTH		Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
24	January -	Total	5,120	81	117	346	6962 5,664
		TPD	213	3	5	15	236
28	February-	Total	6,339	5	208	478	6557 7,030
		TPD	226	--	8	17	251
35	March -	Total	7,772	23	266	537	5316 8,598
		TPD	222	1	8	15	246
26	April-	Total	5,285	328	161	468	5773 6,242
		TPD	203	13	6	18	240
28	May-	Total	5,239	183	188	486	6,096
		TPD	187	7	7	17	218
35	June-	Total	6,769	215	176	458	7,618
		TPD	194	6	5	13	218
22.8	July-	Total	4,227	47	171	563	5,008
		TPD	185	2	8	25	220
28	August-	Total	4,950	89	184	956	6,179
		TPD	177	3	7	34	221
32.3	September-	Total	5,566	271	186	771	6,794
		TPD	172	8	6	24	210
28	October-	Total	5,405	299	114	837	6,655
		TPD	193	11	4	30	238
26	November-	Total	5,231	240	150	640	6,261
		TPD	201	9	6	25	241
22.7	December-	Total	4,436	185	151	790	5,562
		TPD	195	8	7	35	245

January 9, 1985

ANGELL MILL

1984 SALES PLAN VS. ACTUAL *

DECEMBER 1984 YTD

000's omitted

	PLAN			ACTUAL			$ VARIANCE		
	Tons	Price Ton	$ 000's	Tons	Price Ton	$ 000's	Total Variance	Price	Volume/ Mix
ANGELCOTE	9600	357.78	3435	6193	339.94	2105	(1330)	(110)	(1101)
ANGELITE	47100	382.43	18012	42691	374.91	16055	(1957)	(321)	(1733)
AB 50	11500	389.95	4484	2946	413.92	1218	(3266)	59	(3108)
AB 70	2920	396.33	1158	1529	416.28	637	(521)	52	(492)
CORE STOCK	6500	430.00	2795	6402	458.02	2932	137	160	(34)
OTHER UNCOATED	1500	300.00	450	3270	324.95	1062	612	85	554
TOTAL PRIME	79120	383.39	30334	63031	380.91	24009	(6325)	56	(5914)
SIDE ROLL/RIBBON	1720	170.00	292	3345	209.72	701	409	130	250
ODD LOT	5160	170.00	877	9534	185.09	1765	888	131	596
TOTAL	86000	366.31	31503	75910	348.78	26475	(5028)	317	(5068)

12.

*Net Sales Less Freight

January 11, 1985

8

ANGELL MILL
FIBER CONSUMPTION

		DECEMBER Tons	DECEMBER $	DECEMBER Cost/Ton	Y.T.D. Tons	Y.T.D. $	Y.T.D. Cost/Ton
01	Hard Whites	4.2	1,357	323	564	180,399	319
04	Soft Whites	7.5	1,915	255	882	191,219	216
06	Newsblanks	49.5	6,753	136	1509	217,700	144
07	C P O	677.3	142,218	210	8531	1,658,076	194
09	Flyleaf	(46.5)	(4,000)	(86)	170	18,779	110
17	Groundwood	123.4	11,795	95	1339	134,439	100
18	DLK	697.3	55,965	80	7352	675,392	92
19	News Reg.	1761.7	99,534	56	20419	1,264,959	62
20	Boxboard Cuttings	1116.3	71,238	64	16383	976,912	59
24	Manifold Ledger	321.7	44,588	138	6634	1,042,221	157
25	Bleached Kraft Cuttings	--			276	76,528	277
30	O/I News	271.2	17,955	66	4741	325,244	68
45	Lt. Printed Bleached	159.8	31,321	196	1898	371,522	195
46	Lt.Prt. Wh. Bags	42.9	10,680	249	800	198,581	248
47	TMP Cuttings	55.1	4,223	77	1240	114,842	93
22	Sections	(12.8)	(881)	(69)	139	7,407	53
11	Mtl. Sh.				18	(626)	
12	Prt. Bleached KC				56	10,381	185
29	Prt. Cup cuttings				343	49,330	144
14	SK Bags				28	6,871	245
	Beater Sales	(11.8)	(1,561)	132	(243)	(32,846)	135
	Totals	5216.8	493,100	94	73,079	7,487,330	102
	Standard	5397	494,695	92	75,595	7,055,090	93

January 9, 1985

(11)

SUMMARY 1985 PLAN VS. 1984 ACTUAL

Planned Operating Income for 1985 is $2,062,000 vs. $289,000 for 1984. Sales tons are planned to increase 17.7% from 77,162 in 1984 to 90,880 in 1985. Customer tons are planned to increase 22.2% from 66,305 to 81,000. Most of this increase is projected to be in the AB 50 and AB 70 grades. Reflecting improved operating efficiencies, secondary tonnage (odd lot and side rolls) are budgeted to be reduced from 16.4% of customer tons in 1984 to 10.9% in 1985. Material cost per ton of board produced is expected to increase 15.4% from 130.48 in 1984 to 153.74 in 1985. This is due primarily to increased prices for scrap paper and an increase of the AB 50 and AB 70 grades in the mix. Conversion costs are budgeted to increase 8.7% from $15,730,000 in 1984 to $17,097,000 in 1985. Most of the increase is a result of running 336 days in 1984 vs. 354 in 1985. Production tons per day will improve 10.3% from 233 tons per day in 1984 to 257 tons per day in 1985 reflecting improvements in machine and grade efficiencies as well as approximately a 5% increase in speed and a heavier basis weight mix of business.

Addendum: Due primarily to operating problems, higher than projected cost for raw material, labor, energy and repair materials, the 1984 full year estimate has been revised to a loss of ($1,066,000).

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
1985 BUDGET

INDEX	SCHEDULE NO.
1985-1989 BUDGET SUMMARY	1 & 2
SUMMARY OF ASSIGNED GRADE MIX	3
MACHINE STATISTICS SUMMARY	4
NOT APPLICABLE	5
OPERATING DAYS BY MONTH	6
SUMMARY OF MATERIAL COST 1984-1985	7
DIRECT MATERIAL-COMPARISON 1984 vs. 1985	8
CONVERSION COST SUMMARY 1984 vs. 1985	9
ANALYSIS OF CHANGES IN CONVERSION COST	10
ENERGY REQUIREMENTS 1984/1985	11
PERSONNEL DATA 1984/1985	12
ANALYSIS OF CHANGES IN WAGES AND SALARIES	13
NET SALES BY MAJOR PRODUCT LINE	14
GROSS/NET SALES BY MAJOR PRODUCT LINE 1984/1985	15 & 16
NOT APPLICABLE	17
ANALYSIS OF CHANGE IN NET SALES	18
COMPARISON OF INVENTORIES	19
CAPITAL EXPENDITURES PLAN	20
SCHEDULE OF SUPPLEMENTAL INFORMATION	21

Schedule 1

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
1985 BUDGET SUMMARY

	1984 Actual	1985 Budget	% Change
Total Tons Produced	78,127	90,880	16.3
Average Tons Day	233	257	10.3
Total Tons Sold	77,162	90,880	17.8
TOTAL NET SALES DOLLARS	26,903	34,035	26.5
Average Net Selling Price Ton	349	375	7.5
COST OF SALES - MATERIALS			
Paper Stock	7,343	10,395	41.6
Clay - Chemicals	2,490	3,081	23.7
Other	235	205	(12.8)
Total Materials	10,068	13,681	35.9
CONVERSION			
Salaries & Payroll Expense	918	1,001	9.0
Operating Labor-Hourly	2,786	2,927	5.1
Repair Labor-Hourly	846	883	4.4
Payroll Expense - Hourly	1,545	1,609	4.2
Repair Materials	600	630	5.0
Energy	5,378	6,204	15.4
Depreciation, Insurance, Taxes	1,159	1,269	9.5
Other	2,498	2,688	7.6
Cost Improvement			
Total Conversion	15,730	17,211	9.4
Inventory Change	(175)	---	100.0
Total Cost of Sales	25,623	30,892	20.6
Gross Profit	1,280	3,143	145.5
SA&G			
Selling	350	420	20.0
Administrative-Mill	582	660	13.4
- Division	59	---	(100.0)
Total SA&G	991	1,080	9.0
Operating Income	289	2,062	613.5
Full Year Estimate Adjustment (Loss)	(1,355)		
Adjust Operating Income	(1,066)		

390

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
SUMMARY OF ASSIGNED GRADE MIX

GRADE DESCRIPTION	1984 Actual	1985 Budget	1985 Days	Prime Tons per/day
Angelcote	6,005	8,000	31.50	254
Angelite	45,761	44,900	171.80	261
A.B. 50	2,819	8,600	45.32	190
A.B. 70	1,142	8,300	44.97	185
Core Stock	6,576	7,200	38.86	185
Top Liner	668	2,000	11.20	179
Chip	3,334	2,000	10.35	193
Total Primary	66,305	81,000	354.00	229
Odd Lot	7,458	6,750	--	19
Ribbons/Side Rolls	3,399	3,130	--	9
TOTAL	77,162	90,880	354.00	257

CMS

P1

Schedule 7

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
SUMMARY MATERIAL COST 1984-1985

	1984	1985
Tons Coated	64,070	81,104
Tons Uncoated	13,092	9,776
Total Tons	77,162	90,880
Paperstock	7,343	10,395
C.P.T. - Total Tons	95.16	114.38
Clay Material	2,490	3,081
C.P.T. - Coated Tons	38.86	37.98
Other Material	235	205
C.P.T. - Total Tons	3.04	2.25
TOTAL MATERIAL COST	10,068	13,681
C.P.T. - Total Tons	130.48	150.54

KRAFT/RECYCLED FIBER DIVISION
ANGELL MILL
MATERIAL COMPARISON 1984 Est. vs. 1985 BUDGET

ITEM	UNITS 1984 ACTUAL	UNITS 1985 BUDGET	UNIT PRICE 1984 ACTUAL	UNIT PRICE 1985 BUDGET	TOTAL DOLLARS 1984 ACTUAL	TOTAL DOLLARS 1985 BUDGET	TOTAL VARIABLE	VOLUME	UNIT PRICE	UNITS/ TON USAGE
PAPER STOCK										
Soft Whites	642	2,650	217.50	248.00	140	657	(517)	(23)	(81)	(413)
Ton/Ton of Production	.0083	.0292								
News Blanks	1,356	2,949	143.25	167.00	194	492	(298)	(34)	(70)	(194)
Ton/Ton of Production	.0176	.0325								
Computer Printout	8,567	10,138	176.00	208.00	1,508	2,109	(601)	(267)	(324)	(10)
Ton/Ton of Production	.1110	.1116								
Double Line Kraft	6,283	7,619	94.50	101.00	594	769	(175)	(105)	(49)	(21)
Ton/Ton of Production	.0814	.0838								
Regular News	20,508	23,845	61.35	65.00	1,258	1,550	(292)	(225)	(87)	20
Ton/Ton of Production	.2658	.2624								
Boxboard Cuttings	18,702	22,026	60.20	65.00	1,126	1,432	(306)	(200)	(106)	--
Ton/Ton of Production	.2424	.2424								
Manifold White Ledger	6,636	7,382	161.20	175.00	1,070	1,292	(222)	(189)	(102)	69
Ton/Ton of Production	.0860	.0813								
Bleached Kraft Cuttings	342	791	278.00	352.50	95	279	(184)	(16)	(59)	(109)
Ton/Ton of Production	.0044	.0087								
O.I. News	5,130	2,480	69.10	74.00	354	184	170	(64)	(12)	246
Ton/Ton of Production	.0665	.0273								
Lightly Printed Bleached Kr. Cutt.	2,268	3,211	190.45	228.00	432	732	(300)	(77)	(121)	(102)
Ton/Ton of Production	.0294	.0353								
All Other	3,477	3,978	164.50	225.00	572	899	(327)	(107)	(240)	20
Ton/Ton of Production	.0451	.0438								
TOTAL PAPER STOCK	73,911	87,069	99.35	119.39	7,343	10,395	(3052)	(1307)	(1251)	(494)
	.9579	.9656								
Clay (lbs.)	7,142,000	7,558,000	.065	.068	464	519	(55)	(124)	(27)	96
lbs/Ton of Clay Production	111.47	93.19								
Latex (lbs.)	1,392,000	1,526,000	.72	.73	1002	1114	(112)	(267)	(15)	170
lbs/Ton of Latex Production	21.72	18.81								
Protein (lbs.)	284,000	442,000	.82	.87	233	384	(151)	(60)	(22)	(69)
lbs/Ton of Protein Production	4.43	5.45								

Schedule 8

TIO_2 (lbs.)	850,000	1,180,000	.60	.645	510	761	(251)	(136)	(53)	(62)
lbs/Ton of TIO_2 Production	13.27	14.55								
Misc. Clay Materials (lbs.)	326,000	382,000	.86	.79	281	303	(22)	(74)	26	26
lbs/Ton of Misc. Clay Production	5.09	4.71								
TOTAL CLAY (lbs.)	9,994,000	11,088,000	.249	.277	2,490	3,081	(591)	(661)	(91)	161
lbs/Production	155.98	136.71								
Calender Treatments	---	---			235	205	30	30	--	--
TOTAL RAW MATERIALS TONS	78,908	92,613	127.59	146.63	10,068	13,681	(3,613)	(1,938)	(1,342)	(333)
PRODUCTION TONS	77,162	90,880								
YIELD	1.023	1.019								

KRAFT/RECYCLED FIBER
ANGELL MILL
ENERGY REQUIREMENTS
1984-1985

	UNITS	UNITS TON	MBTU TON	TOTAL COST	$ UNIT	$ MBTU	$ TON
1984 ACTUAL							
Production Tons	78,127						
Power Plant Gas-MBTU's	756,036	9.68	9.68	3,170	4.19	4.19	40.57
Dryer Gas -MBTU's	98,728	1.26	1.26	539	5.46	5.46	6.90
Purchased Power-MKWH	32,501	.42	1.41	1,669	51.35	15.10	21.36
1984 TOTAL			12.35	5,378		24.75	68.83
1985 BUDGET							
Production Tons	90,880						
Power Plant Gas-MBTU's	792,150	8.72	8.72	3,518	4.44	4.44	38.71
Dryer Gas-MBTU's	104,425	1.15	1.15	605	5.79	5.79	6.66
Purchased Power-MBTU's	34,692	.38	1.29	2,081	57.00	17.64	22.89
1985 TOTAL			11.16	6,204		27.87	68.26

Schedule 11

QUESTION 12

Mead

Central Research
8th & Hickory Streets
Chillicothe, Ohio 45601

Telephone: 614-772-3503

January 5, 1984

To: M. L. Knapp
Otsego

From: W. L. Lapp

Re: Renewal NPDES Permit - Response to States December 7, 1983 Letter

Attached is a letter to be retyped on Otsego Mill letterhead and sent to the State in response to their questions.

For your information the Mills production rate of 244 TPD is calculated for the calendar year 1983 based on information obtained from you and Fred Ford, as follows:

301.5 days	machine on line
65,097 tons	net machine
10.33%	shrinkage
72,596 tons	gross machine
902 tons	poly. and adhesive used
73,498 tons	gross production
244 TPD	1983 annual production

Based on this production rate and using federal BPT (Best Practicable Treatment) effluent limitations, your permit limitations for BOD and TSS could be more than double your current permit limitations. However, since the Mill is located on a water quality limited stream, I would expect that the renewal permit will contain the same limitations as your current permit for BOD and TSS. It should be noted that the U.S.EPA is expected to publish late this month BCT (Best Conventional Treatment) limitations for our industry. How these will impact the new permit can not yet be determined, but I suspect that they will be less stringent than the Mills current permit, and therefore will probably not be of concern.

As long as the Mill does not use chlorophenol based slimicides there will not be any effluent limitations on penta and trichlorophenols. The letter to the State certifies that the Mill does not use and does not plan on using chlorophenol slimicides, which will eliminate any limitations and the associated analytical costs in the future permit.

As we have discussed previously, there is a possibily that the State will place effluent limitations on ammonia and phosphate, because of the relative high concentrations found during past State sampling and compliance inspection surveys. Therefore, we may have to fine tune our method of addition of nutrients to the waste plant.

RT 100763

Please keep us advised of any correspondence from the DNR on this issue, so that we can adequately respond to any proposed permit conditions which are overly stringent.

If you have any questions, please call.

W. L. Lapp

WLL/jw

cc: Les White
File: AW-11.3W

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

December 7, 1983

Mead Paperboard Products
P. O. Box 187
431 Helen Street
Otsego, Michigan 49078

Attn: Mr. M. L. Knapp
Manager of Utilities

Re: Reissuance of NPDES Permit No. MI0000787

Gentlemen:

Our Unit is in the process of developing EPA categorical limits for the surface water discharge from your facility. We request that you provide us the following information:

1. From the information submitted in the permit application we have determined the discharge to be regulated by 40 CFR 430, Subpart E Paperboard from Wastepaper subcategory. However, the BPT limits are given for two types of mills.

   a. Noncorrugating medium furnish subdivision mills (40 CFR 430.51b).

   b. Corrugating medium furnish subdivision mills (40 CFR 430.51c).

   We need to know which one of the above subdivisions your mill belongs to.

2. We request that you provide us the average annual production rate (tons/day) of your mill. The production rate provided in the application form 2C was the maximum capacity which we cannot use to determine the limits. You could determine the production rate based on the best year for a time period of the past five years.

   If the mill plans to increase the production significantly because of installation of new machines, etc., from the present production rate during the next five years (duration of the reissued permit), you could also provide us that information which would be taken into consideration when developing the limits.

RT 100765

Attached to this letter is the definition of production according to 40 CFR 430.01(a).

3. Does your mill use chlorophenolic containing biocides? If it does, it has to meet BAT limits. If not, please certify that the mill is not using chlorophenolic containing biocides (40 CFR 430.54).

If you have any questions regarding this letter, please contact me.

Sincerely,

Asad Quraishi

Asad Quraishi, P.E.
Permits Section
Surface Water Quality Division
517-373-8088

Attachment

cc: Les Thomas

Form Approved
OMB No. 2000 0014
Approval Expires 3/31/85

EPA U.S. ENVIRONMENTAL PROTECTION AGENCY

NPDES LABORATORY PERFORMANCE EVALUATION

(This data is collected under the authority of the Federal Water Pollution Control Act.)

STUDY NO.	PERMIT NUMBER	CARD NO
0 3	MI0000787	1
1 2 3	4 5 6 7 8 9 10 11 12	14

CURRENT PERMITTEE ADDRESS LABEL

MI0000787 3
Mead Corporation
Environmental Coordinator
Paperboard Products Div-431 Helen St.
Otsego, MI 49078

ENTER PERMITTEE NAME AS DESIRED FOR REPORT HEADING: MEAD CORPORATION

LABORATORY 1

NAME	ADDRESS	PARAMETERS	MULTIPLE PERMIT OPTION EXERCISED
Mead Paperboard Products	431 Helen, Otsego, Mi 49078		☐ YES ☒ NO

MARK 'X' FOR TYPE OF LABORATORY
☐ FEDERAL ☐ STATE ☐ LOCAL GOVT. ☐ INDUSTRIAL ☐ COMMERCIAL ☐ OTHER

LABORATORY 2 *(if any)*

NAME	ADDRESS	PARAMETERS	MULTIPLE PERMIT OPTION EXERCISED
			☐ YES ☐ NO

MARK 'X' FOR TYPE OF LABORATORY
☐ FEDERAL ☐ STATE ☐ LOCAL GOVT ☒ INDUSTRIAL ☐ COMMERCIAL ☐ OTHER

The MULTIPLE PERMIT OPTION was used and the following data resulted from analyzing the samples mailed to ANOTHER PERMIT NUMBER *(specify)*

CERTIFICATION

(By permit holder or authorized representative as per 40 CFR Part 122 See instructions)

For Study Number Two, conducted in May thru August 1982, the permittee listed below

	YES	NO		YES	NO		YES	NO
Received Samples	X		Submitted Data	X		Received a Report in Response	X	
	71	72		74	75		77	78

PERMITTEE NAME AND ADDRESS *(street no , city, state, & zip code, if different from label above)*	TELEPHONE NUMBER
	616-692-6211

I the undersigned, certify under penalty of law that I have personally examined and am familiar with the information submitted in this and the attached document, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME OF CERTIFYING OFFICIAL *(type or print)*	SIGNATURE	DATE SIGNED
Michael L. Knapp	Michael L. Knapp	6/11/83

CONTINUE ON PAGE 2

RT 100767

Mead

Central Research
8th & Hickory Streets
Chillicothe, Ohio 45601

Telephone: 614-772-3503

To: M. L. Knapp
L. R. White
Otsego

January 12, 1984

From: W. L. Lapp

Re: Mill's NPDES Renewal

Attached is a second copy of my letter of January 5 and a draft letter to be retyped and sent to the State DNR relative to renewal of the mill's effluent permit.

W. L. Lapp

WLL/cg

cc: File: AW-11.3W

Attachment.

RT 100757

Otsego Water AW-M.3W

Mead

Central Research
8th & Hickory Streets
Chillicothe, Ohio 45601

Telephone. 614-772-3503

January 5, 1984

To: M. L. Knapp
Otsego

From: W. L. Lapp

Re: Renewal NPDES Permit - Response to States December 7, 1983 Letter

Attached is a letter to be retyped on Otsego Mill letterhead and sent to the State in response to their questions.

For your information the Mills production rate of 244 TPD is calculated for the calendar year 1983 based on information obtained from you and Fred Ford, as follows:

301.5 days	machine on line
65,097 tons	net machine
10.33%	shrinkage
72,596 tons	gross machine
902 tons	poly. and adhesive used
73,498 tons	gross production
244 TPD	1983 annual production

Based on this production rate and using federal BPT (Best Practicable Treatment) effluent limitations, your permit limitations for BOD and TSS could be more than double your current permit limitations. However, since the Mill is located on a water quality limited stream, I would expect that the renewal permit will contain the same limitations as your current permit for BOD and TSS. It should be noted that the U.S.EPA is expected to publish late this month BCT (Best Conventional Treatment) limitations for our industry. How these will impact the new permit can not yet be determined, but I suspect that they will be less stringent than the Mills current permit, and therefore will probably not be of concern.

As long as the Mill does not use chlorophenol based slimicides there will not be any effluent limitations on penta and trichlorophenols. The letter to the State certifies that the Mill does not use and does not plan on using chlorophenol slimicides, which will eliminate any limitations and the associated analytical costs in the future permit.

As we have discussed previously, there is a possibily that the State will place effluent limitations on ammonia and phosphate, because of the relative high concentrations found during past State sampling and compliance inspection surveys. Therefore, we may have to fine tune our method of addition of nutrients to the waste plant.

Please keep us advised of any correspondence from the DNR on this issue, so that we can adequately respond to any proposed permit conditions which are overly stringent.

If you have any questions, please call.

W. L. Lapp

WLL/jw

cc: Les White
File: AW-11.3W

DRAFT

TYPE ON OTSEGO LETTERHEAD.

Mr. Asad Quraishi, P.E.
Permits Section
Surface Water Quality Division
Dept. of Natural Resources
Stevens T. Mason Building
P.O. Box 30038
Lansing, Michigan 48909

Dear Mr. Quraishi:

This is in response to your December 7, 1983, letter relative to renewal of the Mead Paperboard Products, Otsego, Michigan mill's NPDES permit No. MI0000787.

The Otsego Mill produces paperboard from waste paper utilizing a corrugating medium furnish as defined in 40 C.F.R. 430.51(c).

The mill's annual average production rate for the calendar year 1983 was 244 tons/day, calculated in accordance with 40 C.F.R. 430.01(a). This is the production rate which should be used to calculate the effluent limitations.

In addition, this letter will serve to certify, as required by 40. C.F.R. 430.54, that the Otsego, Michigan mill of Mead Paperboard Products is not using and has no intention of using chlorophenolic-containing biocides. Having made this certification, we believe that there are no federal categorical BAT standards which apply to the Mead Paperboard Products, Otsego, Michigan mill.

If there are any questions, please call our Mr. Mike L. Knapp, Manager of Utilities.

Sincerely,

L. R. White
(Title)

cc: M. L. Knapp
W. L. Lapp

Mead

P O Box 187
Otsego Michigan 49078

Telephone 616-692-6211

January 12, 1984

Mr. Asad Quraishi, PE
Permits Section
Surface Water Quality Division
Department of Natural Resources
Stevens T. Mason Building
PO Box 30028
Lansing, Michigan 48908

Dear Mr. Quraishi:

This letter is in response to the questions raised in your December 7, 1983 letter to our Mr. M. L. Knapp relative to reissuance of NPDES Permit No. MI0000787.

Mead Paperboard Products at Otsego, Michigan falls within the "Paperboard from Wastepaper Subcategory" producing paperboard utilizing a "corrugating medium furnish" as described in 40C.F.R. 430.51c.

The Mill's annual average production rate for the calendar year 1983 was 244 tons/day, and is the production rate which should be used in calculating discharge effluent limits.

This letter will also serve to certify, as required by 40 C.F.R. 430.54, that Mead Paperboard Products is not using and has no intention of using chlorophenolic containing brocides. Having made this certification to the agency, we believe that there are no federal categorical BAT effluent standards which apply to the Mead Paperboard Products discharge.

If there are any questions, please call our Mike Knapp, Manager of Utilities.

Sincerely,

Les White

Les White
Mill Manager

cc:. W. L. Lapp
M. L. Knapp

RT 100762

STAFF

CHAMPION INTERNATIONAL - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 6/30/85

RUN 9:55:17 7/05/85

		ACTUAL AMOUNT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE PER TON
010	GROSS TRADE SALES	2,328	360	3,496	389	1,168-	29-
011	TRADE FREIGHT	75	12	188	21	113	9
012	SALES DISCOUNT	12	2	12	1		1-
013	RETURNS	9	1			9-	1-
014	CLAIMS	20	3	21	2	1	1-
	NET TRADE SALES	2,212	342	3,275	364	1,063-	22-
020	GROSS I/C SALES	51	351			51	351
021	I/C FREIGHT	3	21			3-	21-
023	RETURNS						
024	CLAIMS						
	NET I/C SALES	48	331			48	331
	TOTAL NET SALES	2,260	342	3,275	364	1,015-	22-
	MATERIALS:						
040	PAPER USAGE STD	728	92	1,077	120	349	28
041	BEATER ROLL - SALES	9-	1-			9	1
042	PURCHASE PRICE VARIANCE	223-	28-			223	28
	TOTAL PAPER STOCK	496	63	1,077	120	581	57
050	CLAY USAGE STD	296	37	305	34	9	3-
055	PURCHASE PRICE VARIANCE	20-	3-			20	3
057	OTHER	22	3	20	2	2-	1-
	TOTAL OTHER CHEMICALS	298	38	325	36	27	2-
	CONVERSION COST:						
	FIXED:						
110	SALARIES	76	10	80	9	4	1-
111	PAYROLL TAXES	5	1	6	1	1	
112	VACATION & HOLIDAYS	46	6	47	5	1	1-
113	DEPRECIATION	65	8	80	9	15	1
114	PROPERTY INSURANCE	17	2	8	1	9-	1-
115	PROPERTY TAXES	29	4	34	4	5	
116	LEASE CHARGES	9	1	5	1	4-	
117	GROUP INS & PENSION	58	7	48	5	10-	2-
	TOTAL FIXED	305	39	308	34	3	5-
	SEMI-VARIABLE:						
210	REPAIR LABOR	92	12	85	9	7-	3-
211	PAYROLL TAXES	21	3	14	2	7-	1-
212	REPAIR MATERIAL	116	15	62	7	54-	8-
213	SHUTDOWN EXPENSE			13	1	13	1
214	MACHINE CLOTHING	35	4	28	3	7-	1-
215	EFFLUENT TREATMENT	45	6	56	6	11	
216	OTHER IN/OUT	5-	1-	17-	2-	12-	1-
	TOTAL SEMI-VARIABLE	304	38	241	27	63-	11-
	VARIABLE:						
310	DIRECT LABOR	210	27	227	25	17	2-
312	INDIRECT LABOR	54	7	62	7	8	
313	PAYROLL TAXES	46	6	47	5	1	1-
314	FUEL	288	36	377	42	89	6
315	ELECTRICTIY	150	19	206	23	56	4
316	WATER	1		3		2	
317	CONVERTING SUPPLIES	162	21	164	18	2	3-
318	OTHER	30	4	14	2	16-	2-
319							
	TOTAL VARIABLE	941	119	1,100	122	159	3
	TOTAL CONVERSION	1,550	196	1,649	183	99	13-
	TOTAL COST TO MFR	2,344	296	3,051	340	707	44-
401	FINISHED GOODS INV CHG	322-				322	
	TOTAL INV CHANGE	322-	41-			322	41
	COST OF SALES	2,022	306	3,051	340	1,029	34-
	GROSS PROFIT	238	36	224	25	14	11
	S & A EXPENSES:						
551	SELLING	19	3	41	5	22	2
552	MILL ADMINISTRATIVE	58	9	63	7	5	2-
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING						
	TOTAL S & A	77	12	104	12	27	
	NET OPERATING INCOME	161	24	120	13	41	11
902	TRADE TONS SHIPPED	6,470		8,985		2,515-	
903	I/C TONS SHIPPED	145				145	
904	TOTAL TONS SHIPPED	6,615		8,985		2,370-	
906	TONS PRODUCED	7,910		8,985		1,075-	
908	DAYS OPERATED	29		35		6-	

STAFF

ST. REGIS CORPORATION - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 2/23/85

RUN 8:44:01 2/27/85 M

		ACTUAL		BUDGET		VARIANCE	
		AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
010	GROSS TRADE SALES	2,507	363	2,796	389	289-	26-
011	TRADE FREIGHT	82	12	151	21	69	9
012	SALES DISCOUNT	12	2	9	1	3-	1-
013	RETURNS	10	1			10-	1-
014	CLAIMS	19	3	16	2	3-	1-
	NET TRADE SALES	2,384	346	2,620	364	236-	18-
020	GROSS I/C SALES						
021	I/C FREIGHT						
023	RETURNS						
024	CLAIMS						
	NET I/C SALES						
	TOTAL NET SALES	2,384	346	2,620	364	236-	18-
	MATERIALS:						
040	PAPER USAGE STD	684	101	785	109	101	8
041	BEATER ROLL - SALES						
042	PURCHASE PRICE VARIANCE	116-	17-			116	17
	TOTAL PAPER STOCK	568	84	785	109	217	25
050	CLAY USAGE STD	262	39	244	34	18-	5-
055	PURCHASE PRICE VARIANCE	14-	2-			14	2
057	OTHER	12	2	16	2	4	
	TOTAL OTHER CHEMICALS	260	38	260	36		2-
	CONVERSION COST:						
	FIXED:						
110	SALARIES	59	9	64	9	5	
111	PAYROLL TAXES	9	1	6	1	3-	
112	VACATION & HOLIDAYS	39	6	39	5		1-
113	DEPRECIATION	62	9	65	9	3	
114	PROPERTY INSURANCE	6	1	7	1	1	
115	PROPERTY TAXES	27	4	27	4		
116	LEASE CHARGES	7	1	4	1	3-	
117	GROUP INS & PENSION	34	5	48	7	14	2
	TOTAL FIXED	243	36	260	36	17	
	SEMI-VARIABLE:						
210	REPAIR LABOR	92	14	68	9	24-	5-
211	PAYROLL TAXES	23	3	11	2	12-	1-
212	REPAIR MATERIAL	74	11	48	7	26-	4-
213	SHUTDOWN EXPENSE	10	2	10	1		1-
214	MACHINE CLOTHING	24	4	22	3	2-	1-
215	EFFLUENT TREATMENT	2		55	8	53	8
216	OTHER IN/OUT	22-	3-	14-	2-	8	1
	TOTAL SEMI-VARIABLE	203	30	200	28	3-	2-
	VARIABLE:						
310	DIRECT LABOR	190	28	181	25	9-	3-
312	INDIRECT LABOR	52	8	49	7	3-	1-
313	PAYROLL TAXES	53	8	37	5	16-	3-
314	FUEL	347	51	357	50	10	1-
315	ELECTRICTIY	127	19	165	23	38	4
316	WATER	2		4	1	2	1
317	CONVERTING SUPPLIES	137	20	131	18	6-	2-
318	OTHER	26	4	13	2	13-	2-
319							
	TOTAL VARIABLE	934	138	937	130	3	8-
	TOTAL CONVERSION	1,380	204	1,397	194	17	10-
	TOTAL COST TO MFR	2,208	325	2,442	340	234	15-
401	FINISHED GOODS INV CHG	60				60-	
	TOTAL INV CHANGE	60	9			60-	9-
	COST OF SALES	2,268	329	2,442	340	174	11-
	GROSS PROFIT	116	17	178	25	62-	8-
	S & A EXPENSES:						
551	SELLING	21	3	32	4	11	1
552	MILL ADMINISTRATIVE	52	8	51	7	1-	1-
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING						
	TOTAL S & A	73	11	83	12	10	1
	NET OPERATING INCOME	43	6	95	13	52-	7-
902	TRADE TONS SHIPPED	6,900		7,188		288-	
903	I/C TONS SHIPPED						
904	TOTAL TONS SHIPPED	6,900		7,188		288-	
906	TONS PRODUCED	6,789		7,188		399-	
908	DAYS OPERATED	28		28			

(1)

WALDORF CORPORATION
ANGELL MILL
PERIOD: DECEMBER 89

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	7612		9322		-1710	
TONS MADE	6949		8543		-1594	
DAYS	23.67		27		-3	
GROSS SALES	$3,637	$477.86	$4,175	$447.92	($538)	29.94
ALLOWANCES	25	3.28	24	2.57	-1	-0.71
DISCOUNTS	25	3.26	20	2.15	-5	-1.11
FREIGHT	99	13.03	108	11.63	9	-1.40
NET SALES	3488	458.28	4023	431.57	-535	26.72
PAPER STOCK	580	83.46	821	96.04	241	12.58
CLAY	316	45.52	328	38.43	12	-7.09
OTHER	29	4.19	38	4.47	9	0.29
TOTAL MATERIAL	925	133.17	1187	138.95	262	5.78
DIRECT LABOR	229	33.00	274	32.07	45	-0.92
REPAIRS	376	54.15	374	43.75	-3	-10.40
POWER & STEAM	401	57.74	475	55.63	74	-2.11
WATER & SEWER	55	7.95	54	6.37	-1	-1.58
FELTS & WIRES	40	5.76	40	4.68	0	-1.07
OPERATING SUPPLIES	15	2.11	23	2.68	8	0.57
JIPPING SUPPLIES	14	2.02	8	0.98	-6	-1.04
WATER TREATMENT	87	12.46	86	10.07	-1	-2.39
HRLY PAY TAXES/BEN	40	5.73	90	10.51	50	4.79
SPOTTING	6	0.90	5	0.63	-1	-0.27
ALL OTHER	9	1.33	4	0.44	-5	-0.89
SKIDS	5	0.77	15	1.73	9	0.96
CORES	18	2.57	19	2.17	1	-0.41
TOTAL VARIABLE	1296	186.49	1467	171.72	171	-14.77
WORKERS COMP	9	1.27	9	1.04	0	-0.24
SALARIES	121	17.48	115	13.45	-7	-4.03
SAL PAY TAXES/BEN	23	3.37	23	2.71	0	-0.66
DEPRECIATION	55	7.98	60	7.02	5	-0.96
PROPERTY TAXES	25	3.60	25	2.93	0	-0.67
PROPERTY INSURANCE	13	1.93	13	1.57	0	-0.36
ALL OTHER	52	7.50	66	7.73	14	0.24
TOTAL FIXED	300	43.13	311	36.45	12	-6.68
INVENTORY CHANGE	211	27.72	228	24.46	17	-3.26
COST OF SALES	2732	358.91	3193	342.57	461	-16.34
GROSS PROFIT	756	99.37	830	89.00	-73	10.38
LOCAL ADMIN	21	2.78	26	2.75	4	-0.03
ALLOCATIONS	86	11.32	108	11.60	22	0.28
THER	-15	-1.98	-7	-0.75	8	1.23
EBIT	$664	$87.25	$703	$75.40	($39)	11.85

WALDORF CORPORATION
ANGELL MILL
PERIOD: NOVEMBER 89

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	8387		9337		-950	
TONS MADE	8480		9491		-1011	
DAYS	30		30		0	
GROSS SALES	$3,975	$473.96	$4,184	$448.13	($209)	25.83
ALLOWANCES	25	2.98	25	2.68	0	-0.30
DISCOUNTS	23	2.80	20	2.14	-3	-0.66
FREIGHT	122	14.50	108	11.61	-13	-2.89
NET SALES	3805	453.68	4031	431.70	-226	21.98
PAPER STOCK	640	75.47	913	96.14	272	20.67
CLAY	368	43.42	365	38.47	-3	-4.95
OTHER	35	4.15	42	4.46	7	0.31
TOTAL MATERIAL	1043	123.04	1320	139.07	277	16.03
DIRECT LABOR	268	31.56	265	27.87	-3	-3.68
REPAIRS	317	37.37	369	38.86	52	1.49
POWER & STEAM	464	54.69	490	51.62	26	-3.08
WATER & SEWER	55	6.43	54	5.67	-1	-0.76
BELTS & WIRES	40	4.72	40	4.21	0	-0.50
OPERATING SUPPLIES	11	1.31	23	2.41	12	1.10
SHIPPING SUPPLIES	11	1.31	8	0.89	-3	-0.42
WATER TREATMENT	68	8.04	98	10.33	30	2.29
HRLY PAY TAXES/BEN	90	10.59	90	9.46	0	-1.13
SPOTTING	9	1.08	5	0.56	-4	-0.52
ALL OTHER	3	0.34	4	0.37	1	0.03
SKIDS	18	2.15	15	1.56	-3	-0.59
CORES	15	1.77	19	1.95	3	0.18
TOTAL VARIABLE	1368	161.35	1478	155.76	110	-5.59
WORKERS COMP	9	1.04	9	0.93	0	-0.11
SALARIES	114	13.50	115	12.11	0	-1.39
SAL PAY TAXES/BEN	23	2.73	23	2.44	0	-0.29
DEPRECIATION	56	6.59	60	6.32	4	-0.26
PROPERTY TAXES	25	2.95	25	2.63	0	-0.31
PROPERTY INSURANCE	13	1.58	13	1.41	0	-0.17
ALL OTHER	61	7.14	66	6.96	6	-0.18
TOTAL FIXED	301	35.53	311	32.81	10	-2.72
INVENTORY CHANGE	61	7.27	-32	-3.43	-93	-10.70
COST OF SALES	2774	330.74	3078	329.61	304	-1.13
GROSS PROFIT	1031	122.94	953	102.08	78	20.85
LOCAL ADMIN	-35	-4.21	26	2.74	61	6.96
ALLOCATIONS	91	10.81	108	11.58	17	0.77
OTHER	0	0.01	-7	-0.75	-7	-0.76
EBIT	$976	$116.33	$826	$88.51	$149	27.82

WALDORF CORPORATION
ANGELL MILL
OCTOBER 89

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	9902		9342		560	
TONS MADE	9647		9809		-162	
DAYS	31		31		0	
GROSS SALES	4631	467.68	4187	448.19	444	19.49
ALLOWANCES	25	2.52	25	2.68	0	0.15
DISCOUNTS	24	2.42	20	2.14	-4	-0.28
FREIGHT	109	11.01	108	11.56	-1	0.55
NET SALES	4473	451.73	4034	431.81	439	19.91
PAPER STOCK	838	86.87	945	96.34	107	9.47
CLAY	405	41.98	377	38.43	-28	-3.55
OTHER	13	1.35	44	4.49	31	3.14
TOTAL MATERIAL	1256	130.20	1366	139.26	110	9.06
DIRECT LABOR	249	25.81	254	25.89	5	0.08
REPAIRS	342	35.45	362	36.90	20	1.45
POWER & STEAM	467	48.41	479	48.83	12	0.42
WATER & SEWER	88	9.12	54	5.51	-34	-3.62
FELTS & WIRES	40	4.15	40	4.08	0	-0.07
OPERATING SUPPLIES	19	1.97	23	2.34	4	0.38
SHIPPING SUPPLIES	8	0.83	8	0.82	0	-0.01
WATER TREATMENT	90	9.33	101	10.30	11	0.97
HRLY PAY TAXES/BEN	90	9.33	90	9.18	0	-0.15
SPOTTING	12	1.24	5	0.51	-7	-0.73
ALL OTHER	-2	-0.21	3	0.31	5	0.51
SKIDS	19	1.97	15	1.53	-4	-0.44
CORES	22	2.28	19	1.94	-3	-0.34
TOTAL VARIABLE	1444	149.68	1453	148.13	9	-1.55
WORKERS COMP	9	0.93	9	0.92	0	-0.02
SALARIES	114	11.82	115	11.72	1	-0.09
SAL PAY TAXES/BEN	23	2.38	23	2.34	0	-0.04
DEPRECIATION	55	5.70	60	6.12	5	0.42
PROPERTY TAXES	28	2.90	25	2.55	-3	-0.35
PROPERTY INSURANCE	13	1.35	13	1.33	0	-0.02
ALL OTHER	123	12.75	66	6.73	-57	-6.02
TOTAL FIXED	365	37.84	311	31.71	-54	-6.13
INVENTORY CHANGE	81	8.18	-139	-14.88	-220	-23.06
COST OF SALES	3146	317.71	2991	320.17	-155	2.45
GROSS PROFIT	1327	134.01	1043	111.65	284	22.37
LOCAL ADMIN	25	2.52	26	2.78	1	0.26
ALLOCATIONS	86	8.69	108	11.56	22	2.88
OTHER	25	2.52	-8	-0.86	-33	-3.38
EBIT	1191	120.28	917	98.16	274	22.12

WALDORF CORPORATION
ANGELL MILL
SEPTEMBER 89

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	8774		9337		-563	
TONS MADE	9453		9503		-50	
DAYS	30		30		0	
GROSS SALES	3939	448.94	4404	471.67	-465	-22.73
ALLOWANCES	25	2.85	25	2.68	0	-0.17
DISCOUNTS	22	2.51	20	2.14	-2	-0.37
FREIGHT	84	9.57	108	11.57	24	1.99
NET SALES	3808	434.01	4251	455.29	-443	-21.28
PAPER STOCK	800	84.63	914	96.18	114	11.55
CLAY	406	42.95	363	38.20	-43	-4.75
OTHER	25	2.64	42	4.42	17	1.77
TOTAL MATERIAL	1231	130.22	1319	138.80	88	8.58
DIRECT LABOR	254	26.87	255	26.83	1	-0.04
REPAIRS	328	34.70	363	38.20	35	3.50
POWER & STEAM	461	48.77	447	47.04	-14	-1.73
WATER & SEWER	73	7.72	54	5.68	-19	-2.04
FELTS & WIRES	40	4.23	40	4.21	0	-0.02
OPERATING SUPPLIES	28	2.96	23	2.42	-5	-0.54
SHIPPING SUPPLIES	2	0.21	8	0.84	6	0.63
WATER TREATMENT	74	7.83	98	10.31	24	2.48
HRLY PAY TAXES/BEN	90	9.52	90	9.47	0	-0.05
SPOTTING	5	0.53	5	0.53	0	0.00
ALL OTHER	9	0.95	3	0.32	-6	-0.64
SKIDS	10	1.06	15	1.58	5	0.52
CORES	23	2.43	19	2.00	-4	-0.43
TOTAL VARIABLE	1397	147.78	1420	149.43	23	1.64
WORKERS COMP	9	0.95	9	0.95	0	-0.01
SALARIES	116	12.27	115	12.10	-1	-0.17
SAL PAY TAXES/BEN	23	2.43	23	2.42	0	-0.01
DEPRECIATION	55	5.82	60	6.31	5	0.50
PROPERTY TAXES	25	2.64	25	2.63	0	-0.01
PROPERTY INSURANCE	13	1.38	13	1.37	0	-0.01
ALL OTHER	60	6.35	66	6.95	6	0.60
TOTAL FIXED	301	31.84	311	32.73	10	0.88
INVENTORY CHANGE	-192	-21.88	-32	-3.43	160	18.46
COST OF SALES	2737	311.94	3018	323.23	281	11.29
GROSS PROFIT	1071	122.07	1233	132.06	-162	-9.99
LOCAL ADMIN	19	2.17	26	2.78	7	0.62
ALLOCATIONS	86	9.80	108	11.57	22	1.77
OTHER	8	0.91	-8	-0.86	-16	-1.77
EBIT	958	109.19	1107	118.56	-149	-9.37

WALDORF CORPORATION
ANGELL MILL
AUGUST 89

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	10122		9342		780	
TONS MADE	9473		9809		-336	
DAYS	31		31		0	
GROSS SALES	4653	459.69	4407	471.74	246	-12.05
ALLOWANCES	25	2.47	25	2.68	0	0.21
DISCOUNTS	24	2.37	20	2.14	-4	-0.23
FREIGHT	109	10.77	108	11.56	-1	0.79
NET SALES	4495	444.08	4254	455.36	241	-11.28
PAPER STOCK	840	88.67	946	96.44	106	7.77
CLAY	379	40.01	374	38.13	-5	-1.88
OTHER	37	3.91	44	4.49	7	0.58
TOTAL MATERIAL	1256	132.59	1364	139.06	108	6.47
DIRECT LABOR	277	29.24	248	25.28	-29	-3.96
REPAIRS	294	31.04	356	36.29	62	5.26
POWER & STEAM	447	47.19	430	43.84	-17	-3.35
WATER & SEWER	61	6.44	54	5.51	-7	-0.93
FELTS & WIRES	40	4.22	40	4.08	0	-0.14
OPERATING SUPPLIES	24	2.53	23	2.34	-1	-0.19
SHIPPING SUPPLIES	4	0.42	8	0.82	4	0.39
WATER TREATMENT	109	11.51	101	10.30	-8	-1.21
HRLY PAY TAXES/BEN	90	9.50	90	9.18	0	-0.33
SPOTTING	6	0.63	5	0.51	-1	-0.12
ALL OTHER	17	1.79	2	0.20	-15	-1.59
SKIDS	13	1.37	15	1.53	2	0.16
CORES	15	1.58	19	1.94	4	0.35
TOTAL VARIABLE	1397	147.47	1391	141.81	-6	-5.66
WORKERS COMP	9	0.95	9	0.92	0	-0.03
SALARIES	117	12.35	115	11.72	-2	-0.63
SAL PAY TAXES/BEN	23	2.43	23	2.34	0	-0.08
DEPRECIATION	55	5.81	60	6.12	5	0.31
PROPERTY TAXES	25	2.64	25	2.55	0	-0.09
PROPERTY INSURANCE	13	1.37	13	1.33	0	-0.05
ALL OTHER	52	5.49	66	6.73	14	1.24
TOTAL FIXED	294	31.04	311	31.71	17	0.67
INVENTORY CHANGE	187	18.47	-139	-14.88	-326	-33.35
COST OF SALES	3134	309.62	2927	313.32	-207	3.69
GROSS PROFIT	1361	134.46	1327	142.05	34	-7.59
LOCAL ADMIN	22	2.17	26	2.78	4	0.61
ALLOCATIONS	86	8.50	108	11.56	22	3.06
OTHER	10	0.99	-7	-0.75	-17	-1.74
EBIT	1243	122.80	1200	128.45	43	-5.65

WALDORF CORPORATION
ANGELL MILL
JULY 89 ACTUAL

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	8944		9342		-398	
TONS MADE	10059		9809		250	
DAYS	31		31		0	
GROSS SALES	4097	458.07	4407	471.74	-310	-13.67
ALLOWANCES	25	2.80	25	2.68	0	-0.12
DISCOUNTS	24	2.68	20	2.14	-4	-0.54
FREIGHT	100	11.18	108	11.56	8	0.38
NET SALES	3948	441.41	4254	455.36	-306	-13.95
PAPER STOCK	790	78.54	946	96.44	156	17.91
CLAY	458	45.53	374	38.13	-84	-7.40
OTHER	23	2.29	44	4.49	21	2.20
TOTAL MATERIAL	1271	126.35	1364	139.06	93	12.70
DIRECT LABOR	280	27.84	270	27.53	-10	-0.31
REPAIRS	309	30.72	370	37.72	61	7.00
POWER & STEAM	456	45.33	447	45.57	-9	0.24
WATER & SEWER	55	5.47	54	5.51	-1	0.04
FELTS & WIRES	40	3.98	40	4.08	0	0.10
OPERATING SUPPLIES	10	0.99	23	2.34	13	1.35
SHIPPING SUPPLIES	0	0.00	8	0.82	8	0.82
WATER TREATMENT	78	7.75	101	10.30	23	2.54
HRLY PAY TAXES/BEN	90	8.95	90	9.18	0	0.23
SPOTTING	8	0.80	5	0.51	-3	-0.29
ALL OTHER	26	2.58	2	0.20	-24	-2.38
SKIDS	6	0.60	15	1.53	9	0.93
CORES	15	1.49	19	1.94	4	0.45
TOTAL VARIABLE	1373	136.49	1444	147.21	71	10.72
WORKERS COMP	9	0.89	9	0.92	0	0.02
SALARIES	108	10.74	115	11.72	7	0.99
SAL PAY TAXES/BEN	23	2.29	23	2.34	0	0.06
DEPRECIATION	55	5.47	60	6.12	5	0.65
PROPERTY TAXES	25	2.49	25	2.55	0	0.06
PROPERTY INSURANCE	13	1.29	13	1.33	0	0.03
ALL OTHER	57	5.67	66	6.73	9	1.06
TOTAL FIXED	290	28.83	311	31.71	21	2.88
INVENTORY CHANGE	-275	-30.75	-139	-14.88	136	15.87
COST OF SALES	2659	297.29	2980	318.99	321	21.70
GROSS PROFIT	1289	144.12	1274	136.37	15	7.75
LOCAL ADMIN	18	2.01	26	2.78	8	0.77
ALLOCATIONS	94	10.51	108	11.56	14	1.05
OTHER	20	2.24	-7	-0.75	-27	-2.99
EBIT	1157	129.36	1147	122.78	10	6.58

WALDORF CORPORATION
ANGELL MILL
JUNE ACTUAL

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	9165		8990		175	
TONS MADE	8900		9425		-525	
DAYS	30		30		0	
GROSS SALES	4251	463.83	3987	443.49	264	20.34
ALLOWANCES	-219	-23.90	37	4.12	256	28.01
DISCOUNTS	20	2.18	18	2.00	-2	-0.18
FREIGHT	99	10.80	112	12.46	13	1.66
NET SALES	4351	474.74	3820	424.92	531	49.82
PAPER STOCK	777	87.30	983	104.30	206	16.99
CLAY	392	44.04	377	40.00	-15	-4.04
OTHER	28	3.15	29	3.08	1	-0.07
TOTAL MATERIAL	1197	134.49	1389	147.37	192	12.88
DIRECT LABOR	249	27.98	235	24.93	-14	-3.04
REPAIRS	349	39.21	302	32.04	-47	-7.17
POWER & STEAM	428	48.09	442	46.90	14	-1.19
WATER & SEWER	39	4.38	44	4.67	5	0.29
FELTS & WIRES	-5	-0.56	33	3.50	38	4.06
PERATING SUPPLIES	7	0.79	18	1.91	11	1.12
SHIPPING SUPPLIES	51	5.73	12	1.27	-39	-4.46
WATER TREATMENT	88	9.89	104	11.03	16	1.15
HRLY PAY TAXES/BEN	-4	-0.45	85	9.02	89	9.47
SPOTTING	5	0.56	3	0.32	-2	-0.24
ALL OTHER	23	2.58	6	0.64	-17	-1.95
SKIDS	23	2.58	16	1.70	-7	-0.89
CORES	17	1.91	23	2.44	6	0.53
TOTAL VARIABLE	1270	142.70	1323	140.37	53	-2.33
WORKERS COMP	109	12.25	13	1.38	-96	-10.87
SALARIES	104	11.69	108	11.46	4	-0.23
SAL PAY TAXES/BEN	16	1.80	22	2.33	6	0.54
DEPRECIATION	55	6.18	53	5.62	-2	-0.56
PROPERTY TAXES	23	2.58	23	2.44	0	-0.14
PROPERTY INSURANCE	12	1.35	12	1.27	0	-0.08
ALL OTHER	93	10.45	63	6.68	-30	-3.77
LOCAL ADMIN	-80	-8.99	28	2.97	108	11.96
TOTAL FIXED	332	37.30	322	34.16	-10	-3.14
INVENTORY CHANGE	32	3.49	-118	-13.13	-150	-16.62
COST OF SALES	2831	308.89	2916	324.36	85	15.47
GROSS PROFIT	1520	165.85	904	100.56	616	65.29
CORP ALLOCATIONS	70	7.64	62	6.90	-8	-0.74
OTHER	-103	-11.24	5	0.56	108	11.79
EBIT	1553	169.45	837	93.10	716	76.35

WALDORF CORPORATION
ANGELL MILL
MAY 1989

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	6978		8973		-1995	
TONS MADE	7080		9740		-2660	
DAYS	24		31		-7	
GROSS SALES	3311	474.49	3993	445.00	-682	29.49
ALLOWANCES	-88	-12.61	37	4.12	125	16.73
DISCOUNTS	19	2.72	18	2.01	-1	-0.72
FREIGHT	65	9.31	114	12.70	49	3.39
NET SALES	3315	475.06	3824	426.17	-509	48.90
PAPER STOCK	588	83.05	1017	104.41	429	21.36
CLAY	278	39.27	388	39.84	110	0.57
OTHER	19	2.68	30	3.08	11	0.40
TOTAL MATERIAL	885	125.00	1435	147.33	550	22.33
DIRECT LABOR	252	35.59	248	25.46	-4	-10.13
REPAIRS	494	69.77	309	31.72	-185	-38.05
POWER & STEAM	407	57.49	458	47.02	51	-10.46
WATER & SEWER	40	5.65	44	4.52	4	-1.13
FELTS & WIRES	41	5.79	33	3.39	-8	-2.40
OPERATING SUPPLIES	38	5.37	18	1.85	-20	-3.52
SHIPPING SUPPLIES	21	2.97	12	1.23	-9	-1.73
WATER TREATMENT	62	8.76	107	10.99	45	2.23
HRLY PAY TAXES/BEN	56	7.91	85	8.73	29	0.82
SPOTTING	4	0.56	3	0.31	-1	-0.26
ALL OTHER	41	5.79	6	0.62	-35	-5.17
SKIDS	18	2.54	16	1.64	-2	-0.90
CORES	13	1.84	23	2.36	10	0.53
TOTAL VARIABLE	1487	210.03	1362	139.84	-125	-70.19
WORKERS COMP	13	1.84	13	1.33	0	-0.50
SALARIES	98	13.84	108	11.09	10	-2.75
SAL PAY TAXES/BEN	13	1.84	22	2.26	9	0.42
DEPRECIATION	52	7.34	53	5.44	1	-1.90
PROPERTY TAXES	23	3.25	23	2.36	0	-0.89
PROPERTY INSURANCE	12	1.69	12	1.23	0	-0.46
ALL OTHER	73	10.31	63	6.47	-10	-3.84
LOCAL ADMIN	21	2.97	28	2.87	7	-0.09
TOTAL FIXED	305	43.08	322	33.06	17	-10.02
INVENTORY CHANGE	-42	-6.02	-220	-24.52	-178	-18.50
COST OF SALES	2635	377.62	2899	323.08	264	-54.54
GROSS PROFIT	680	97.45	925	103.09	-245	-5.64
CORP ALLOCATIONS	13	1.86	62	6.91	49	5.05
OTHER	-54	-7.74	5	0.56	59	8.30
EBIT	721	103.32	858	95.62	-137	7.70

WALDORF CORPORATION
ANGELL MILL
APRIL,1989

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	9018		8957		61	
TONS MADE	9315		9425		-110	
DAYS	30		30		0	
GROSS SALES	4242	470.39	3931	438.87	311	31.52
ALLOWANCES	15	1.66	37	4.13	22	2.47
DISCOUNTS	19	2.11	18	2.01	-1	-0.10
FREIGHT	96	10.65	114	12.73	18	2.08
NET SALES	4112	455.98	3762	420.01	350	35.97
PAPER STOCK	725	77.83	983	104.30	258	26.47
CLAY	371	39.83	377	40.00	6	0.17
OTHER	27	2.90	29	3.08	2	0.18
TOTAL MATERIAL	1123	120.56	1389	147.37	266	26.82
DIRECT LABOR	244	26.19	242	25.68	-2	-0.52
REPAIRS	301	32.31	305	32.36	4	0.05
POWER & STEAM	447	47.99	457	48.49	10	0.50
WATER & SEWER	45	4.83	44	4.67	-1	-0.16
FELTS & WIRES	38	4.08	33	3.50	-5	-0.58
OPERATING SUPPLIES	23	2.47	18	1.91	-5	-0.56
SHIPPING SUPPLIES	11	1.18	12	1.27	1	0.09
WATER TREATMENT	90	9.66	104	11.03	14	1.37
HRLY PAY TAXES/BEN	80	8.59	85	9.02	5	0.43
SPOTTING	6	0.64	3	0.32	-3	-0.33
ALL OTHER	13	1.40	7	0.74	-6	-0.65
SKIDS	22	2.36	16	1.70	-6	-0.66
CORES	20	2.15	22	2.33	2	0.19
TOTAL VARIABLE	1340	143.85	1348	143.02	8	-0.83
WORKERS COMP	13	1.40	13	1.38	0	-0.02
SALARIES	99	10.63	108	11.46	9	0.83
SAL PAY TAXES/BEN	19	2.04	22	2.33	3	0.29
DEPRECIATION	52	5.58	53	5.62	1	0.04
PROPERTY TAXES	24	2.58	23	2.44	-1	-0.14
PROPERTY INSURANCE	12	1.29	12	1.27	0	-0.02
ALL OTHER	66	7.09	63	6.68	-3	-0.40
LOCAL ADMIN	22	2.36	28	2.97	6	0.61
TOTAL FIXED	307	32.96	322	34.16	15	1.21
INVENTORY CHANGE	-93	-10.31	-128	-14.29	-35	-3.98
COST OF SALES	2677	296.85	2931	327.23	254	30.38
GROSS PROFIT	1435	159.13	831	92.78	604	66.35
CORP ALLOCATIONS	63	6.99	62	6.92	-1	-0.06
OTHER	60	6.65	5	0.56	-55	-6.10
EBIT	1312	145.49	764	85.30	548	60.19

WALDORF CORPORATION
ANGELL MILL
MARCH 1989

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	9596		9320		276	
TONS MADE	9518		9740		-222	
DAYS	31		31		0	
GROSS SALES	4444	463.11	4041	433.58	403	29.53
ALLOWANCES	22	2.29	39	4.18	17	1.89
DISCOUNTS	20	2.08	18	1.93	-2	-0.15
FREIGHT	107	11.15	120	12.88	13	1.73
NET SALES	4295	447.58	3864	414.59	431	32.99
PAPER STOCK	665	69.87	1022	104.93	357	35.06
CLAY	372	39.08	384	39.43	12	0.34
OTHER	23	2.42	29	2.98	6	0.56
TOTAL MATERIAL	1060	111.37	1435	147.33	375	35.96
DIRECT LABOR	260	27.32	255	26.18	-5	-1.14
REPAIRS	317	33.31	311	31.93	-6	-1.38
POWER & STEAM	456	47.91	502	51.54	46	3.63
WATER & SEWER	37	3.89	44	4.52	7	0.63
FELTS & WIRES	41	4.31	33	3.39	-8	-0.92
OPERATING SUPPLIES	27	2.84	18	1.85	-9	-0.99
)IPPING SUPPLIES	6	0.63	12	1.23	6	0.60
WATER TREATMENT	92	9.67	107	10.99	15	1.32
HRLY PAY TAXES/BEN	68	7.14	85	8.73	17	1.58
SPOTTING	6	0.63	3	0.31	-3	-0.32
ALL OTHER	14	1.47	7	0.72	-7	-0.75
SKIDS	15	1.58	16	1.64	1	0.07
CORES	15	1.58	23	2.36	8	0.79
TOTAL VARIABLE	1354	142.26	1416	145.38	62	3.12
WORKERS COMP	13	1.37	13	1.33	0	-0.03
SALARIES	99	10.40	108	11.09	9	0.69
SAL PAY TAXES/BEN	19	2.00	22	2.26	3	0.26
DEPRECIATION	52	5.46	53	5.44	1	-0.02
PROPERTY TAXES	25	2.63	23	2.36	-2	-0.27
PROPERTY INSURANCE	12	1.26	12	1.23	0	-0.03
ALL OTHER	66	6.93	63	6.47	-3	-0.47
LOCAL ADMIN	23	2.42	28	2.87	5	0.46
TOTAL FIXED	309	32.46	322	33.06	13	0.59
INVENTORY CHANGE	70	7.29	-114	-12.23	-184	-19.53
COST OF SALES	2793	291.06	3059	328.22	266	37.16
GROSS PROFIT	1502	156.52	805	86.37	697	70.15
CORP ALLOCATIONS	63	6.57	62	6.65	-1	0.09
)IER	50	5.21	5	0.54	-45	-4.67
EBIT	1389	144.75	738	79.18	651	65.56

WALDORF CORPORATION
ANGELL MILL
FEBRUARY 1989

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	8286		9071		-785	
TONS MADE	8730		8797		-67	
DAYS	28		28		0	
GROSS SALES	3766	454.50	3813	420.35	-47	34.15
ALLOWANCES	-15	-1.81	35	3.86	50	5.67
DISCOUNTS	21	2.53	17	1.87	-4	-0.66
FREIGHT	93	11.22	116	12.79	23	1.56
NET SALES	3667	442.55	3645	401.83	22	40.72
PAPER STOCK	695	79.61	920	104.58	225	24.97
CLAY	316	36.20	350	39.79	34	3.59
OTHER	20	2.29	27	3.07	7	0.78
TOTAL MATERIAL	1031	118.10	1297	147.44	266	29.34
DIRECT LABOR	225	25.77	221	25.12	-4	-0.65
REPAIRS	321	36.77	295	33.53	-26	-3.24
POWER & STEAM	436	49.94	490	55.70	54	5.76
WATER & SEWER	41	4.70	44	5.00	3	0.31
FELTS & WIRES	38	4.35	33	3.75	-5	-0.60
OPERATING SUPPLIES	28	3.21	17	1.93	-11	-1.27
SHIPPING SUPPLIES	4	0.46	12	1.36	8	0.91
WATER TREATMENT	85	9.74	97	11.03	12	1.29
HRLY PAY TAXES/BEN	96	11.00	85	9.66	-11	-1.33
SPOTTING	4	0.46	3	0.34	-1	-0.12
ALL OTHER	6	0.69	6	0.68	0	-0.01
SKIDS	13	1.49	16	1.82	3	0.33
CORES	16	1.83	20	2.27	4	0.44
TOTAL VARIABLE	1313	150.40	1339	152.21	26	1.81
WORKERS COMP	13	1.49	13	1.48	0	-0.01
SALARIES	102	11.68	108	12.28	6	0.59
SAL PAY TAXES/BEN	23	2.63	22	2.50	-1	-0.13
DEPRECIATION	52	5.96	53	6.02	1	0.07
PROPERTY TAXES	24	2.75	23	2.61	-1	-0.13
PROPERTY INSURANCE	12	1.37	12	1.36	0	-0.01
ALL OTHER	54	6.19	62	7.05	8	0.86
LOCAL ADMIN	20	2.29	28	3.18	8	0.89
TOTAL FIXED	300	34.36	321	36.49	21	2.13
INVENTORY CHANGE	-81	-9.78	96	10.58	177	20.36
COST OF SALES	2563	309.32	3053	336.57	490	27.25
GROSS PROFIT	1104	133.24	592	65.26	512	67.97
CORP ALLOCATIONS	63	7.60	62	6.83	-1	-0.77
OTHER	35	4.22	5	0.55	-30	-3.67
EBIT	1006	121.41	525	57.88	481	63.53

WALDORF CORPORATION
ANGELL MILL
JANUARY 1989

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	10055		9211		844	
TONS MADE	9356		9740		-384	
DAYS	31		31		0	
GROSS SALES	4565	454.00	3873	420.48	692	33.53
ALLOWANCES	108	10.74	36	3.91	-72	-6.83
DISCOUNTS	17	1.69	17	1.85	0	0.15
FREIGHT	126	12.53	118	12.81	-8	0.28
NET SALES	4314	429.04	3702	401.91	612	27.13
PAPER STOCK	723	77.28	1022	104.93	299	27.65
CLAY	323	34.52	384	39.43	61	4.90
OTHER	23	2.46	29	2.98	6	0.52
TOTAL MATERIAL	1069	114.26	1435	147.33	366	33.07
DIRECT LABOR	253	27.04	253	25.98	0	-1.07
REPAIRS	359	38.37	311	31.93	-48	-6.44
POWER & STEAM	500	53.44	528	54.21	28	0.77
WATER & SEWER	61	6.52	44	4.52	-17	-2.00
FELTS & WIRES	43	4.60	33	3.39	-10	-1.21
OPERATING SUPPLIES	22	2.35	17	1.75	-5	-0.61
SHIPPING SUPPLIES	14	1.50	12	1.23	-2	-0.26
WATER TREATMENT	101	10.80	107	10.99	6	0.19
HRLY PAY TAXES/BEN	94	10.05	85	8.73	-9	-1.32
SPOTTING	3	0.32	3	0.31	0	-0.01
ALL OTHER	8	0.86	6	0.62	-2	-0.24
SKIDS	13	1.39	16	1.64	3	0.25
CORES	20	2.14	23	2.36	3	0.22
TOTAL VARIABLE	1491	159.36	1438	147.64	-53	-11.72
WORKERS COMP	13	1.39	13	1.33	0	-0.05
SALARIES	106	11.33	108	11.09	2	-0.24
SAL PAY TAXES/BEN	23	2.46	22	2.26	-1	-0.20
DEPRECIATION	52	5.56	53	5.44	1	-0.12
PROPERTY TAXES	24	2.57	23	2.36	-1	-0.20
PROPERTY INSURANCE	12	1.28	12	1.23	0	-0.05
ALL OTHER	59	6.31	63	6.47	4	0.16
LOCAL ADMIN	20	2.14	28	2.87	8	0.74
TOTAL FIXED	309	33.03	322	33.06	13	0.03
INVENTORY CHANGE	237	23.57	-147	-15.96	-384	-39.53
COST OF SALES	3106	308.90	3048	330.91	-58	22.01
GROSS PROFIT	1208	120.14	654	71.00	554	49.14
CORP ALLOCATIONS	63	6.27	62	6.73	-1	0.47
OTHER	43	4.28	5	0.54	-38	-3.73
EBIT	1102	109.60	587	63.73	515	45.87

WALDORF CORPORATION
ANGELL MILL
DECEMBER 1988

Note: Negative numbers (-) are Unfavorable

	ACTUAL		PLAN		VARIANCE	
	$ 000'S	PER TON	$ 000'S	PER TON	$ 000'S	PER TON
TONS SOLD	8875		8880		-5	
TONS MADE	8614		7855		759	
DAYS	28		25		3	
GROSS SALES	3866	437.86	3731	420.16	155	17.70
ALLOWANCES	36	4.06	35	3.94	-1	-0.11
DISCOUNTS	20	2.25	17	1.91	-3	-0.34
FREIGHT	96	10.82	108	12.16	12	1.35
NET SALES	3734	420.73	3571	402.14	163	18.59
PAPER STOCK	716	83.12	790	100.57	74	17.45
CLAY	328	38.08	306	38.96	-22	0.88
OTHER	15	1.74	24	3.06	9	1.31
TOTAL MATERIAL	1059	122.94	1120	142.58	61	19.64
DIRECT LABOR	237	27.51	241	30.68	4	3.17
REPAIRS	358	41.56	352	44.81	-6	3.25
POWER & STEAM	462	53.63	447	56.91	-15	3.27
WATER & SEWER	54	6.27	44	5.60	-10	-0.67
FELTS & WIRES	33	3.83	33	4.20	0	0.37
OPERATING SUPPLIES	25	2.90	17	2.16	-8	-0.74
SHIPPING SUPPLIES	13	1.51	12	1.53	-1	0.02
WATER TREATMENT	74	8.59	88	11.20	14	2.61
HRLY PAY TAXES/BEN	94	10.91	85	10.82	-9	-0.09
SPOTTING	3	0.35	2	0.25	-1	-0.09
ALL OTHER	6	0.70	7	0.89	1	0.19
SKIDS	19	2.21	15	1.91	-4	-0.30
CORES	15	1.74	18	2.29	3	0.55
TOTAL VARIABLE	1393	161.71	1361	173.27	-32	11.55
WORKERS COMP	13	1.51	13	1.65	0	0.15
SALARIES	104	12.07	108	13.75	4	1.68
SAL PAY TAXES/BEN	23	2.67	22	2.80	-1	0.13
DEPRECIATION	52	6.04	53	6.75	1	0.71
PROPERTY TAXES	24	2.79	23	2.93	-1	0.14
PROPERTY INSURANCE	12	1.39	12	1.53	0	0.13
ALL OTHER	65	7.55	63	8.02	-2	0.47
LOCAL ADMIN	32	3.71	28	3.56	-4	-0.15
TOTAL FIXED	325	37.73	322	40.99	-3	3.26
INVENTORY CHANGE	56	6.31	323	36.37	267	30.06
COST OF SALES	2833	319.21	3126	352.03	293	32.82
GROSS PROFIT	901	101.52	445	50.11	456	51.41
CORP ALLOCATIONS	63	7.10	62	6.98	-1	-0.12
OTHER	50	5.63	5	0.56	-45	-5.07
EBIT	788	88.79	378	42.57	410	46.22

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162
(28) D.L
134
38
13
185

ATION: 011 WALDORF CORPORATION
:IOD ENDING NOVEMBER 30, 1988 BATTLE CREEK DATE: 1
TIME:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE PER TON
)SS SALES-OUTSIDERS	3,354,412		437	3,472,228		423	117,816	14
.ES RETURNS/ALLOW OUTSIDE	13,328		2	32,694		4	19,366	2-
ıIMS TRADE	30,000		4	33,000		4	3,000	
SH DISCOUNTS-OUTSIDERS	15,761		2	17,000		2	1,239	
:IGHT/OUTSIDE SALES	94,793		12	94,822		12	29	1
ſ TRADE SALES	3,200,530		417	3,294,712		401	94,182	15
.ES-INTER-PLANT	586,421		468	391,238		440	195,183-	28
.ES RETURNS + ALLOW	12,248		10	3,680		4	8,568-	6
ıIMS INTRACOMPANY	6,000		5	3,000		3	3,000-	1
:IGHT/INTRACOMPANY SALES	15,756		13	18,122		20	2,366	8-
ſ I/C SALES	552,417		441	366,436		412	185,981-	29
TAL NET SALES	3,752,947		420	3,661,148		402	91,799-	18
ı MATERIAL	1,092,871		117	1,342,013		142	249,142	26-
;ECT LABOR	258,194		28	248,513		26	9,681-	1
RIABLE EXPENSE	1,112,435		119	1,126,439		120	14,004	1-
(ED EXPENSE	284,066		30	294,690		31	10,624	1-
/L KY CHANGE (FAV.)	93,000-		10-	85,000-		9-	8,000	1-
ST OF GOODS SOLD	2,654,567		297	2,926,655		322	272,088	25-
)SS PROFIT	1,098,380		123	734,493		81	363,887-	42
ıINISTRATIVE EXPENSE	90,868		10	89,698		10	1,171-	
TAL SELLING & ADMIN	90,868		10	89,698		10	1,171-	
ERATING PROFIT	1,007,512		113	644,795		71	362,716-	42
HER REVENUE (EXPENSE)	30,000-		3-	5,000-		1-	25,000	3-
RN BEFORE INTEREST & TAXES	977,512		109	639,795		70	337,716-	39
ADE TONS SHIPPED		7684			8210			526-
: TONS SHIPPED		1252			889			363
TAL TONS SHIPPED		8936			9099			163-
NS PRODUCED		9350			9425			75-
YS OPERATED		30			30			

7684 x 12 = 92208
1252 x 13 = 16276
6934 10848

Out

LOCATION: 011
PERIOD ENDING OCTOBER 31, 1988

WALDORF CORPORATION
BATTLE CREEK

PAGE
DATE: 1
TIME: 1

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	3,499,764		440	3,460,568		423	39,196-	18
SALES RETURNS/ALLOW OUTSIDE	27,250		3	32,584		4	5,334	1-
CLAIMS TRADE	36,000		5	32,000		4	4,000-	1
CASH DISCOUNTS-OUTSIDERS	19,506		2	17,000		2	2,506-	
UNEARNED DISCOUNTS	210						210-	
FREIGHT/OUTSIDE SALES	99,117		12	94,197		12	4,920-	1
NET TRADE SALES	3,317,681		418	3,284,787		401	32,894-	16
SALES-INTER-PLANT	664,001		478	447,843		441	216,158-	37
SALES RETURNS + ALLOW				4,213		4	4,213	4-
CLAIMS INTRACOMPANY	8,000		6	4,000		4	4,000-	2
FREIGHT/INTRACOMPANY SALES	18,665		13	19,888		20	1,223	6-
NET I/C SALES	637,336		459	419,742		414	217,594-	46
TOTAL NET SALES	3,955,017		424	3,704,529		403	250,488-	21
RAW MATERIAL	1,251,208		129	1,386,368		142	135,160	13-
DIRECT LABOR	253,450		26	249,883		26	3,567-	1
VARIABLE EXPENSE	1,071,336		111	1,130,203		116	58,867	5-
FIXED EXPENSE	286,064		30	294,690		30	8,626	1-
INVENTORY CHANGE (FAV.)	63,000-		7-	150,000-		15-	87,000-	9
COST OF GOODS SOLD	2,799,058		300	2,911,144		316	112,086	17-
GROSS PROFIT	1,155,959		124	793,385		86	362,574-	38
ADMINISTRATIVE EXPENSE	89,058		10	89,698		10	639	
TOTAL SELLING & ADMIN	89,058		10	89,698		10	639	
OPERATING PROFIT	1,066,901		114	703,687		76	363,213-	38
OTHER REVENUE (EXPENSE)	18,000-		2-	5,000-	18971-	1-	13,000	1-
EARN BEFORE INTEREST & TAXES	1,048,901		112	698,687	18971-	76	350,213-	36
TRADE TONS SHIPPED		7945			8185			240-
I/C TONS SHIPPED		1388			1015			373
TOTAL TONS SHIPPED		9333			9200			133
TONS PRODUCED		9667			9740			73-
DAYS OPERATED		31			31			

7945 x 12 = 95340
1388 x 13 = 18044
9333
113384

TIME:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE PER TON
ROSS SALES-OUTSIDERS	3,409,281		431	3,406,003		418	3,278	13
ALES RETURNS/ALLOW OUTSIDE	11,012		1	32,454		4	21,442	3-
LAIMS TRADE	35,000		4	32,000		4	3,000-	1
ASH DISCOUNTS-OUTSIDERS	17,203		2	17,000		2	203-	
REIGHT/OUTSIDE SALES	96,888		12	93,747		11	3,141-	1
ET TRADE SALES	3,249,179		411	3,230,802		396	18,377-	15
ALES-INTER-PLANT	671,065		449	517,303		431	153,762-	18
ALES RETURNS + ALLOW				4,920		4	4,920	4-
LAIMS INTRACOMPANY	5,000		3	4,000		3	1,000-	
REIGHT/INTRACOMPANY SALES	10,893		7	22,970		19	12,077	12-
ET I/C SALES	655,172		439	485,413		405	169,759-	34
OTAL NET SALES	3,904,351		415	3,716,215		397	188,136-	18
AW MATERIAL	1,134,028		125	1,328,919		141	194,891	16-
IRECT LABOR	247,848		27	242,112		26	5,736-	2
ARIABLE EXPENSE	1,111,368		122	1,066,155		113	45,213-	9
IXED EXPENSE	269,421		30	294,690		31	25,269	2-
NVENTORY CHANGE (FAV.)	115,000		13	9,000-		1-	124,000-	14
OST OF GOODS SOLD	2,877,666		306	2,922,876		312	45,210	6-
ROSS PROFIT	1,026,685		109	793,339		85	233,346-	24
DMINISTRATIVE EXPENSE	87,709	[illegible]	9	89,698		10	1,989	
OTAL SELLING & ADMIN	87,709	[illegible]	9	89,698		10	1,989	
PERATING PROFIT	938,976	[illegible]	100	703,641		75	235,335-	25
THER REVENUE (EXPENSE)	15,000-	[illegible]	2-	5,000-	18809-	1-	10,000	1-
ARN BEFORE INTEREST & TAXES	923,976	[illegible]	98	698,641	18809-	75	225,335-	24
RADE TONS SHIPPED		7910			8155			245-
/C TONS SHIPPED		1494			1199			295
OTAL TONS SHIPPED		9404			9354			50
ONS PRODUCED		9100			9425			325-
AYS OPERATED		30			30			

7910 x 12 = 94920
1494 x 7 = 10458
9404 105378

PERIOD ENDING AUGUST 31, 1988 BATTLE CREEK DATE: TIME:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	3,639,284		426	3,310,498		411	328,786-	15
SALES RETURNS/ALLOW OUTSIDE	22,507		3	31,924		4	9,417	1-
CLAIMS TRADE	42,000		5	32,000		4	10,000-	1
CASH DISCOUNTS-OUTSIDERS	16,220		2	17,000		2	780	
UNEARNED DISCOUNTS	301						301-	
FREIGHT/OUTSIDE SALES	100,362		12	90,597		11	9,765-	
NET TRADE SALES	3,457,895		405	3,138,977		390	318,918-	15
SALES-INTER-PLANT	529,218		458	425,487		429	103,731-	28
SALES RETURNS + ALLOW				4,095		4	4,095	4-
CLAIMS INTRACOMPANY	8,000		7	4,000		4	4,000-	3
FREIGHT/INTRACOMPANY SALES	17,915		15	19,889		20	1,974	5-
NET I/C SALES	503,303		435	397,503		401	105,800-	34
TOTAL NET SALES	3,961,198		408	3,536,480		391	424,718-	17
RAW MATERIAL	1,296,295		130	1,372,838		141	76,543	11-
DIRECT LABOR	255,471		26	242,539		25	12,932-	1
VARIABLE EXPENSE	1,112,059		112	1,070,045		110	42,014-	2
FIXED EXPENSE	288,889		29	294,690		30	5,801	1-
INVENTORY CHANGE (FAV.)	60,000-		6-	196,000-		20-	136,000-	14
COST OF GOODS SOLD	2,892,714		298	2,784,112		308	108,602-	10-
GROSS PROFIT	1,068,484		110	752,368		83	316,116-	27
ADMINISTRATIVE EXPENSE	94,010		10	89,698		10	4,312-	
TOTAL SELLING & ADMIN	94,010		10	89,698		10	4,312-	
OPERATING PROFIT	974,475		100	662,670		73	311,804-	27
OTHER REVENUE (EXPENSE)	15,000-		2-	5,000-		1-	10,000	1-
EARN BEFORE INTEREST & TAXES	959,475		99	657,670		73	301,804-	26
TRADE TONS SHIPPED		8547			8055			492
I/C TONS SHIPPED		1156			991			165
TOTAL TONS SHIPPED		9703			9046			657
TONS PRODUCED		9965			9740			225
DAYS OPERATED		31			31			

8547 X 12 = 102564
1156 X 15 = 17340
9703 / 119904

OCATION: 011
ERIOD ENDING JULY 31, 1988

WALDORF CORPORATION
BATTLE CREEK

PA
DATE:
TIME:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANC AMOUNT	VARIANC PER TON
ROSS SALES-OUTSIDERS	3,076,970		417	3,399,678		402	322,708	15
ALES RETURNS/ALLOW OUTSIDE	2,794			33,764		4	30,970	4-
AIMS TRADE	34,000		5	34,000		4		1
ASH DISCOUNTS-OUTSIDERS	14,349		2	17,000		2	2,651	
NEARNED DISCOUNTS	165						165-	
REIGHT/OUTSIDE SALES	88,734		12	99,497		12	10,763	
T TRADE SALES	2,936,927		398	3,215,417		380	278,490	17
ALES-INTER-PLANT	452,873		443	327,240		420	125,633-	23
ALES RETURNS + ALLOW				3,240		4	3,240	4-
AIMS INTRACOMPANY	4,000		4	3,000		4	1,000-	
EIGHT/INTRACOMPANY SALES	14,966		15	16,331		21	1,365	6-
T I/C SALES	433,907		424	304,669		391	129,238-	34
TAL NET SALES	3,370,834		401	3,520,086		381	149,252	20
W MATERIAL	891,927		126	931,431		141	39,504	15-
RECT LABOR	256,538		36	253,837		38	2,701-	2-
R[illegible] EXPENSE	1,060,314		150	1,032,199		156	28,115-	6-
XED EXPENSE	277,134		39	294,690		45	17,556	5-
VENTORY CHANGE (FAV.)	415,000		59	808,000		122	393,000	64-
ST OF GOODS SOLD	2,900,912		345	3,320,157		360	419,245	14-
OSS PROFIT	469,922		56	199,929		22	269,993-	34
INISTRATIVE EXPENSE	79,763		9	89,698		10	9,934	
AL SELLING & ADMIN	79,763		9	89,698		10	9,934	
RATING PROFIT	390,158		46	110,231		12	279,927-	34
ER REVENUE (EXPENSE)	7,219-		1-	5,000-		1-	2,219	
N BEFORE INTEREST & TAXES	382,939		46	105,231		11	277,708-	34
DE TONS SHIPPED		7383			8455			1072-
TONS SHIPPED		1023			780			243
AL TONS SHIPPED		8406			9235			829-
S PRODUCED		7068			6598			470
S RATED		24			21			3

12 X 7383-88596
15 + 1023-15345
8406 103941

ERIOD ENDING JUNE 30, 1983 BATTLE CREEK DATE TIME

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANC AMOUNT	VARIANC PER TON
GROSS SALES-OUTSIDERS	3,171,807		411	2,950,000		384	221,807-	27
SALES RETURNS/ALLOW OUTSIDE	56,711		7	52,000		7	4,711-	1
CLAIMS TRADE	32,000		4				32,000-	4
CASH DISCOUNTS-OUTSIDERS	15,579		2	14,000		2	1,579-	
UNEARNED DISCOUNTS	387						387-	
FREIGHT/OUTSIDE SALES	92,738		12	97,000		13	4,262	1-
NET TRADE SALES	2,974,391		386	2,787,000		363	187,391-	23
SALES-INTER-PLANT	440,583		434	572,000		380	131,417	54-
SALES RETURNS + ALLOW				7,000		5	7,000	5-
CLAIMS INTRACOMPANY	8,000		8				8,000-	8
FREIGHT/INTRACOMPANY SALES	17,459		17	30,000		20	12,541	3-
NET I/C SALES	415,124		409	535,000		355	119,876	54
TOTAL NET SALES	3,389,515		388	3,322,000		362	67,515-	27
RAW MATERIAL	1,154,431		125	1,146,892		125	7,539-	
DIRECT LABOR	243,791		26	221,917		24	21,874-	2
VARIABLE EXPENSE	1,134,179		123	1,005,325		110	128,854-	13
F[illegible] EXPENSE	268,801		29	285,130		31	16,329	2-
IN[illegible]TORY CHANGE (FAV.)	240,000-		26-	5,000		1	245,000	27-
COST OF GOODS SOLD	2,561,202		294	2,664,264		290	103,062	3
GROSS PROFIT	828,313		95	657,736		72	170,577-	23
ADMINISTRATIVE EXPENSE	74,686		9	79,159		9	4,473	
TOTAL SELLING & ADMIN	74,686		9	79,159		9	4,473	
OPERATING PROFIT	753,627		86	578,577		63	175,050-	23
OTHER REVENUE (EXPENSE)	21,748-		2-				21,748	2-
EARN BEFORE INTEREST & TAXES	731,879		84	578,577		63	153,302-	21
TRADE TONS SHIPPED		7711			7675			36
I/C TONS SHIPPED		1014			1505			491-
TOTAL TONS SHIPPED		8725			9180			455-
TONS PRODUCED		9246			9180			66
DAYS OPERATED		30			30			

7711 x 17 = 131087
1014 x 17 = 17238
8725 109770

ERIOD ENDING MAY 31, 1988 BATTLE CREEK DATE TIME

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANC AMOUNT	VARIANC PER TON
ROSS SALES-OUTSIDERS	3,326,680		411	3,038,000		384	288,680-	27
ALES RETURNS/ALLOW OUTSIDE	30,213		4	52,000		7	21,787	3-
LAIMS TRADE	46,000		6				46,000-	6
ASH DISCOUNTS-OUTSIDERS	19,528		2	14,000		2	5,528-	1
NEARNED DISCOUNTS	575						575-	
REIGHT/OUTSIDE SALES	109,069		13	100,000		13	9,069-	1
ET TRADE SALES	3,121,296		386	2,872,000		363	249,296-	23
ALES-INTER-PLANT	604,236		431	599,000		380	5,236-	51
ALES RETURNS + ALLOW				7,000		4	7,000	4-
LAIMS INTRACOMPANY	6,000		4				6,000-	4
REIGHT/INTRACOMPANY SALES	21,304		15	32,000		20	10,696	5-
ET I/C SALES	576,932		412	560,000		356	16,932-	56
OTAL NET SALES	3,698,228		390	3,432,000		362	266,228-	28
AW MATERIAL	1,196,459		128	1,184,850		125	11,609-	3
IRECT LABOR	245,791		26	237,968		25	7,823-	1
ARIABLE EXPENSE	1,076,640		115	1,038,748		110	37,892-	5
IXED EXPENSE	141,029		15	286,224		30	145,195	15-
NV RY CHANGE (FAV.)	18,000-		2-	5,000		1	23,000	2-
OST OF GOODS SOLD	2,641,918		278	2,752,790		290	110,872	12-
ROSS PROFIT	1,056,310		111	679,210		72	377,100-	40
DMINISTRATIVE EXPENSE	82,516		9	79,159		8	3,357-	
OTAL SELLING & ADMIN	82,516		9	79,159		8	3,357-	
PERATING PROFIT	973,794		103	600,051		63	373,743-	39
THER REVENUE (EXPENSE)	258,884		27				258,884-	27
RN BEFORE INTEREST & TAXES	1,232,679		130	600,051		63	632,628-	67
ADE TONS SHIPPED		8090			7911			179
C TONS SHIPPED		1401			1575			174-
TAL TONS SHIPPED		9491			9486			5
NS PRODUCED		9380			9486			106-
YS OPERATED		31			31			

8090 x 13 = 105170
1401 x 15 = 21015
126185
9491

PERIOD ENDING APRIL 30, 1988 BATTLE CREEK DAT TIM

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIAN AMOUNT	VARIAN PER TON
6. 3 SALES-OUTSIDERS	3,246,740		393	2,950,000		384	296,740-	9
SALES RETURNS/ALLOW OUTSIDE	31,792		4	52,000		7	20,208	3-
CLAIMS TRADE	48,000		6				48,000-	6
CASH DISCOUNTS-OUTSIDERS	15,012		2	14,000		2	1,012-	
UNEARNED DISCOUNTS	74						74-	
FREIGHT/OUTSIDE SALES	92,985		11	97,000		13	4,015	1-
NET TRADE SALES	3,058,877		370	2,787,000		363	271,877-	7
SALES-INTER-PLANT	408,309		436	572,000		380	163,691	55
SALES RETURNS + ALLOW				7,000		5	7,000	5-
CLAIMS INTRACOMPANY	12,000		13				12,000-	13
FREIGHT/INTRACOMPANY SALES	15,095		16	30,000		20	14,905	4-
NET I/C SALES	381,214		407	535,000		356	153,786	51
TOTAL NET SALES	3,440,091		374	3,322,000		362	118,091-	12
RAW MATERIAL	1,176,420		118	1,146,892		125	29,528-	7-
DIRECT LABOR	224,821		23	229,849		25	5,028	3-
VARIABLE EXPENSE	1,072,202		107	1,019,313		111	52,889-	4-
FIXED EXPENSE	286,548		29	287,323		31	775	3-
INVENTORY CHANGE (FAV.)	130,000-		13-	5,000		1	135,000	14-
COST OF GOODS SOLD	2,629,991		286	2,688,377		293	58,386	7-
GROSS PROFIT	810,100		88	633,623		69	176,477-	19
ADMINISTRATIVE EXPENSE	69,050		8	79,159		9	10,109	1-
TOTAL SELLING & ADMIN	69,050		8	79,159		9	10,109	1-
OPERATING PROFIT	741,049		81	554,464		60	186,585-	20
OTHER REVENUE (EXPENSE)	15,000-		2-				15,000	2-
RN BEFORE INTEREST & TAXES	726,049		79	554,464		60	171,585-	19
ADE TONS SHIPPED		8265			7676			589
C TONS SHIPPED		937			1504			567-
TAL TONS SHIPPED		9202			9180			22
VS PRODUCED		9980			9180			800
VS OPERATED		30			30			

'ERIOD ENDING MARCH 31, 1988 BATTLE CREEK DATE:
TIME:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT
IRC SALES-OUTSIDERS	3,423,885		392	3,038,000		384	385,885-	
SALES RETURNS/ALLOW OUTSIDE	37,201		4	52,000		7	14,799	
CLAIMS TRADE	20,000		2				20,000-	
CASH DISCOUNTS-OUTSIDERS	15,123		2	14,000		2	1,123-	
UNEARNED DISCOUNTS	661						661-	
FREIGHT/OUTSIDE SALES	88,188		10	100,000		13	11,812	
NET TRADE SALES	3,262,712		374	2,872,000		363	390,712-	
SALES-INTER-PLANT	464,660		429	599,000		380	134,340	
SALES RETURNS + ALLOW	6,781		6	7,000		4	219	
CLAIMS INTRACOMPANY	3,000		3				3,000-	
FREIGHT/INTRACOMPANY SALES	14,670		14	32,000		20	17,330	
NET I/C SALES	440,208		406	560,000		356	119,792	
TOTAL NET SALES	3,702,921		377	3,432,000		362	270,921-	
RAW MATERIAL	1,274,104		136	1,214,107		128	59,997-	
DIRECT LABOR	229,310		24	228,369		24	941-	
VARIABLE EXPENSE	1,006,554		107	1,063,764		112	57,210	
FIXED EXPENSE	287,235		31	285,126		30	2,109-	
INVENTORY CHANGE (FAV.)	146,000		16	5,000		1	141,000-	
COST OF GOODS SOLD	2,943,203		300	2,796,366		295	146,837-	
GROSS PROFIT	759,717		77	635,634		67	124,083-	
ADMINISTRATIVE EXPENSE	83,782		9	79,159		8	4,623-	
TOTAL SELLING & ADMIN	83,782		9	79,159		8	4,623-	
OPERATING PROFIT	675,935		69	556,475		59	119,460-	
OTHER REVENUE (EXPENSE)	15,000-		2-				15,000	
EARN BEFORE INTEREST & TAXES	660,935		67	556,475		59	104,460-	
TRADE TONS SHIPPED		8728			7911			817
I/C TONS SHIPPED		1084			1575			491-
TOTAL TONS SHIPPED		9812			9486			326
TONS PRODUCED		9395			9486			91-
DAYS OPERATED		31			31			

8728 x 10 = 87280
1084 x 14 = 15176
9812 102456

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VA AMOUNT	VA PER TON
GROSS SALES-OUTSIDERS	3,293,539		387	2,862,000		385	431,539-	3
SALES RETURNS/ALLOW OUTSIDE	38,506		5	52,000		7	13,494	2-
CLAIMS TRADE	30,000		4				30,000-	4
CASH DISCOUNTS-OUTSIDERS	18,758		2	14,000		2	4,758-	
UNEARNED DISCOUNTS	328						328-	
FREIGHT/OUTSIDE SALES	112,434		13	95,000		13	17,434-	
NET TRADE SALES	3,093,513		364	2,701,000		363	392,513-	1
SALES-INTER-PLANT	251,499		422	545,000		380	293,501	42
SALES RETURNS + ALLOW				7,000		5	7,000	5-
CLAIMS INTRACOMPANY	3,000		5				3,000-	5
FREIGHT/INTRACOMPANY SALES	6,492		11	29,000		20	22,508	9-
NET I/C SALES	242,007		406	509,000		355	266,993	51
TOTAL NET SALES	3,335,520		367	3,210,000		362	125,520-	5
RAW MATERIAL	1,206,904		134	1,136,290		128	70,614-	6
DIRECT LABOR	223,493		25	215,459		24	8,034-	1
VARIABLE EXPENSE	1,020,025		114	1,018,879		115	1,146-	1-
FIXED EXPENSE	290,478		32	285,123		32	5,355-	
INVENTORY CHANGE (FAV.)	54,396		6	5,000		1	49,396-	5
COST OF GOODS SOLD	2,795,296		307	2,660,751		300	134,545-	7
GROSS PROFIT	540,224		59	549,249		62	9,025	3-
ADMINISTRATIVE EXPENSE	640,996		70	79,159		9	561,837-	62
TOTAL SELLING & ADMIN	640,996		70	79,159		9	561,837-	62
OPERATING PROFIT	100,772-		11-	470,090		53	570,862	64-
OTHER REVENUE (EXPENSE)	10,000-		1-				10,000	1-
EARN BEFORE INTEREST & TAXES	110,772-		12-	470,090		53	580,862	65-
TRADE TONS SHIPPED		8504			7440			
I/C TONS SHIPPED		596			1434			
TOTAL TONS SHIPPED		9100			8874			
TONS PRODUCED		8986			8874			
DAYS OPERATED		29			29			

8504 x 13 = 110552
596 x 11 = 6556
9100 117108

PERIOD ENDING JANUARY 31, 1988 BATTLE CREEK

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIAN AMOUNT	VARIAN PER TO
GROSS SALES-OUTSIDERS	3,310,413		379	3,002,000		379	308,413-	
SALES RETURNS/ALLOW OUTSIDE	5,786		1	52,000		7	46,214	
CLAIMS TRADE	44,000		5				44,000-	
CASH DISCOUNTS-OUTSIDERS	11,838		1	14,000		2	2,162	
UNEARNED DISCOUNTS	119-						119	
FREIGHT/OUTSIDE SALES	104,144		12	100,000		13	4,144-	
NET TRADE SALES	3,144,764		360	2,836,000		358	308,764-	
SALES-INTER-PLANT	253,955		389	599,000		380	345,045	
SALES RETURNS + ALLOW				7,000		4	7,000	
CLAIMS INTRACOMPANY	3,000		5				3,000-	
FREIGHT/INTRACOMPANY SALES	8,782		13	32,000		20	23,218	
NET I/C SALES	242,173		371	560,000		356	317,827	15
TOTAL NET SALES	3,386,937		361	3,396,000		358	9,063	3
RAW MATERIAL	1,243,942		139	1,214,107		128	29,835-	11
DIRECT LABOR	253,513		28	239,661		25	13,852-	3
VARIABLE EXPENSE	1,026,783		115	1,066,834		112	40,051	2
FIXED EXPENSE	252,731		28	288,123		30	35,392	2
INVENTORY CHANGE (FAV.)	88,000		10	5,000		1	83,000-	9
COST OF GOODS SOLD	2,864,969		305	2,813,725		297	51,244-	8
GROSS PROFIT	521,968		56	582,275		61	60,307	6-
ADMINISTRATIVE EXPENSE	79,643		8	79,159		8	484-	
TOTAL SELLING & ADMIN	79,643		8	79,159		8	484-	
OPERATING PROFIT	442,326		47	503,116		53	60,790	6-
OTHER REVENUE (EXPENSE)	14,987-		2-				14,987	2-
EARN BEFORE INTEREST & TAXES	427,339		46	503,116		53	75,777	8-
TRADE TONS SHIPPED		8738			7911			82
I/C TONS SHIPPED		653			1575.			92
TOTAL TONS SHIPPED		9391			9486			9
TONS PRODUCED		8964			9486			52
DAYS OPERATED		31			31			

8738 x 12 = 104856
653 x 13 = 8489
9391 113345

7902 x 12 = 94824
869 x 8 = 6952
8771
101776

PERIOD ENDING DECEMBER 31, 1987 | BATTLE CREEK | DATE: 01/09/88
TIME: 11:22:36

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,964,417		375	2,391,000		384	573,417-		9-
SALES RETURNS/ALLOW OUTSIDE	74,758		9	52,000		8	22,758-		1
CLAIMS TRADE	44,000		6				44,000-		6
CASH DISCOUNTS-OUTSIDERS	17,561		2	14,000		2	3,561-		
UNEARNED DISCOUNTS	227						227-		
FREIGHT/OUTSIDE SALES	93,218		12	83,000		13	10,218-		2-
NET TRADE SALES	2,734,654		346	2,242,000		360	492,654-		14-
SALES-INTER-PLANT	326,624		376	439,000		380	112,376		5-
SALES RETURNS + ALLOW				7,000		6	7,000		6-
CLAIMS INTRACOMPANY	3,000		3				3,000-		3
FREIGHT/INTRACOMPANY SALES	7,222		8	23,000		20	15,778		12-
NET I/C SALES	316,402		364	409,000		354	92,598		10
TOTAL NET SALES	3,051,055		348	2,651,000		359	400,055-		12-
RAW MATERIAL	1,220,610		135	889,908		121	330,702-		14
DIRECT LABOR	224,814		25	218,329		30	6,485-		5-
VARIABLE EXPENSE	994,593		110	1,054,350		143	59,757		33-
FIXED EXPENSE	286,906		32	286,126		39	780-		7-
INVENTORY CHANGE (FAV.)	106,296-		12-	5,000		1	111,296		12-
COST OF GOODS SOLD	2,620,627		299	2,453,713		333	166,914-		34-
GROSS PROFIT	430,429		49	197,287		27	233,142-		22
ADMINISTRATIVE EXPENSE	81,363		9	79,159		11	2,204-		1-
TOTAL SELLING & ADMIN	81,363		9	79,159		11	2,204-		1-
OPERATING PROFIT	349,066		40	118,128		16	230,938-		24
OTHER REVENUE (EXPENSE)	2,929						2,929-		
EARN BEFORE INTEREST & TAXES	351,995		40	118,128		16	233,867-		24
TRADE TONS SHIPPED		7902			6221			1681	
IC TONS SHIPPED		869			1154			285-	
TOTAL TONS SHIPPED		8771			7375			1396	
TONS PRODUCED		9073			7375			1698	
DAYS OPERATED		29			25			4	

PERIOD ENDING NOVEMBER 30, 1987 | BATTLE CREEK | DATE: 12/05/87
TIME: 06:43:07

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	3,216,096		369	2,811,000		383	405,096-		13-
SALES RETURNS/ALLOW OUTSIDE	13,737		2	52,000		7	38,263		6-
CLAIMS TRADE	44,000		5				44,000-		5
CASH DISCOUNTS-OUTSIDERS	16,081		2	14,000		2	2,081-		
FREIGHT/OUTSIDE SALES	122,979		14	97,000		13	25,979-		1
NET TRADE SALES	3,019,298		347	2,648,000		361	371,298-		14-
SALES-INTER-PLANT	141,974		349	572,000		380	430,026		31-
SALES RETURNS + ALLOW				7,000		5	7,000		5-
CLAIMS INTRACOMPANY	3,000		7				3,000-		7
FREIGHT/INTRACOMPANY SALES	1,526		4	30,000		20	28,474		16-
NET I/C SALES	137,448		338	535,000		355	397,552		18-
TOTAL NET SALES	3,156,746		346	3,183,000		360	26,254		13-
RAW MATERIAL	1,372,444		138	1,066,438		121	306,006-		18
DIRECT LABOR	246,533		25	235,966		27	10,567-		2-
VARIABLE EXPENSE	929,192		94	1,012,538		114	83,346		21-
FIXED EXPENSE	275,067		28	286,623		32	11,556		5-
INVENTORY CHANGE (FAV.)	225,000-		23-	5,000		1	230,000		23-
COST OF GOODS SOLD	2,598,235		285	2,606,565		295	8,330		9-
GROSS PROFIT	558,511		61	576,435		65	17,924		4-
ADMINISTRATIVE EXPENSE	80,988		9	79,159		9	1,829-		
TOTAL SELLING & ADMIN	80,988		9	79,159		9	1,829-		
OPERATING PROFIT	477,523		52	497,276		56	19,753		4-
OTHER REVENUE (EXPENSE)	110						110-		
EARN BEFORE INTEREST & TAXES	477,633		52	497,276		56	19,643		4-
TRADE TONS SHIPPED		8706			7345			1361	
I/C TONS SHIPPED		407			1505			1098-	
TOTAL TONS SHIPPED		9113			8850			263	
TONS PRODUCED		9932			8850			1082	
DAYS OPERATED		30			30				

8706 x4 - 121884
407 x 4 - 1628
9113 123512

PERIOD ENDING OCTOBER 31, 1987 | BATTLE CREEK | DATE: 11/07/87
TIME: 05:30:10

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	3,272,635		363	2,895,000		382	377,635-		20-
SALES RETURNS/ALLOW OUTSIDE	10,683		1	52,000		7	41,317		6-
CLAIMS TRADE	50,000		6				50,000-		6
CASH DISCOUNTS-OUTSIDERS	15,657		2	14,000		2	1,657-		
FREIGHT/OUTSIDE SALES	86,173		10	100,000		13	13,827		4-
NET TRADE SALES	3,110,122		345	2,729,000		361	381,122-		16-
SALES-INTER-PLANT	352,119		369	599,000		380	246,881		12-
SALES RETURNS + ALLOW				7,000		4	7,000		4-
CLAIMS INTRACOMPANY	7,000		7				7,000-		7
FREIGHT/INTRACOMPANY SALES	7,329		8	32,000		20	24,671		13-
NET I/C SALES	337,790		354	560,000		356	222,210		2-
TOTAL NET SALES	3,447,912		346	3,289,000		360	158,912-		14-
RAW MATERIAL	1,305,863		130	1,102,078		121	203,785-		9
DIRECT LABOR	224,869		22	228,369		25	3,500		3-
VARIABLE EXPENSE	1,024,296		102	990,766		108	33,530-		7-
FIXED EXPENSE	272,470		27	286,023		31	13,553		4-
INVENTORY CHANGE (FAV.)	65,500-		6-	5,000		1	70,500		7-
COST OF GOODS SOLD	2,761,997		277	2,612,236		286	149,761-		9-
GROSS PROFIT	685,915		69	676,764		74	9,151-		5-
ADMINISTRATIVE EXPENSE	89,696		9	79,159		9	10,537-		
TOTAL SELLING & ADMIN	89,696		9	79,159		9	10,537-		
OPERATING PROFIT	596,219		60	597,605		65	1,386		6-
OTHER REVENUE (EXPENSE)	246,288		25				246,288-		25
EARN BEFORE INTEREST & TAXES	842,507		84	597,605		65	244,902-		19
TRADE TONS SHIPPED		9021			7570			1451	
I/C TONS SHIPPED		955			1575			620-	
TOTAL TONS SHIPPED		9976			9145			831	
TONS PRODUCED		10002			9145			937	
DAYS OPERATED		31			31				

9021 X10 - 90210
955 X 8 - 7640
9976 97850

PERIOD ENDINGSEPTEMBER 30, 1987 BATTLE CREEK DATE: 10/06/
TIME: 21:33:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TO
GROSS SALES-OUTSIDERS	3,261,379		364	2,811,000		383	450,379-		1
SALES RETURNS/ALLOW OUTSIDE	15,214		2	52,000		7	36,786		
CLAIMS TRADE	45,000		5				45,000-		
CASH DISCOUNTS-OUTSIDERS	12,783		1	14,000		2	1,217		
FREIGHT/OUTSIDE SALES	102,142		11	97,000		13	5,142-		
NET TRADE SALES	3,086,240		345	2,648,000		360	438,240-		1
SALES-INTER-PLANT	422,135		376	572,000		380	149,865		
SALES RETURNS + ALLOW				7,000		5	7,000		
CLAIMS INTRACOMPANY	7,000		6				7,000-		
FREIGHT/INTRACOMPANY SALES	11,253		10	30,000		20	18,747		1
NET I/C SALES	403,883		360	535,000		356	131,117		
TOTAL NET SALES	3,490,122		346	3,183,000		360	307,122-		1
RAW MATERIAL	1,174,349		128	1,052,037		119	122,312-		
DIRECT LABOR	229,918		25	225,731		26	4,187-		
VARIABLE EXPENSE	885,696		97	977,694		110	91,998		1
FIXED EXPENSE	275,288		30	286,726		32	11,438		
INVENTORY CHANGE (FAV.)	253,712		28	5,000		1	248,712-		2
COST OF GOODS SOLD	2,818,964		280	2,547,188		288	271,776-		
GROSS PROFIT	671,159		67	635,812		72	35,347-		
ADMINISTRATIVE EXPENSE	81,672		8	79,159		9	2,513-		
TOTAL SELLING & ADMIN	81,672		8	79,159		9	2,513-		
OPERATING PROFIT	589,487		58	556,653		63	32,834-		
OTHER REVENUE (EXPENSE)	110						110-		
EARN BEFORE INTEREST & TAXES	589,597		58	556,653		63	32,944-		
TRADE TONS SHIPPED		8957			7346			1611	
I/C TONS SHIPPED		1122			1504			382-	
TOTAL TONS SHIPPED		10079			8850			1229	
TONS PRODUCED		9152			8850			302	
DAYS OPERATED		30			30				

8957X11 10 = 98527
1122X 10 = 11220
10079 = 109747

PERIOD ENDING AUGUST 31, 198[illegible] BATTLE CREEK DATE: 09/09/8

TIME: 05:57:11

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GSS SALES-OUTSIDERS	2,770,693		366	2,798,000		370	27,307		4
SALES RETURNS/ALLOW OUTSIDE	42,592		6	52,000		7	9,408		1
CLAIMS TRADE	15,000		2				15,000-		2
CASH DISCOUNTS-OUTSIDERS	10,369		1	14,000		2	3,631		
FREIGHT/OUTSIDE SALES	84,330		11	100,000		13	15,670		2
NET TRADE SALES	2,618,402		346	2,632,000		348	13,598		2
SALES-INTER-PLANT	318,478		383	567,000		360	248,522		23
SALES RETURNS + ALLOW				7,000		4	7,000		4
CLAIMS INTRACOMPANY	5,000		6				5,000-		6
FREIGHT/INTRACOMPANY SALES	11,154		13	32,000		20	20,846		7
NET I/C SALES	302,324		363	528,000		335	225,676		28
TOTAL NET SALES	2,920,725		347	3,160,000		346	239,275		2
RAW MATERIAL	1,201,565		127	1,087,186		119	114,379-		8-
DIRECT LABOR	252,442		27	235,387		26	17,055-		1-
VARIABLE EXPENSE	932,893		99	997,493		109	64,600		10
FIXED EXPENSE	269,698		29	287,223		32	17,525		3
INVENTORY CHANGE (FAV.)	226,000-		24-	5,000		--	231,000		24
COST OF GOODS SOLD	2,430,598		289	2,612,289		286	181,691		3
GROSS PROFIT	490,127		58	547,711		60	57,584		2
ADMINISTRATIVE EXPENSE	84,794		10	79,159		9	5,635-		1
TOTAL SELLING & ADMIN	84,794		10	79,159		9	5,635-		1
OPERATING PROFIT	405,334		48	468,552		51	63,218		3
OTHER REVENUE (EXPENSE)	110						110-		
EARN BEFORE INTEREST & TAXES	405,444		48	468,552		51	63,108		3
TRADE TONS SHIPPED		7575			7570			5	
I/C TONS SHIPPED		832			1575			743-	
TOTAL TONS SHIPPED		8407			9145			738-	
TONS PRODUCED		9454			9145				309
DAYS OPERATED		31			31				

7575 X 11 = 83325
832 X 13 = 10816
94141
8407 ÷

PERIOD ENDING JULY 31, 1987 BATTLE CREEK DATE: 08/06/8
TIME: 21:03:5

YEAR TO DATE PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,898,751		357	2,312,000		372	586,751-		15-
SALES RETURNS/ALLOW OUTSIDE	49,071		6	52.000		8	2.929		2-
CASH DISCOUNTS-OUTSIDERS	19,678		2	14,000		2	5,678-		
FREIGHT/OUTSIDE SALES	125,578		15	83,000		13	42,578-		2
NET TRADE SALES	2,704,424		333	2,163,000		348	541,424-		15-
SALES-INTER-PLANT	184,458		376	415,000		360	230,542		16
SALES RETURNS + ALLOW	5,768		12	7,000		6	1,232		6
FREIGHT/INTRACOMPANY SALES	7,243		15	23,000		20	15,757		5-
NET I/C SALES	171,447		349	385,000		334	213,553		16
TOTAL NET SALES	2,875,871		334	2,548,000		345	327,871-		11-
RAW MATERIAL	964,410		127	877,013		119	87,397-		8
DIRECT LABOR	215,437		28	214,051		29	1,386-		1-
VARIABLE EXPENSE	1,028,466		136	1,043,129		141	14,663		6-
FIXED EXPENSE	276,676		36	285,123		39	8,447		2-
INVENTORY CHANGE (FAV.)	245,000		32	5,000		1	240,000-		32
COST OF GOODS SOLD	2,729,989		317	2,424,316		329	305,673-		12-
GROSS PROFIT	145,882		17	123,684		17	22,198-		
ADMINISTRATIVE EXPENSE	72,323		8	79,159		11	6,836		2-
TOTAL SELLING & ADMIN	72,323		8	79,159		11	6,836		2-
OPERATING PROFIT	73,559		9	44,525		6	29,034-		3
OTHER REVENUE (EXPENSE)	8,001		1				8,001-		1
EARN BEFORE INTEREST & TAXES	81,560		9	44,525		6	37,035-		3
TRADE TONS SHIPPED		8119			6221			1898	
I/C TONS SHIPPED		491			1154			663-	
TOTAL TONS SHIPPED		8610			7375			1235	
TONS PRODUCED		7586			7375			211	
DAYS OPERATED		26			25			1	

8119 x 15 = 121,785
491 x 15,00 = 7,365
8610 129,150 = 15

PERIOD ENDING JUNE 30, 1987

WALDORF CORPORATION
BATTLE CREEK

DATE: 07/08/87
TIME: 21:15:26

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
JSS SALES-OUTSIDERS	3,040,545		354	2,717,000		396	323,545-		42-
SALES RETURNS/ALLOW OUTSIDE	13,805		2	20,000		3	6,195		1-
CLAIMS TRADE	16,776		2	16,000		2	776-		
CASH DISCOUNTS-OUTSIDERS	13,777		2	13,000		2	777-		
FREIGHT/OUTSIDE SALES	86,980		10	100,000		15	13,020		4-
NET TRADE SALES	2,909,207		339	2,568,000		374	341,207-		35-
SALES-INTER-PLANT	138,674		449	505,000		384	366,326		64
SALES RETURNS + ALLOW	39,416		128	5,000		4	34,416-		124
CLAIMS INTRACOMPANY	94,721		307	4,000		3	90,721-		303
FREIGHT/INTRACOMPANY SALES	6,263		20	27,000		21	20,737		
NET I/C SALES	1,725-		6-	469,000		357	470,725		363-
TOTAL NET SALES	2,907,481		327	3,037,000		371	129,519		44-
RAW MATERIAL	1,162,032		123	1,061,000		128	101,032-		4-
DIRECT LABOR	225,666		24	212,568		26	13,098-		2-
VARIABLE EXPENSE	895,836		95	960,579		116	64,743		20-
FIXED EXPENSE	226,764		24	280,918		34	54,154		10-
INVENTORY CHANGE (FAV.)	209,000-		22-	26,000-		3-	183,000		19-
COST OF GOODS SOLD	2,301,298		259	2,489,065		304	187,767		46-
GROSS PROFIT	606,183		68	547,935		67	58,248-		1
ADMINISTRATIVE EXPENSE	46,738		5	57,998		7	11,260		2-
AL SELLING & ADMIN	46,738		5	57,998		7	11,260		2-
OPERATING PROFIT	559,445		63	489,937		60	69,508-		3
OTHER REVENUE (EXPENSE)	247			2,000			1,753		
EARN BEFORE INTEREST & TAXES	559,692		63	491,937		60	67,755-		3
TRADE TONS SHIPPED		8588			6867			1721	
I/C TONS SHIPPED		309			1314			1005-	
TOTAL TONS SHIPPED		8897			8181			716	
TONS PRODUCED		9420			8310			1110	
DAYS OPERATED		30			30				

LOCATION: 011
PERIOD ENDING MAY 31, 1987

WALDORF CORPORATION
BATTLE CREEK

DATE: 06/06/87
TIME: 16:35:01

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	3,307,733		357	2,720,000		396	587,733-		38-
SALES RETURNS/ALLOW OUTSIDE	139,608		15	20,000		3	119,608-		12
CLAIMS TRADE				17,000		2	17,000		2-
CASH DISCOUNTS-OUTSIDERS	11,150		1	13,000		2	1,850		1-
FREIGHT/OUTSIDE SALES	92,547		10	100,000		15	3,453		4-
NET TRADE SALES	3,063,428		331	2,570,000		374	490,428-		43-
SALES-INTER-PLANT									
INTRACOMPANY GROSS SALES	264,372		357	505,000		384	240,628		27
SALES RETURNS + ALLOW				5,000		4	5,000		4-
CLAIMS INTRACOMPANY				4,000		3	4,000		3-
FREIGHT/INTRACOMPANY SALES	6,749		9	27,000		21	20,251		11-
NET I/C SALES	257,623		348	469,000		357	211,377		9-
TOTAL NET SALES	3,318,051		332	3,039,000		371	279,051-		39-
RAW MATERIAL	1,156,070		127	1,096,000		128	60,070-		1-
DIRECT LABOR	234,849		26	230,774		27	4,075-		1-
VARIABLE EXPENSE	844,464		93	998,944		116	154,480		24-
FIXED EXPENSE	235,943		26	280,918		33	44,975		7-
INVENTORY CHANGE (FAV.)	218,000		24	102,000-		12-	320,000-		36
COST OF GOODS SOLD	2,689,325		269	2,504,636		306	184,689-		37-
GROSS PROFIT	628,726		63	534,364		65	94,362-		2-
ADMINISTRATIVE EXPENSE	58,191		6	59,000		7	809		1-
TOTAL SELLING & ADMIN	58,191		6	59,000		7	809		1-
OPERATING PROFIT	570,535		57	475,364		58	95,171-		1-
OTHER REVENUE (EXPENSE)	220			2,000	16804-		1,780		
EARN BEFORE INTEREST & TAXES	570,755	7037661-	57	477,364	16804-	58	93,391-		1-
TRADE TONS SHIPPED		9256			6872			2384	
I/C TONS SHIPPED		741			1314			573-	
TOTAL TONS SHIPPED		9997			8186			1811	
TONS PRODUCED		9103			8587			516	
DAYS OPERATED		31			31				

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,826,608		363	2,718,000		396	108,608-		32-
SALES RETURNS/ALLOW OUTSIDE	44,471		6	20,000		3	24,471-		3
CLAIMS TRADE	25,000		3	17,000		2	8,000-		1
CASH DISCOUNTS-OUTSIDERS	11,255		1	13,000		2	1,745		
FREIGHT/OUTSIDE SALES	86,252		11	100,000		15	13,748		3-
NET TRADE SALES	2,659,630		342	2,568,000		374	91,630-		32-
SALES-INTER-PLANT				505,000		384	291,670		12-
INTRACOMPANY GROSS SALES	213,330		372						
SALES RETURNS + ALLOW				5,000		4	5,000		4-
CLAIMS INTRACOMPANY	5,000		9	4,000		3	1,000-		6
FREIGHT/INTRACOMPANY SALES	8,088		14	27,000		21	18,912		6-
NET I/C SALES	200,242		349	469,000		357	268,758		8-
TOTAL NET SALES	2,859,873		342	3,037,000		371	177,127		29-
RAW MATERIAL	1,073,877		119	1,061,000		128	12,877-		9-
DIRECT LABOR	228,955		25	217,859		26	11,096-		1-
VARIABLE EXPENSE	898,317		99	985,185		119	86,868		19-
FIXED EXPENSE	273,598		30	280,918		34	7,320		4-
INVENTORY CHANGE (FAV.)	144,000-		16-	26,000-		3-	118,000		13-
COST OF GOODS SOLD	2,330,747		279	2,518,962		308	188,215		29-
GROSS PROFIT	529,125		63	518,038		63	11,087-		
NISTRATIVE EXPENSE	65,017		8	58,998		7	6,019-		1
TOTAL SELLING & ADMIN	65,017		8	58,998		7	6,019-		1
OPERATING PROFIT	464,108		56	459,040		56	5,068-		1-
OTHER REVENUE (EXPENSE)				2,000	16522-		2,000		
EARN BEFORE INTEREST & TAXES	464,108		56	461,040	16522-	56	3,068-		1-
TRADE TONS SHIPPED		7781			6868			913	
I/C TONS SHIPPED		574			1314			740-	
TOTAL TONS SHIPPED		8355			8182			173	
TONS PRODUCED		9043			8310			733	
DAYS OPERATED		30			30				

PERIOD ENDING MARCH 31, 1987 BATTLE CREEK DATE: 04/06/8
TIME: 20:06:49

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	3,076,089		362	2,719,000		396	357,089-		33-
SALES RETURNS/ALLOW OUTSIDE	64,731		8	20,000		3	44,731-		5
CLAIMS TRADE	42,000		5	17,000		2	25,000-		2
CASH DISCOUNTS-OUTSIDERS	14,071		2	13,000		2	1,071-		
FREIGHT/OUTSIDE SALES	109,295		13	101,000		15	8,295-		2-
NET TRADE SALES	2,845,992		335	2,568,000		374	277,992-		39-
SALES-INTER-PLANT				506,000		385	506,000		385-
INTRACOMPANY GROSS SALES	218,488		379				218,488-		379
SALES RETURNS + ALLOW				5,000		4	5,000		4-
CLAIMS INTRACOMPANY	6,000		10	4,000		3	2,000-		7
FREIGHT/INTRACOMPANY SALES	8,991		16	26,000		20	17,009		4-
NET I/C SALES	203,497		353	471,000		358	267,503		5-
TOTAL NET SALES	3,049,489		336	3,039,000		371	10,489-		35-
RAW MATERIAL	1,106,596		128	1,112,000		129	5,404		2-
DIRECT LABOR	231,566		27	223,251		26	8,315-		1
VARIABLE EXPENSE	970,113		112	1,021,743		119	51,630		7-
FIXED EXPENSE	268,413		31	280,918		33	12,505		2-
INVENTORY CHANGE (FAV.)	90,000		10	102,000-		12-	192,000-		22
COST OF GOODS SOLD	2,666,688		294	2,535,912		310	130,776-		16-
GROSS PROFIT	382,801		42	503,088		61	120,287		19-
ADMINISTRATIVE EXPENSE	59,652		7	59,000		7	652-		1-
TOTAL SELLING & ADMIN	59,652		7	59,000		7	652-		1-
OPERATING PROFIT	323,149		36	444,088		54	120,939		19-
OTHER REVENUE (EXPENSE)	110			2,000			1,890		
EARN BEFORE INTEREST & TAXES	323,259		36	446,088		54	122,829		19-
TRADE TONS SHIPPED		8494			6873			1621	
I/C TONS SHIPPED		576			1314			738-	
TOTAL TONS SHIPPED		9070			8187			883	
TONS PRODUCED		8650			8587			63	
DAYS OPERATED		31			31				

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,687,457		354	2,550,000		372	137,457-		18-
SALES RETURNS/ALLOW OUTSIDE	6,576		1	20,000		3	13,424		2-
CLAIMS TRADE	37,667		5	17,000		2	20,667-		2
CASH DISCOUNTS-OUTSIDERS	14,354		2	13,000		2	1,354-		
FREIGHT/OUTSIDE SALES	74,910		10	101,000		15	26,090		5-
NET TRADE SALES	2,553,950		336	2,399,000		350	154,950-		14-
SALES-INTER-PLANT	181,711		381	480,000		365	298,289-		16
INTRACOMPANY GROSS SALES									
SALES RETURNS + ALLOW				4,000		3	4,000		3-
CLAIMS INTRACOMPANY	4,000		8	4,000		3			5
FREIGHT/INTRACOMPANY SALES	7,683		16	26,000		20	18,317		4-
NET I/C SALES	170,027		357	446,000		339	275,973		18
TOTAL NET SALES	2,723,977		337	2,845,000		348	121,023		11-
RAW MATERIAL	907,742		108	1,005,000		130	97,258		21-
DIRECT LABOR	202,385		24	200,595		26	1,790-		2-
VARIABLE EXPENSE	976,706		117	961,100		124	15,606-		7-
FIXED EXPENSE	279,125		33	280,922		36	1,797		3-
INVENTORY CHANGE (FAV.)	80,000-		10-	123,000		16	203,000		25-
COST OF GOODS SOLD	2,285,959		283	2,570,617		315	284,658		31-
GROSS PROFIT	438,018		54	274,383		34	163,635-		21
ADMINISTRATIVE EXPENSE	58,446		7	58,999		7	553		
TOTAL SELLING & ADMIN	58,446		7	58,999		7	553		
OPERATING PROFIT	379,572		47	215,384		26	164,188-		21
OTHER REVENUE (EXPENSE)	110			2,000			1,890		
EARN BEFORE INTEREST & TAXES	379,682	5689550-	47	217,384		27	162,298-		20
TRADE TONS SHIPPED		7599			6859			740	
I/C TONS SHIPPED		476			1314			838-	
TOTAL TONS SHIPPED		8075			8173			98-	
TONS PRODUCED		8378			7756			622	
DAYS OPERATED		28			28				

WALDORF CORPORATION
BATTLE CREEK

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,724,975		357	2,556,000		372	168,975		15-
SALES RETURNS/ALLOW OUTSIDE	25,360		3	20,000		3	5,360 -		
CLAIMS TRADE	38,000		5	17,000		2	21,000 -		3
CASH DISCOUNTS-OUTSIDERS	9,398		1	12,000		2	2,602		1-
FREIGHT/OUTSIDE SALES	91,343		12	101,000		15	9,657		3-
NET TRADE SALES	2,560,873		336	2,406,000		350	154,873-		14-
SALES-INTER-PLANT				480,000		365	480,000		365-
INTRACOMPANY GROSS SALES	284,853		376				284,853-		376
SALES RETURNS + ALLOW	7,373		10	4,000		3	3,373-		7
CLAIMS INTRACOMPANY	4,000		5	4,000		3			2
FREIGHT/INTRACOMPANY SALES	12,872		17	26,000		20	13,128		3-
NET I/C SALES	260,608		344	446,000		339	185,392		4
TOTAL NET SALES	2,821,481		336	2,852,000		348	30,519		12-
RAW MATERIAL	1,044,645		108	1,076,000		125	31,355		17-
DIRECT LABOR	228,586		24	224,464		26	4,122-		2-
VARIABLE EXPENSE	1,048,155		109	1,033,041		120	15,114-		12-
FIXED EXPENSE	255,058		26	280,922		33	25,864		6-
INVENTORY CHANGE (FAV.)	262,875-		27-	102,000-		12-	160,875		15-
COST OF GOODS SOLD	2,313,568		276	2,512,427		307	198,859		31-
GROSS PROFIT	507,913		61	339,573		41	168,340-		19
SELLING EXPENSE	5,839-		1-				5,839		1-
ADMINISTRATIVE EXPENSE	76,160		9	59,002		7	17,158-		2
TOTAL SELLING & ADMIN	70,321		8	59,002		7	11,319-		1
OPERATING PROFIT	437,592		52	280,571		34	157,021-		18
OTHER REVENUE (EXPENSE)	110			2,000	16806-		1,890		
EARN BEFORE INTEREST & TAXES	437,702		52	282,571	16806-	35	155,131-		18
TRADE TONS SHIPPED		7630			6874			756	
I/C TONS SHIPPED		758			1314			556-	
TOTAL TONS SHIPPED		8388			8188			200	
TONS PRODUCED		9634			8587			1047	
DAYS OPERATED		31			31				

LOCATION: 011
PERIOD ENDING DECEMBER 31, 1986

WALDORF CORPORATION
BATTLE CREEK

PAGE
DATE: 01/10/
TIME: 07:21:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TO
GROSS SALES-OUTSIDERS	2,871,963		359	2,544,000		372	327,963-		1
SALES RETURNS/ALLOW OUTSIDE	14,158		2	20,000		3	5,842		
CLAIMS TRADE	33,000		4	16,000		2	17,000-		
CASH DISCOUNTS-OUTSIDERS	14,120		2	13,000		2	1,120-		
FREIGHT/OUTSIDE SALES	94,223		12	101,000		15	6,777		
NET TRADE SALES	2,716,463		339	2,394,000		350	322,463-		1
SALES-INTER-PLANT				480,000		365	480,000		36
INTRACOMPANY GROSS SALES	154,031		387				154,031-		38
SALES RETURNS + ALLOW				4,000		3	4,000		
CLAIMS INTRACOMPANY	4,000		10	4,000		3			
FREIGHT/INTRACOMPANY SALES	6,802		17	26,000		20	19,198		
NET I/C SALES	143,229		360	446,000		339	302,771		2
TOTAL NET SALES	2,859,692		340	2,840,000		348	19,692-		
RAW MATERIAL	790,239		114	751,000		108	39,239-		
DIRECT LABOR	212,033		31	183,685		27	28,348-		
VARIABLE EXPENSE	1,062,391		153	1,040,098		150	22,293-		
FIXED EXPENSE	274,193		40	280,939		41	6,746		
INVENTORY CHANGE (FAV.)	322,000		46	346,000		50	24,000		
COST OF GOODS SOLD	2,660,856		317	2,601,72[illegible]		319	59,134-		
GROSS PROFIT	198,835		24	238,278		29	39,443		
SELLING EXPENSE	5,839		1				5,839-		1
ADMINISTRATIVE EXPENSE	52,657		6	59,002		7	6,345		1
TOTAL SELLING & ADMIN	58,496		7	59,002		7	506		
OPERATING PROFIT	140,340		17	179,276		22	38,936		5
OTHER REVENUE (EXPENSE)	3,131			2,000			1,131-		
EARN BEFORE INTEREST & TAXES	143,471		17	181,276		22	37,805		5
TRADE TONS SHIPPED		8004			6844			1160	
I/C TONS SHIPPED		398			1314			916-	
TOTAL TONS SHIPPED		8402			8158			244	
TONS PRODUCED		6938			6925			13	
DAYS OPERATED		25			25				

OCT NOV DC

PERIOD ENDING NOVEMBER 30, 1986

BATTLE CREEK

DATE: 12/06/86
TIME: 07:00:36

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	3,027,165		361	2,554,000		372	473,165-		11-
SALES RETURNS/ALLOW OUTSIDE	10,817		1	20,000		3	9,183		2-
CLAIMS TRADE	44,000		5	17,000		2	27,000-		3
CASH DISCOUNTS-OUTSIDERS	12,728-		2	13,000-		2	272-		-
FREIGHT/OUTSIDE SALES	103,909		12	101,000		15	2,909-		2-
NET TRADE SALES	2,855,711		341	2,403,000		350	452,711-		9-
SALES-INTER-PLANT				480,000		365	480,000		365-
INTRACOMPANY GROSS SALES	291,786		360				291,786-		360
SALES RETURNS + ALLOW	712		1	4,000		3	3,288		2-
CLAIMS INTRACOMPANY	4,000		5	4,000		3			2
FREIGHT/INTRACOMPANY SALES	16,457		20	26,000		20	9,543		1
NET I/C SALES	270,617		334	446,000		339	175,383		5-
TC ET SALES	3,126,328		340	2,849,000		348	277,328-		8-
RAW MATERIAL	1,092,785		117	980,000		118	112,785-		1-
DIRECT LABOR	242,368		26	228,664		28	13,704-		2-
VARIABLE EXPENSE	996,956		106	1,007,399		121	10,443		15-
FIXED EXPENSE	284,582		30	280,923		34	3,659-		3-
INVENTORY CHANGE (FAV.)	35,000-		4-	26,000-		3-	9,000		1-
COST OF GOODS SOLD	2,581,690		281	2,470,986		302	110,704-		21-
GROSS PROFIT	544,638		59	378,014		46	166,624-		13
ADMINISTRATIVE EXPENSE	55,829		6	59,001		7	3,172		1-
TOTAL SELLING & ADMIN	55,829		6	59,001		7	3,172		1-
OPERATING PROFIT	488,809		53	319,013		39	169,796-		14
OTHER REVENUE (EXPENSE)	714			2,000			1,286		
EARN BEFORE INTEREST & TAXES	489,522		53	321,013		39	168,509-		14
TRADE TONS SHIPPED		8385			6869			1516	
I/C TONS SHIPPED		810			1314			504-	
TOTAL TONS SHIPPED		9195			8183			1012	
TONS PRODUCED		9378			8310			1068	
DAYS OPERATED		30			30				

LOCATION: 011
PERIOD ENDING OCTOBER 31, 1986

WALDORF CORPORATION
BATTLE CREEK

PAGE
DATE: 11/08
TIME: 08:07

YEAR TO DATE PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TI
GROSS SALES-OUTSIDERS	11,621,193		361	10,117,000		368	1,504,193-		
SALES RETURNS/ALLOW OUTSIDE	62,722		2	80,000		3	17,278		
CLAIMS TRADE	121,601		4	68,000		2	53,601-		
CASH DISCOUNTS-OUTSIDERS	53,133		2	52,000		2	1,133-		
FREIGHT/OUTSIDE SALES	294,799		9	404,000		15	109,201		
NET TRADE SALES	11,088,937		345	9,513,000		346	1,575,937-		
SALES-INTER-PLANT	108,769		50	1,893,000		360	1,784,231		31
INTRACOMPANY GROSS SALES	692,270		317				692,270-		31
SALES RETURNS + ALLOW				16,000		3	16,000		
CLAIMS INTRACOMPANY	16,000		7	16,000		3			
FREIGHT/INTRACOMPANY SALES	37,282		17	104,000		20	66,718		
NET I/C SALES	747,757		342	1,757,000		334	1.009,243		E
TOTAL NET SALES	11,836,694		345	11,270,000		344	566,694-		
RAW MATERIAL	3,843,655		114	3,918,000		119	74.345		5
DIRECT LABOR	854,560		25	854,542		26	18-		1
VARIABLE EXPENSE	3,898,233		116	3,947,670		120	49,437		4-
FIXED EXPENSE	1,124,862		33	1,123.706		34	1,156-		1-
INVENTORY CHANGE (FAV.)	129,000		4	37,000-		1-	166,000-		5
COST OF GOODS SOLD	9,850,310		287	9,806.918		300	43,392-		13-
GROSS PROFIT	1,986,385		58	1,463,082		45	523,303-		13
ADMINISTRATIVE EXPENSE	231,141		7	236,000		7	4,859		
TOTAL SELLING & ADMIN	231,141		7	236,000		7	4,859		
OPERATING PROFIT	1,755,244		51	1,227,082		37	528,162-		14
OTHER REVENUE (EXPENSE)	2,532			4,000	65809		1,468		
EARN BEFORE INTEREST & TAXES	1,757,776		51	1,231,082	65809	38	526,694-		14
TRADE TONS SHIPPED		32157			27471			4686	
I/C TONS SHIPPED		2186			5256			3070-	
TOTAL TONS SHIPPED		34343			32727			1616	
TONS PRODUCED		33749			32963			786	
DAYS OPERATED		119			119				

YTD

Based on this number

September Operating Days = 30

(Couldn't find sheet for Sept.)

LOCATION: 011
PERIOD ENDING OCTOBER 31, 1986

WALDORF CORPORATION
BATTLE CREEK

MONTHLY PROFIT REPORT

DATE: 11/08/8
TIME: 08:07:5

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,950,311		370	2,556,000		372	394,311-		2-
SALES RETURNS/ALLOW OUTSIDE	14,526		2	20,000		3	5,474		1-
CLAIMS TRADE	39,601		5	17,000		2	22,601-		2
CASH DISCOUNTS-OUTSIDERS	14,408		2	13,000		2	1,408-		
FREIGHT/OUTSIDE SALES	95,450		12	101,000		15	5,550		3-
NET TRADE SALES	2,786,326		350	2,405,000		350	381,326-		
SALES-INTER-PLANT				480,000		365	480,000		365-
INTRACOMPANY GROSS SALES	236,409		385				236,409-		385
SALES RETURNS + ALLOW				4,000		3	4,000		3-
CLAIMS INTRACOMPANY	4,000		7	4,000		3			3
FREIGHT/INTRACOMPANY SALES	6,625		11	26,000		20	19,375		9-
NET I/C SALES	225,784		368	446,000		339	220,216		28
TOTAL NET SALES	3,012,110		351	2,851,000		348	161,110-		3
RAW MATERIAL	1,024,868		113	1,012,000		118	12,868-		5-
DIRECT LABOR	226,883		25	221,205		26	5,678-		1-
VARIABLE EXPENSE	1,003,524		111	1,012,389		118	8,865		7-
FIXED EXPENSE	293,265		32	280,922		33	12,343-		
INVENTORY CHANGE (FAV.)	131,000-		14-	102,000-		12-	29,000		3-
COST OF GOODS SOLD	2,417,540		282	2,424,516		296	6,976		14-
GROSS PROFIT	594,570		69	426,484		52	168,086-		17
	199-						199		
ADMINISTRATIVE EXPENSE	46,323		5	59,001		7	12,678		2-
TOTAL SELLING & ADMIN	46,124		5	59,001		7	12,877		2-
OPERATING PROFIT	548,445		64	367,483		45	180,962-		19
OTHER REVENUE (EXPENSE)	111			1,000	16806-		889		
EARN BEFORE INTEREST & TAXES	548,556		64	368,483	16806-	45	180,073-		19
TRADE TONS SHIPPED		7967			6874			1093	
I/C TONS SHIPPED		614			1314			700-	
TOTAL TONS SHIPPED		8581			8188			393	
TONS PRODUCED		9066			8587			479	
DAYS OPERATED		31			31				

LOCATION: 011
PERIOD ENDING AUGUST 31, 1986

WALDORF CORPORATION
BATTLE CREEK

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER
GROSS SALES-OUTSIDERS	3,024,335		363	2,556,000		380	468,335		
SALES RETURNS/ALLOW OUTSIDE	21,088		3	20,000		3	1,088		
CLAIMS TRADE	27,000		3	17,000		3	10,000		
CASH DISCOUNTS-OUTSIDERS	14,970		2	13,000		2	1,970		
FREIGHT/OUTSIDE SALES	72,411	2328625	9	101,000		15	28,589-	2328625	
NET TRADE SALES	2,888,867	2328625-	347	2,405,000		358	483,867	2328625-	
SALES-INTER-PLANT				480,000		365	480,000-		
INTRACOMPANY GROSS SALES	113,074		365				113,074		
SALES RETURNS + ALLOW				4,000		3	4,000-		
CLAIMS INTRACOMPANY	4,000		13	4,000		3			
FREIGHT/INTRACOMPANY SALES	4,731	554065	15	26,000		20	21,269-	554065	
NET I/C SALES	104,343	554065-	337	446,000		339	341,657-	554065-	
TOTAL NET SALES	2,993,209	2882690-	346	2,851,000		355	142,209	2882690-	
RAW MATERIAL	1,016,224		113	1,016,000		121	224		
DIRECT LABOR	218,202		24	225,810		27	7,608-		
VARIABLE EXPENSE	980,790		109	982,280		117	1,490-		
FIXED EXPENSE	286,738	4	32	280,922		33	5,816	4	
INVENTORY CHANGE (FAV.)	62,000-		7-	102,000-		12-	40,000		
COST OF GOODS SOLD	2,439,955	4	282	2,403,012		299	36,943	4	
GROSS PROFIT	553,254	2882694-	64	447,988		56	105,266	2882694-	
SELLING EXPENSE	299						299		
ADMINISTRATIVE EXPENSE	53,519		6	58,999		7	5,480-		
TOTAL SELLING & ADMIN	53,818		6	58,999		7	5,181-		
OPERATING PROFIT	499,436	2882694-	58	388,989		48	110,447	2882694-	
OTHER REVENUE (EXPENSE)	2,091	17679-		1,000	16481-		1,091	1198-	
EARN BEFORE INTEREST & TAXES	501,527	2900373-	58	389,989	16481-	49	111,538	2883892-	
TRADE TONS SHIPPED		8335			6719			1616	
I/C TONS SHIPPED		310			1314			1004-	
TOTAL TONS SHIPPED		8645			8033			612	
TONS PRODUCED		9003			8417			586	
DAYS OPERATED		31			31				

******** REPORT COMPLETED ********

LOCATION: 011
PERIOD ENDING JULY 31, 1986

WALDORF CORPORATION
BATTLE CREEK

YEAR TO DATE PROFIT REPORT

PAGE
DATE: 08/08/
TIME: 18:16:

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TO
GROSS SALES-OUTSIDERS	2,764,951		350	2,403,000		358	361,951		
SALES RETURNS/ALLOW OUTSIDE	11,189		1	20,000		3	8,811-		
CLAIMS TRADE	25,000		3	17,000		3	8,000		
CASH DISCOUNTS-OUTSIDERS	10,689		1	13,000		2	2,311-		
FREIGHT ON OUTSIDE SALES	52,508		7	99,000		15	46,492-		
NET TRADE SALES	2,665,565		337	2,254,000		335	411,565		
SALES-INTER-PLANT	108,769		343	453,000		345	344,231-		
SALES RETURNS + ALLOW				4,000		3	4,000-		
CLAIMS INTRACOMPANY	4,000		13	4,000		3			1
FREIGHT ON INTRACOMPANY SALE	6,237		20	26,000		20	19,763-		
NET I/C SALES	98,532		311	419,000		319	320,468-		
TOTAL NET SALES	2,764,098		336	2,673,000		333	91,098		
RAW MATERIAL	842,039		115	870,095		119	28,056-		
DIRECT LABOR	191,583		26	190,508		26	1,075		
VARIABLE EXPENSE	949,083		129	993,567		136	44,484-		
FIXED EXPENSE	275,078		37	280,940		38	5,862-		
INVENTORY CHANGE (FAV.)	188,000		26	193,000		26	5,000-		
COST OF GOODS SOLD	2,445,783		298	2,528,110		315	82,327-		1
GROSS PROFIT	318,315		39	144,890		18	173,425		2
ADMINISTRATIVE EXPENSE	51,018		6	59,001		7	7,983-		
TOTAL SELLING & ADMIN	51,018		6	59,001		7	7,983-		
OPERATING PROFIT	267,297		33	85,889		11	181,408		2
OTHER REVENUE (EXPENSE)				1,000			1,000-		
EARN BEFORE INTEREST & TAXES	267,297		33	86,889		11	180,408		2
TRADE TONS SHIPPED		7898			6719			1179	
I/C TONS SHIPPED		317			1314			997-	
TOTAL TONS SHIPPED		8215			8033			182	
TONS PRODUCED		7340			7331			9	
DAYS OPERATED		27			27				

******** REPORT COMPLETED ********

LOCATION: 011
PF) ENDING JUNE 30, 1986

WALDORF CORPORATION
BATTLE CREEK

PA
DATE:
TIME:

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANC AMOUNT	VARIANC UNIT
GROSS SALES-OUTSIDERS	2,907,820		358	2,513,000		372	394,820	
SALES RETURNS/ALLOW OUTSIDE	31,964		4	23,000		3	8,964	
CLAIMS TRADE	28,000		3	18,000		3	10,000	
CASH DISCOUNTS-OUTSIDERS	25,319		3	14,000		2	11,319	
FREIGHT ON OUTSIDE SALES	70,992		9	86,000		13	15,008-	
NET TRADE SALES	2,751,546		338	2,372,000		351	379,546	
INTRACOMPANY GROSS SALES	180,897		366	425,000		399	244,103-	
SALES RETURNS + ALLOW			--	4,000		4	4,000-	
CLAIMS INTRACOMPANY	5,000		10	4,000		4	1,000	
FREIGHT ON INTRACOMPANY SALE	6,020		12	22,000		21	15,980-	
NET I/C SALES	169,878		344	395,000		370	225,122-	
TOTAL NET SALES	2,921,424		339	2,767,000		354	154,424	
RAW MATERIAL	932,342		111	896,000		115	36,342	
DIRECT LABOR	213,574		25	209,000		27	4,574	
VARIABLE EXPENSE	753,677		90	818,900		105	65,223-	
FIXED EXPENSE	473,843		56	416,100		53	57,743	
INVENTORY CHANGE (FAV.)	111,500		13			--	111,500	
COST OF GOODS SOLD	2,484,936		288	2,340,000		300	144,936	
GROSS PROFIT	436,488		51	427,000		55	9,488	
	5,489		1	8,000		1	2,511-	
SELLING ALLOCATION	20,000		2	36,000		5	16,000-	
ADMINISTRATIVE EXPENSE	41,817		5	55,000		7	13,183-	
TOTAL SELLING & ADMIN	67,306		8	99,000		13	31,694-	
OPERATING PROFIT	369,182		43	328,000		42	41,182	
OTHER REVENUE (EXPENSE)		17044-						
EARN BEFORE INTEREST & TAXES	369,182	5667569-	43	328,000		42	41,182	
TRADE TONS SHIPPED		8133		6,752				
I/C TONS SHIPPED		494		1,066				
TOTAL TONS SHIPPED		8627		7,818				
TONS PRODUCED		8387		7,818				
DAYS OPERATED		30		30				

******** REPORT COMPLETED ********

LOCATION: 011
PERIOD ENDING MAY 31, 1986

WALDORF CORPORATION
BATTLE CREEK

MONTHLY PROFIT REPORT

DATE: 06/06/86
TIME: 20:41:12

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,885,145		347	2,595,000		372	290,145		(25)
SALES RETURNS/ALLOW OUTSIDE	4,219		1	23,000		3	18,781-		2
CLAIMS TRADE	38,000		5	18,000		3	20,000		(2)
CASH DISCOUNTS-OUTSIDERS	10,931		1	15,000		2	4,069-		1
FREIGHT ON OUTSIDE SALES	113,383		14	88,000		13	25,383		(1)
NET TRADE SALES	2,718,612		327	2,451,000		351	267,612		(24)
INTRACOMPANY GROSS SALES	134,667		348	439,000		399	304,333-		(50)
SALES RETURNS + ALLOW				4,000		4	4,000-		4
CLAIMS INTRACOMPANY	5,000		13	5,000		5			(8)
FREIGHT ON INTRACOMPANY SALE	7,499		19	22,000		20	14,501-		1
NET I/C SALES	122,168		316	408,000		370	285,832-		(54)
TOTAL NET SALES	2,840,781		327	2,859,000		354	18,219-		(30)
RAW MATERIAL	882,143		101	927,000		115	44,857-		14
DIRECT LABOR	219,490		25	217,000		27	2,490		2
VARIABLE EXPENSE	805,048		92	854,900		106	49,852-		14
FIXED EXPENSE	506,658		58	418,100		52	88,558		(6)
INVENTORY CHANGE (FAV.)	6,500-		1-				6,500-		
COST OF GOODS SOLD	2,406,839		277	2,417,000		299	10,161-		22
GROSS PROFIT	433,942		50	442,000		55	8,058-		(5)
	12,013		1	8,000		1	4,013		0
SELLING ALLOCATION	20,000		2	36,000		4	16,000-		2
ADMINISTRATIVE EXPENSE	19,983		2	55,000		7	35,017-		5
TOTAL SELLING & ADMIN	51,996		6	99,000		12	47,004-		6
OPERATING PROFIT	381,946		44	343,000		42	38,946		2
OTHER REVENUE (EXPENSE)									
EARN BEFORE INTEREST & TAXES	381,946		44	343,000		42	38,946		2
TRADE TONS SHIPPED		8306			6,977			1,329	
I/C TONS SHIPPED		387			1,100			713	
TOTAL TONS SHIPPED		8693			8,077			616	
TONS PRODUCED		8773			8,077			696	
DAYS OPERATED		31			31				

LOCATION: 011
PERIOD ENDING APRIL 30, 1986

WALDORF CORPORATION
BATTLE CREEK

MONTHLY PROFIT REPORT

DATE: 05/07/86
TIME: 19:10:54

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,315,519		347	2,430,000		360	114,481 -		13 -
SALES RETURNS/ALLOW OUTSIDE	24,782		4	23,000		3	1,782		1 -
CLAIMS TRADE	16,000		2	18,000		3	2,000 -		1
CASH DISCOUNTS-OUTSIDERS				14,000		2	14,000 -		2
FREIGHT ON OUTSIDE SALES	93,935		14	86,000		13	7,935	6552282	1
NET TRADE SALES	2,180,802		327	2,289,000		339	108,198 -	6552282-	12 -
INTRACOMPANY GROSS SALES	481,818		363	407,000		382	74,818		19 -
SALES RETURNS + ALLOW			—	4,000		4	4,000 -		4
CLAIMS INTRACOMPANY	3,581		3	4,000		4	419 -		1 -
FREIGHT ON INTRACOMPANY SALE	28,799		22	22,000		21	6,799	2225325	1 -
NET I/C SALES	449,437		338	377,000		354	72,437	2225325-	16
TOTAL NET SALES	2,630,240		329	2,666,000		341	35,760 -	8777607-	12 -
RAW MATERIAL	872,620		104	896,000		115	23,380 -		9
DIRECT LABOR	209,133		25	205,000		26	4,133		1
VARIABLE EXPENSE	728,488		87	860,000		110	131,512 -	32650	23
FIXED EXPENSE	529,456		63	416,000		53	113,456		10 -
INVENTORY CHANGE (FAV.)	150,918-		(18)			—	150,918 -		18
COST OF GOODS SOLD	2,188,779		274	2,377,000		304	188,221 -	32650	30
GROSS PROFIT	441,461		55	289,000		37	152,461	8810257-	18
	18,511		2	8,000		1	10,511		1 -
SELLING ALLOCATION	20,000		2	36,000		5	16,000 -		3
ADMINISTRATIVE EXPENSE	53,188		7	55,000		7	1,812 -		0
TOTAL SELLING & ADMIN	91,699		11	99,000		13	7,301 -		2
OPERATING PROFIT	349,762		44	190,000		24	159,762	8810257-	20
OTHER REVENUE (EXPENSE)	2,518		—				2,518		—
EARN BEFORE INTEREST & TAXES	352,279		44	190,000		24	162,279	8810257-	20
TOTAL TONS SHIPPED	6,673			6,752					
I/C TONS SHIPPED	1,328			1,066					
TOTAL TONS SHIPPED	8,001			7,818					
TONS PRODUCED	8,383			7,818					
DAYS OPERATED	30			30					

WALDORF CORPORATION
BATH MILL

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,352,532		352	2,506,000		359	153,468-		7 -
SALES RETURNS/ALLOW OUTSIDE	98,943		15	23,000		3	75,943		12
CLAIMS TRADE	27,300		4-	18,000		3	45,300		1
CASH DISCOUNTS OUTSIDERS	11,192		2	15,000		2	3,808-		0
FREIGHT ON OUTSIDE SALES	86,665		13	88,000		13	1,335-		0
NET TRADE SALES	2,183,031		327	2,362,000		339	178,969-		12 -
INTERCOMPANY GROSS SALES	297,969		353	423,000		385	125,031-		32 -
SALES RETURNS + ALLOW				4,000		4	4,000-		
CLAIMS INTERCOMPANY	3,000		4	5,000		5	2,000-		1 -
FREIGHT ON INTERCOMPANY SALE	13,183		16	22,000		20	8,817-		4 -
NET I/C SALES	281,786		334	392,000		356	110,214-		22 -
TOTAL NET SALES	2,464,818		328	2,754,000		341	289,182-		12 -
RAW MATERIAL	820,403		106	927,000		115	106,597-		9
DIRECT LABOR	303,018		39	222,000		27	81,018		12
VARIABLE EXPENSE	895,315		116	910,900		113	15,585-		3
FIXED EXPENSE	288,101		37	418,100		52	129,999-		15
INVENTORY CHANGE (FAV.)	16,000		2			-	16,000		
COST OF GOODS SOLD	2,322,836		309	2,478,000		307	155,164-		2 -
GROSS PROFIT	141,982		19	276,000		34	134,018-		15 -
SELLING EXPENSE	1,607			8,000		1	6,393-		
SELLING ALLOCATION	20,000		3	36,000		4	16,000-		1 -
ADMINISTRATIVE EXPENSE	51,568		7	55,000		7	3,432-		0
TOTAL SELLING & ADMIN	73,175		10	99,000		12	25,825-		2 -
OPERATING PROFIT	68,806		9	177,000		22	108,194-		13 -
OTHER REVENUE (EXPENSE)	9,177		1				9,177		
EARN BEFORE INTEREST & TAXES	77,983		10	177,000		22	99,017-		12 -
TRADE TONS SHIPPED		6,676			6,977				
I/C TONS SHIPPED		843			1,100				
TOTAL TONS SHIPPED		7,519			8,077				
TONS PRODUCED		7,746			8,077				
DAYS OPERATED		31			31				

LOCATION: 011
PERIOD ENDING FEBRUARY 28, 1986

WALDORF CORPORATION
BATTLE CREEK

PAGE 1
DATE: 03/07/86
TIME: 23:41:58

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES OUTSIDERS	2,313		351	2,230		354	83		3-
SALES RETURNS/ALLOW OUTSIDE	12		2	21		3	9-		1-
CLAIMS TRADE	11		2	17		3	6-		1-
CASH DISCOUNTS-OUTSIDERS	11		2	13		2	2-		
FREIGHT ON OUTSIDE SALES	94		14	79		13	15		1
NET TRADE SALES	2,187		332	2,100		333	87		1-
INTRACOMPANY GROSS SALES	279		352	387		389	108-		37-
SALES RETURNS + ALLOW				4		4	4-		
CLAIMS INTRACOMPANY	3		4	4		4	1-		
FREIGHT ON INTRACOMPANY SALE	13		16	20		20	7-		4-
NET I/C SALES	264		333	359		361	95-		28-
TOTAL NET SALES	2,450		332	2,459		337	9-		5
RAW MATERIAL	826		107	827		113	1-		6-
DIRECT LABOR	195		25	193		26	2		1-
VARIABLE EXPENSE	744		96	852		117	108-		21-
FIXED EXPENSE	442		57	415		57	27		
INVENTORY CHANGE (FAV.)	55-		7-				55-		7-
TOTAL COST OF GOODS SOLD	2,152		291	2,287		313	135-		22-
GROSS PROFIT	298		40	172		24	126		16
	5		1	8		1			
ADMINISTRATION EXPENSE	43		6	55		6			
SELLING ALLOCATION	20		3	36		5			2-
TOTAL SELLING & ADMIN	68		9	99		14			5-
OPERATING PROFIT	230		31	73		10			21
OTHER REVENUE (EXPENSE)	2						2		
EARN BEFORE INTEREST & TAX	232		31	73		10	159		21
TRADE TONS SHIPPED		6,593				6303			290
I/C TONS SHIPPED		793				994			201-
TOTAL TONS SHIPPED		7,386				7297			89
TONS PRODUCED		7,719				7297			422
DAYS OPERATED		28							8

Ton Prod

T/S

T/S

LOCATION: 411 WALDORF RATTON
PERIOD ED 3 JANUARY 31, 1986 BATTL EK

DATE: 02/11/86
TIME: 14:59:27

MONTHLY PROFIT REPORT

ACCOUNT DESCRIPTION	ACTUAL AMOUNT	ACTUAL UNIT	ACTUAL PER TON	BUDGET AMOUNT	BUDGET UNIT	BUDGET PER TON	VARIANCE AMOUNT	VARIANCE UNIT	VARIANCE PER TON
GROSS SALES-OUTSIDERS	2,289		353	2,429		360	140-		7-
SALES RETURNS/ALLOW OUTSIDE	33		5	22		3	11		2
CLAIMS TRADE	10		2	18		3	8-		1-
CASH DISCOUNTS-OUTSIDERS	12		2	14		2	2-		
FREIGHT ON OUTSIDE SALES	92		14	86		13	6		1
NET TRADE SALES	2,142		330	2,209		339	147-		9-
INTRACOMPANY GROSS SALES	261		354	407		382	146-		28-
SALES RETURNS + ALLOW				4		4	4-		4-
CLAIMS INTRACOMPANY	3		4	4		4	1-		
FREIGHT ON INTRACOMPANY SALE	15		21	22		21	7-		
NET I/C SALES	243		329	377		354	134-		25-
TOTAL NET SALES	2,385		330	2,666		341	281-		11-
RAW MATERIAL	729		92	895		114	166-		23-
DIRECT LABOR	203		26	205		26	2-		1-
VARIABLE EXPENSE	848		107	939		120	91-		13-
FIXED EXPENSE	506		64	416		53	90		10
INVENTORY CHANGE (FAV.)	217-		27-				217-		27-
TOTAL COST OF GOODS SOLD	2,068		286	2,455		314	387-		28-
GROSS PROFIT	317		44	211		27	106		17
	1			8		1	7-		1-
ADMINISTRATION EXPENSE	63		9	55		7	8		2
SELLING ALLOCATION	20		3	36		5	16-		2-
TOTAL SELLING & ADMIN	84		12	99		13	15-		1-
OPERATING PROFIT	233		32	112		14	121		18
OTHER REVENUE (EXPENSE)									
EARN BEFORE INTEREST & TAX	233		32	112		14	121		18
TRADE TONS SHIPPED		6,492			6,752			260-	
I/C TONS SHIPPED		738			1,066			328-	
TOTAL TONS SHIPPED		7,230			7,818			588-	
TONS PRODUCED		7,938			7,818			120	
DAYS OPERATED		30			30				

STAFF

WALDORF CORPORATION - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 12/31/85

RUN 13:57:02 1/08/86 WLC

		ACTUAL		BUDGET		VARIANCE	
		AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
010	GROSS TRADE SALES	2,277	339	1,838	355	439	16-
011	TRADE FREIGHT	82	12	65	13	17-	1
012	SALES DISCOUNT	14	2	11	2	3-	
013	RETURNS	30	4	17	3	13-	1-
014	CLAIMS	15	2	14	3	1-	1
	NET TRADE SALES	2,136	318	1,731	334	405	16-
020	GROSS I/C SALES	209	365	308	377	99-	12-
021	I/C FREIGHT	16	27	17	21	1	6-
023	RETURNS			3	4	3	4
024	CLAIMS	3	5	3	4		1-
	NET I/C SALES	190	332	285	349	95-	17-
	TOTAL NET SALES	2,326	319	2,016	336	310	17-
	MATERIALS:						
040	PAPER USAGE STD	486	77	488	81	2	4
041	BEATER ROLL - SALES	9-	1-	8-	1-	1	
042	PURCHASE PRICE VARIANCE	98-	16-	74-	12-	24	4
	TOTAL PAPER STOCK	379	60	406	68	27	8
050	CLAY USAGE STD	188	30	198	33	10	3
055	PURCHASE PRICE VARIANCE	2-				2	
057	OTHER	15	2	12	2	3-	
	TOTAL OTHER CHEMICALS	201	32	210	35	9	3
	CONVERSION COST:						
	FIXED:						
110	SALARIES	70	11	70	12		1
111	PAYROLL TAXES	5	1	7	1	2	
112	VACATION & HOLIDAYS	41	7	41	7		
113	DEPRECIATION	56	9	57	10	1	1
114	PROPERTY INSURANCE	18	3	18	3		
115	PROPERTY TAXES	29	5	28	5	1-	
116	LEASE CHARGES	7	1	8	1	1	
117	GROUP INS & PENSION	65	10	45	8	20-	2-
	TOTAL FIXED	291	46	274	46	17-	
	SEMI-VARIABLE:						
210	REPAIR LABOR	96	15	98	16	2	1
211	PAYROLL TAXES	10	2	13	2	3	
212	REPAIR MATERIAL	120	19	130	22	10	3
213	SHUTDOWN EXPENSE	60-	10-			60	10
214	MACHINE CLOTHING	26	4	26	4		
215	EFFLUENT TREATMENT	43	7	48	8	5	1
216	OTHER IN/OUT	5-	1-	5-	1-		
	TOTAL SEMI-VARIABLE	230	37	310	52	80	15
	VARIABLE:						
310	DIRECT LABOR	162	26	161	27	1-	1
312	INDIRECT LABOR	67	11	39	7	28-	4-
313	PAYROLL TAXES	27	4	27	5		1
314	FUEL	267	42	293	49	26	7
315	ELECTRICTIY	115	18	132	22	17	4
316	WATER			3	1	3	1
317	CONVERTING SUPPLIES	129	20	112	19	17-	1-
318	OTHER	48	8	35	6	13-	2-
319							
	TOTAL VARIABLE	815	130	802	134	13-	4
	TOTAL CONVERSION	1,336	213	1,386	232	50	19
	TOTAL COST TO MFR	1,916	305	2,002	334	86	29-
401	FINISHED GOODS INV CHG	236				236-	
	TOTAL INV CHANGE	236	38			236-	38-
	COST OF SALES	2,152	295	2,002	334	150-	39-
	GROSS PROFIT	174	24	14	2	160	22
	S & A EXPENSES:						
551	SELLING	13	2	8	1	5-	1-
552	MILL ADMINISTRATIVE	53	7	55	9	2	2
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING	20	3	36	6	16	3
	TOTAL S & A	86	12	99	17	13	5
	NET OPERATING INCOME	88	12	85-	14-	173	26
902	TRADE TONS SHIPPED	6,721		5,179		1,542	
903	I/C TONS SHIPPED	573		816		243-	
904	TOTAL TONS SHIPPED	7,294		5,995		1,299	
906	TONS PRODUCED	6,290		5,995		295	
908	DAYS OPERATED	23		23			

50

STAFF

WALDORF CORPORATION - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 11/30/85

RUN 9:01:07 12/06/85

		ACTUAL		BUDGET		VARIANCE	
		AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
010	GROSS TRADE SALES	2,433	352	2,217	352	216	
011	TRADE FREIGHT	124	18	79	13	45-	5-
012	SALES DISCOUNT	12	2	13	2	1	
013	RETURNS			21	3	21	3
014	CLAIMS	18	3	16	3	2-	
	NET TRADE SALES	2,279	330	2,088	331	191	1-
020	GROSS I/C SALES	211	348	373	375	162-	27-
021	I/C FREIGHT	10	16	20	20	10	4
023	RETURNS			4	4	4	4
024	CLAIMS	4	7	4	4		3-
	NET I/C SALES	197	325	345	347	148-	22-
	TOTAL NET SALES	2,476	329	2,433	333	43	4-
	MATERIALS:						
040	PAPER USAGE STD	588	74	588	81		7
041	BEATER ROLL - SALES	11-	1-	8-	1-	3	
042	PURCHASE PRICE VARIANCE	107-	13-	89-	12-	18	1
	TOTAL PAPER STOCK	470	59	491	67	21	8
050	CLAY USAGE STD	260	33	239	33	21-	
055	PURCHASE PRICE VARIANCE	4-	1-			4	1
057	OTHER	14	2	16	2	2	
	TOTAL OTHER CHEMICALS	270	34	255	35	15-	1
	CONVERSION COST:						
	FIXED:						
110	SALARIES	70	9	70	10		1
111	PAYROLL TAXES	5	1	7	1	2	
112	VACATION & HOLIDAYS	41	5	41	6		1
113	DEPRECIATION	56	7	57	8	1	1
114	PROPERTY INSURANCE	18	2	18	2		
115	PROPERTY TAXES	28	4	28	4		
116	LEASE CHARGES	8	1	8	1		
117	GROUP INS & PENSION	63	8	45	6	18-	2-
	TOTAL FIXED	289	37	274	38	15-	1
	SEMI-VARIABLE:						
210	REPAIR LABOR	86	11	97	13	11	2
211	PAYROLL TAXES	7	1	13	2	6	1
212	REPAIR MATERIAL	78	10	70	10	8-	
213	SHUTDOWN EXPENSE						
214	MACHINE CLOTHING	28	4	26	4	2-	
215	EFFLUENT TREATMENT	58	7	48	7	10-	
216	OTHER IN/OUT	4-	1-	5-	1-	1-	
	TOTAL SEMI-VARIABLE	253	32	249	34	4-	2
	VARIABLE:						
310	DIRECT LABOR	216	27	196	27	20-	
312	INDIRECT LABOR	58	7	50	7	8-	
313	PAYROLL TAXES	24	3	32	4	8	1
314	FUEL	282	36	320	44	38	8
315	ELECTRICTIY	155	20	150	21	5-	1
316	WATER	2		3		1	
317	CONVERTING SUPPLIES	123	16	137	19	14	3
318	OTHER	64	8	35	5	29-	3-
319							
	TOTAL VARIABLE	924	117	923	126	1-	9
	TOTAL CONVERSION	1,466	186	1,446	198	20-	12
	TOTAL COST TO MFR	2,206	279	2,192	300	14-	21-
401	FINISHED GOODS INV CHG	106-				106	
	TOTAL INV CHANGE	106-	13-			106	13
	COST OF SALES	2,100	279	2,192	300	92	21-
	GROSS PROFIT	376	50	241	33	135	17
	S & A EXPENSES:						
551	SELLING	8	1	8	1		
552	MILL ADMINISTRATIVE	49	7	55	8	6	1
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING	20	3	36	5	16	2
	TOTAL S & A	77	10	99	14	22	4
	NET OPERATING INCOME	299	40	142	19	157	21
902	TRADE TONS SHIPPED	6,908		6,303		605	
903	I/C TONS SHIPPED	607		994		387-	
904	TOTAL TONS SHIPPED	7,515		7,297		218	
906	TONS PRODUCED	7,908		7,297		611	
908	DAYS OPERATED	30		28		2	

STAFF

WALDORF CORPORATION - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 10/31/85

RUN 10:37:10 11/06/85

		ACTUAL		BUDGET		VARIANCE	
		AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
010	GROSS TRADE SALES	2,730	351	2,487	356	243	5-
011	TRADE FREIGHT	117	15	88	13	29-	2-
012	SALES DISCOUNT	14	2	15	2	1	
013	RETURNS			23	3	23	3
014	CLAIMS	23	3	18	3	5-	
	NET TRADE SALES	2,576	331	2,343	336	233	5-
020	GROSS I/C SALES	449	365	417	379	32	14-
021	I/C FREIGHT	26	21	21	19	5-	2-
023	RETURNS			4	4	4	4
024	CLAIMS	5	4	5	5		1
	NET I/C SALES	418	340	387	352	31	12-
	TOTAL NET SALES	2,994	332	2,730	338	264	6-
	MATERIALS:						
040	PAPER USAGE STD	676	81	659	82	17-	1
041	BEATER ROLL - SALES	20-	2-	8-	1-	12	1
042	PURCHASE PRICE VARIANCE	126-	15-	100-	12-	26	3
	TOTAL PAPER STOCK	530	64	551	68	21	4
050	CLAY USAGE STD	297	36	266	33	31-	3-
055	PURCHASE PRICE VARIANCE	1-				1	
057	OTHER	18	2	18	2		
	TOTAL OTHER CHEMICALS	314	38	284	35	30-	3-
	CONVERSION COST:						
	FIXED:						
110	SALARIES	70	8	70	9		1
111	PAYROLL TAXES	5	1	7	1	2	
112	VACATION & HOLIDAYS	41	5	41	5		
113	DEPRECIATION	56	7	57	7	1	
114	PROPERTY INSURANCE	18	2	18	2		
115	PROPERTY TAXES	28	3	28	3		
116	LEASE CHARGES	8	1	8	1		
117	GROUP INS & PENSION	60	7	45	6	15-	1-
	TOTAL FIXED	286	34	274	34	12-	
	SEMI-VARIABLE:						
210	REPAIR LABOR	79	9	89	11	10	2
211	PAYROLL TAXES	12	1	11	1	1-	
212	REPAIR MATERIAL	98	12	70	9	28-	3-
213	SHUTDOWN EXPENSE						
214	MACHINE CLOTHING	28	3	26	3	2-	
215	EFFLUENT TREATMENT	57	7	48	6	9-	1-
216	OTHER IN/OUT	6-	1-	5-	1-	1	
	TOTAL SEMI-VARIABLE	268	32	239	30	29-	2-
	VARIABLE:						
310	DIRECT LABOR	217	26	210	26	7-	
312	INDIRECT LABOR	53	6	52	6	1-	
313	PAYROLL TAXES	33	4	34	4	1	
314	FUEL	287	34	333	41	46	7
315	ELECTRICTIY	169	20	164	20	5-	
316	WATER	2		3		1	
317	CONVERTING SUPPLIES	137	16	154	19	17	3
318	OTHER	46	5	35	4	11-	1-
319							
	TOTAL VARIABLE	944	113	985	122	41	9
	TOTAL CONVERSION	1,498	179	1,498	186		7
	TOTAL COST TO MFR	2,342	281	2,333	289	9-	8-
401	FINISHED GOODS INV CHG	166				166-	
	TOTAL INV CHANGE	166	20			166-	20-
	COST OF SALES	2,508	278	2,333	289	175-	11-
	GROSS PROFIT	486	54	397	49	89	5
	S & A EXPENSES:						
551	SELLING	6	1	8	1	2	
552	MILL ADMINISTRATIVE	50	6	55	7	5	1
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING	20	2	36	4	16	2
	TOTAL S & A	76	8	99	12	23	3
	NET OPERATING INCOME	410	46	298	37	112	14
902	TRADE TONS SHIPPED	7,779		6,977		802	
903	I/C TONS SHIPPED	1,230		1,100		130	
904	TOTAL TONS SHIPPED	9,009		8,077		932	
906	TONS PRODUCED	8,340		8,077		263	
908	DAYS OPERATED	31		31			

STAFF

WALDORF CORPORATION - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 9/30/85

RUN 9:44:45 10/15/85

		ACTUAL		BUDGET		VARIANCE	
		AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
010	GROSS TRADE SALES	2,454	354	2,406	356	48	2-
011	TRADE FREIGHT	100	14	86	13	14-	1-
012	SALES DISCOUNT	17	2	14	2	3-	
013	RETURNS	12	2	23	3	11	1
014	CLAIMS	13	2	18	3	5	1
	NET TRADE SALES	2,312	334	2,265	335	47	1-
020	GROSS I/C SALES	414	361	403	378	11	17-
021	I/C FREIGHT	25	22	22	21	3-	1-
023	RETURNS			4	4	4	4
024	CLAIMS			5	5	5	5
	NET I/C SALES	389	339	372	349	17	10-
	TOTAL NET SALES	2,701	335	2,637	337	64	2-
	MATERIALS:						
040	PAPER USAGE STD	620	78	637	81	17	3
041	BEATER ROLL - SALES	15-	2-	8-	1-	7	1
042	PURCHASE PRICE VARIANCE	102-	13-	96-	12-	6	1
	TOTAL PAPER STOCK	503	63	533	68	30	5
050	CLAY USAGE STD	288	36	258	33	30-	3-
055	PURCHASE PRICE VARIANCE			9-	1-	9-	1-
057	OTHER	15	2	17	2	2	
	TOTAL OTHER CHEMICALS	303	38	266	34	37-	4-
	CONVERSION COST:						
	FIXED:						
110	SALARIES	70	9	70	9		
111	PAYROLL TAXES	5	1	7	1	2	
112	VACATION & HOLIDAYS	41	5	41	5		
113	DEPRECIATION	56	7	57	7	1	
114	PROPERTY INSURANCE	18	2	18	2		
115	PROPERTY TAXES	28	4	28	4		
116	LEASE CHARGES	10	1	8	1	2-	
117	GROUP INS & PENSION	49	6	45	6	4-	
	TOTAL FIXED	277	35	274	35	3-	
	SEMI-VARIABLE:						
210	REPAIR LABOR	81	10	87	11	6	1
211	PAYROLL TAXES	14	2	11	1	3-	1-
212	REPAIR MATERIAL	72	9	70	9	2-	
213	SHUTDOWN EXPENSE						
214	MACHINE CLOTHING	28	4	26	3	2-	1-
215	EFFLUENT TREATMENT	66	8	48	6	18-	2-
216	OTHER IN/OUT	6-	1-	5-	1-	1	
	TOTAL SEMI-VARIABLE	255	32	237	30	18-	2-
	VARIABLE:						
310	DIRECT LABOR	211	26	213	27	2	1
312	INDIRECT LABOR	53	7	52	7	1-	
313	PAYROLL TAXES	39	5	34	4	5-	1-
314	FUEL	269	34	304	39	35	5
315	ELECTRICTIY	128	16	158	20	30	4
316	WATER	3		3			
317	CONVERTING SUPPLIES	159	20	149	19	10-	1-
318	OTHER	39	5	35	4	4-	1-
319							
	TOTAL VARIABLE	901	113	948	121	47	8
	TOTAL CONVERSION	1,433	180	1,459	186	26	6
	TOTAL COST TO MFR	2,239	281	2,258	289	19	8-
401	FINISHED GOODS INV CHG	60				60-	
	TOTAL INV CHANGE	60	8			60-	8-
	COST OF SALES	2,299	285	2,258	289	41-	4-
	GROSS PROFIT	402	50	379	48	23	2
	S & A EXPENSES:						
551	SELLING	4		8	1	4	1
552	MILL ADMINISTRATIVE	51	6	55	7	4	1
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING						
	TOTAL S & A	55	7	63	8	8	1
	NET OPERATING INCOME	347	43	316	40	31	3
902	TRADE TONS SHIPPED	6,928		6,752		176	
903	I/C TONS SHIPPED	1,146		1,066		80	
904	TOTAL TONS SHIPPED	8,074		7,818		256	
906	TONS PRODUCED	7,980		7,818		162	
908	DAYS OPERATED	30		30			

1

STAFF

WALDORF CORPORATION - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 8/31/85

RUN 13:52:29 9/04/85

		ACTUAL		BUDGET		VARIANCE	
		AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
010	GROSS TRADE SALES	3,030	361			3,030	361
011	TRADE FREIGHT	122	15			122-	15-
012	SALES DISCOUNT	13	2			13-	2-
013	RETURNS						
014	CLAIMS	69	8			69-	8-
	NET TRADE SALES	2,826	337			2,826	337
020	GROSS I/C SALES	123	367			123	367
021	I/C FREIGHT	7	21			7-	21-
023	RETURNS						
024	CLAIMS	2	6			2-	6-
	NET I/C SALES	114	341			114	341
	TOTAL NET SALES	2,940	337			2,940	337
	MATERIALS:						
040	PAPER USAGE STD	659	83			659-	83-
041	BEATER ROLL - SALES	14-	2-			14	2
042	PURCHASE PRICE VARIANCE	104-	13-			104	13
	TOTAL PAPER STOCK	541	68			541-	68-
050	CLAY USAGE STD	260	33			260-	33-
055	PURCHASE PRICE VARIANCE	11-	1-			11	1
057	OTHER	17	2			17-	2-
	TOTAL OTHER CHEMICALS	266	34			266-	34-
	CONVERSION COST:						
	FIXED:						
110	SALARIES	64	8			64-	8-
111	PAYROLL TAXES	5	1			5-	1-
112	VACATION & HOLIDAYS	37	5			37-	5-
113	DEPRECIATION	56	7			56-	7-
114	PROPERTY INSURANCE	24	3			24-	3-
115	PROPERTY TAXES	28	4			28-	4-
116	LEASE CHARGES	6	1			6-	1-
117	GROUP INS & PENSION	50	6			50-	6-
	TOTAL FIXED	270	34			270-	34-
	SEMI-VARIABLE:						
210	REPAIR LABOR	72	9			72-	9-
211	PAYROLL TAXES	11	1			11-	1-
212	REPAIR MATERIAL	93	12			93-	12-
213	SHUTDOWN EXPENSE	45	6			45-	6-
214	MACHINE CLOTHING	30	4			30-	4-
215	EFFLUENT TREATMENT	50	6			50-	6-
216	OTHER IN/OUT	6-	1-			6	1
	TOTAL SEMI-VARIABLE	295	37			295-	37-
	VARIABLE:						
310	DIRECT LABOR	220	28			220-	28-
312	INDIRECT LABOR	54	7			54-	7-
313	PAYROLL TAXES	31	4			31-	4-
314	FUEL	267	34			267-	34-
315	ELECTRICTIY	180	23			180-	23-
316	WATER						
317	CONVERTING SUPPLIES	138	17			138-	17-
318	OTHER	39	5			39-	5-
319							
	TOTAL VARIABLE	929	117			929-	117-
	TOTAL CONVERSION	1,494	188			1,494-	188-
	TOTAL COST TO MFR	2,301	290			2,301-	290
401	FINISHED GOODS INV CHG	288				288-	
	TOTAL INV CHANGE	288	36			288-	36-
	COST OF SALES	2,589	297			2,589-	297
	GROSS PROFIT	351	40			351	40
	S & A EXPENSES:						
551	SELLING	22	2			22-	2-
552	MILL ADMINISTRATIVE	54	6			54-	6-
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING						
	TOTAL S & A	76	9			76-	9-
	NET OPERATING INCOME	275	32		32	275	
902	TRADE TONS SHIPPED	8,384				8,384	
903	I/C TONS SHIPPED	334				334	
904	TOTAL TONS SHIPPED	8,718				8,718	
906	TONS PRODUCED	7,926				7,926	
908	DAYS OPERATED	31				31	

STAFF

WALDORF CORPORATION - BATTLE CREEK RECYCLED FIBER
TOTAL ANGELL MILL MONTHLY PROFIT REPORT
MONTH ENDED 7/31/85

RUN 10:30:56 8/08/85

		ACTUAL		BUDGET		VARIANCE	
		AMOUNT	PER TON	AMOUNT	PER TON	AMOUNT	PER TON
010	GROSS TRADE SALES	1,057	358			1.057	358
011	TRADE FREIGHT	43	15			43-	15-
012	SALES DISCOUNT	5	2			5-	2-
013	RETURNS						
014	CLAIMS	8	3			8-	3-
	NET TRADE SALES	1,001	339			1,001	339
020	GROSS I/C SALES	103	364			103	364
021	I/C FREIGHT	6	20			6-	20-
023	RETURNS						
024	CLAIMS	1	4			1-	4-
	NET I/C SALES	96	339			96	339
	TOTAL NET SALES	1,097	339			1,097	339
	MATERIALS:						
040	PAPER USAGE STD	322	81			322-	81-
041	BEATER ROLL - SALES	10-	3-			10	3
042	PURCHASE PRICE VARIANCE	55-	14-			55	14
	TOTAL PAPER STOCK	257	65			257-	65-
050	CLAY USAGE STD	133	34			133-	34-
055	PURCHASE PRICE VARIANCE	1-				1	
057	OTHER	8	2			8-	2-
	TOTAL OTHER CHEMICALS	140	35			140-	35-
	CONVERSION COST:						
	FIXED:						
110	SALARIES	33	8			33-	8-
111	PAYROLL TAXES	3	1			3-	1-
112	VACATION & HOLIDAYS	19	5			19-	5-
113	DEPRECIATION	28	7			28-	7-
114	PROPERTY INSURANCE	4	1			4-	1-
115	PROPERTY TAXES	14	4			14-	4-
116	LEASE CHARGES	3	1			3-	1-
117	GROUP INS & PENSION	25	6			25-	6-
	TOTAL FIXED	129	33			129-	33-
	SEMI-VARIABLE:						
210	REPAIR LABOR	37	9			37-	9-
211	PAYROLL TAXES	6	2			6-	2-
212	REPAIR MATERIAL	35	9			35-	9-
213	SHUTDOWN EXPENSE	15	4			15-	4-
214	MACHINE CLOTHING	20	5			20-	5-
215	EFFLUENT TREATMENT	25	6			25-	6-
216	OTHER IN/OUT	3-	1-			3	1
	TOTAL SEMI-VARIABLE	135	34			135-	34-
	VARIABLE:						
310	DIRECT LABOR	100	25			100-	25-
312	INDIRECT LABOR	25	6			25-	6-
313	PAYROLL TAXES	15	4			15-	4-
314	FUEL	137	35			137-	35-
315	ELECTRICTIY	88	22			88-	22-
316	WATER	2	1			2-	1-
317	CONVERTING SUPPLIES	55	14			55-	14-
318	OTHER	12	3			12-	3-
319							
	TOTAL VARIABLE	434	109			434-	109-
	TOTAL CONVERSION	698	176			698-	176-
	TOTAL COST TO MFR	1,095	276			1,095-	276
401	FINISHED GOODS INV CHG	143-				143	
	TOTAL INV CHANGE	143-	36-			143	36
	COST OF SALES	952	294			952-	294
	GROSS PROFIT	145	45			145	45
	S & A EXPENSES:						
551	SELLING	8	3			8-	3-
552	MILL ADMINISTRATIVE	25	8			25-	8-
553	DIV ADMINISTRATIVE						
554	DIVISION SELLING						
	TOTAL S & A	33	10			33-	10-
	NET OPERATING INCOME	112	35		35	112	
902	TRADE TONS SHIPPED	2,950				2,950	
903	I/C TONS SHIPPED	283				283	
904	TOTAL TONS SHIPPED	3,233				3,233	
906	TONS PRODUCED	3,964				3,964	
908	DAYS OPERATED	15				15	

ANGELL MILL

TONS/TPD 1984/ACTUAL

Days Oper.	MONTH		Customer Tons	Side Rolls Tons	Ribbons Tons	Odd Lot Tons	TOTAL
24	January -	Total	5,120	81	117	346	6962 5,664
		TPD	213	3	5	15	236
28	February-	Total	6,339	5	208	478	6554 7,030
		TPD	226	--	8	17	251
35	March -	Total	7,772	23	266	537	5314 8,598
		TPD	222	1	8	15	246
26	April-	Total	5,285	328	161	468	5773 6,242
		TPD	203	13	6	18	240
28	May-	Total	5,239	183	188	486	6,096
		TPD	187	7	7	17	218
35	June-	Total	6,769	215	176	458	7,618
		TPD	194	6	5	13	218
22.8	July-	Total	4,227	47	171	563	5,008
		TPD	185	2	8	25	220
28	August-	Total	4,950	89	184	956	6,179
		TPD	177	3	7	34	221
32.3	September-	Total	5,566	271	186	771	6,794
		TPD	172	8	6	24	210
28	October-	Total	5,405	299	114	837	6,655
		TPD	193	11	4	30	238
26	November-	Total	5,231	240	150	640	6,261
		TPD	201	9	6	25	241
22.7	December-	Total	4,436	185	151	790	5,562
		TPD	195	8	7	35	245

January 9, 1985

ANGELL MILL

1984 SALES PLAN VS. ACTUAL *

DECEMBER 1984 YTD

000's omitted

	PLAN			ACTUAL			$ VARIANCE		
	Tons	Price Ton	$ 000's	Tons	Price Ton	$ 000's	Total Variance	Price	Volume/ Mix
ANGELCOTE	9600	357.78	3435	6193	339.94	2105	(1330)	(110)	(1101)
ANGELITE	47100	382.43	18012	42691	374.91	16055	(1957)	(321)	(1733)
AB 50	11500	389.95	4484	2946	413.92	1218	(3266)	59	(3108)
AB 70	2920	396.33	1158	1529	416.28	637	(521)	52	(492)
CORE STOCK	6500	430.00	2795	6402	458.02	2932	137	160	(34)
OTHER UNCOATED	1500	300.00	450	3270	324.95	1062	612	85	554
TOTAL PRIME	79120	383.39	30334	63031	380.91	24009	(6325)	56	(5914)
SIDE ROLL/RIBBON	1720	170.00	292	3345	209.72	701	409	130	250
ODD LOT	5160	170.00	877	9534	185.09	1765	888	131	596
TOTAL	86000	366.31	31503	75910	348.78	26475	(5028)	317	(5068)

12.

*Net Sales Less Freight

January 11, 1985

ANGELL MILL
FIBER CONSUMPTION

		DECEMBER Tons	DECEMBER $	DECEMBER Cost/Ton	DECEMBER Y.T.D. Tons	Y.T.D. $	Y.T.D. Cost/Ton
01	Hard Whites	4.2	1,357	323	564	180,399	319
04	Soft Whites	7.5	1,915	255	882	191,219	216
06	Newsblanks	49.5	6,753	136	1509	217,700	144
07	C P O	677.3	142,218	210	8531	1,658,076	194
09	Flyleaf	(46.5)	(4,000)	(86)	170	18,779	110
17	Groundwood	123.4	11,795	95	1339	134,439	100
18	DLK	697.3	55,965	80	7352	675,392	92
19	News Reg.	1761.7	99,534	56	20419	1,264,959	62
20	Boxboard Cuttings	1116.3	71,238	64	16383	976,912	59
24	Manifold Ledger	321.7	44,588	138	6634	1,042,221	157
25	Bleached Kraft Cuttings	--			276	76,528	277
30	O/I News	271.2	17,955	66	4741	325,244	68
45	Lt. Printed Bleached	159.8	31,321	196	1898	371,522	195
46	Lt.Prt. Wh. Bags	42.9	10,680	249	800	198,581	248
47	TMP Cuttings	55.1	4,223	77	1240	114,842	93
22	Sections	(12.8)	(881)	(69)	139	7,407	53
11	Mtl. Sh.				18	(626)	
12	Prt. Bleached KC				56	10,381	185
29	Prt. Cup cuttings				343	49,330	144
14	SK Bags				28	6,871	245
	Beater Sales	(11.8)	(1,561)	132	(243)	(32,846)	135
	Totals	5216.8	493,100	94	73,079	7,487,330	102
	Standard	5397	494,695	92	75,595	7,055,090	93

January 9, 1985

(11)

QUESTION 15

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: MARCH 1989

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 40.00
02	PRINTED BLEACH KRAFT		$ 90.00
03	DOUBLE LINED KRAFT	13	$ 60.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: FEBRUARY 1989

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
)1	BOX BOARD CUTTINGS (BALES)	4	$ 45.00
)2	PRINTED BLEACH KRAFT		$ 90.00
)3	DOUBLE LINED KRAFT	13	$ 60.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: DECEMBER 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 45.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 45.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 45.00
04	PRINTED BLEACH KRAFT		$ 90.00
05	FLY LEAF SHAVINGS (RACINE)		$ 75.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: NOVEMBER 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 45.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 45.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 45.00
04	PRINTED BLEACH KRAFT		$ 90.00
05	FLY LEAF SHAVINGS (RACINE)		$ 75.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: OCTOBER 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 50.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 50.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 50.00
04	PRINTED BLEACH KRAFT		$ 90.00
05	FLY LEAF SHAVINGS (RACINE)		$ 85.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: SEPTEMBER 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 50.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 50.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 50.00
04	PRINTED BLEACH KRAFT		$100.00
05	FLY LEAF SHAVINGS (RACINE)		$ 90.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: AUGUST 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS(BALES)	4	$50.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$50.00
03	BOX BOARD CUTTINGS (MARO)	4	$50.00
04	PRINTED BLEACH KRAFT		$100.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: JULY 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS(BALES)	4	$50.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$50.00
03	BOX BOARD CUTTINGS (MARO)	4	$50.00
04	PRINTED BLEACH KRAFT		$110.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: JUNE 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 50.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 50.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 50.00
04	PRINTED BLEACH KRAFT		$120.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No. 1291

MONTH: MAY 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 50.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 50.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 50.00
04	PRINTED BLEACH KRAFT		$120.00

WALDORF CORPORATION
Battle Creek, Mi.

TO: DONCO

No 1291

MONTH: APR., 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 50.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 50.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 50.00
04	PRINTED BLEACH KRAFT		$100.00

WALDORF CORPORATION
Battle Creek, MI.

TO: DONCO

No 1291

MONTH: MAR., 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 55.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 55.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 55.00
04	PRINTED BLEACH KRAFT		$100.00

WALDORF CORPORATION

TO: DONCO

No 1291

MONTH: FEB., 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 55.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 50.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 55.00
04	PRINTED BLEACH KRAFT		$100.00

WALDORF CORPORATION

TO: DONCO

No 1291

MONTH: JAN., 1988

Waste paper pricing for this month will be as follows:

L#	.....PAPER-TYPE.....	GRADE	PRICE/TON
01	BOX BOARD CUTTINGS (BALES)	4	$ 55.00
02	BOX BOARD CUTTINGS (SKIDS)	4	$ 50.00
03	BOX BOARD CUTTINGS (MARO)	4	$ 55.00
04	PRINTED BLEACH KRAFT		$100.00

QUESTION 16

INFORMATION REQUESTS

16. The folks listed below were purchasing agents, or purchasing managers, or procurement specialists, or senior management staff for the various companies preceding Rock-Tenn in ownership of the Angell Mill:

Jim Vosburgh (deceased)	
Dick VanDyke (deceased)	
Harold Criswell (deceased)	
Robert A. Armstrong (retired)	whereabouts unknown
Terry A. Tiffany (retired)	hm: (269) 965-5489
Jim Barclay (retired)	may still live in the Battle Creek area
Wendell Chichester (retired)	hm: (269) 781-7223
John Martinek	wk: (313) 579-6608
John Matthews (retired)	may still live in the South Haven area
Carol Stofer	wk: (269) 665-7127
Cheryl A. Weir	wk: (952) 926-0746
Kimberly Cousineau	wk: (269) 968-9380
John Kneeland (current buyer)	wk: (269) 969-7107

QUESTION 17

1-26-48 (J. Swendsen)

INSTRUCTIONS FOR ERECTION OF MECHANICAL PARTS

SVEEN PEDERSEN SAVEALL

The following assembly drawings will be furnished for the erection.

Part List	Dwg. No.
General Assembly	3102-A
Longitudinal Section thru Models 250 to 600 inclusive	3103-A or
" " " " 700 to 1200 inclusive	3104-A
Drive Shaft, Take-Up Shaft and Idler Shaft Assembly	3224-A
Inlet Valve Assembly	3970-B
Metering Unit Assembly	3300-B or 4917-B
Power Unit Assembly	3365-C
Idler Sprocket Assembly	3105-C
Scraper Paddle Assembly	3908-A
Guiding Idler Assembly	3350-C

We suggest starting the erection with the Sole Plate Supports (104). First take one side of the tank and adjust the supports so that they are all in line and in level on the straight portion of the tank and at 10° slope at the outlet ramp. The top of these support plates should be approximately 1-5/8" above the tile wall. Two nuts are provided on the Anchor Bolts (105) for locking these supports in place when making the adjustment. When the first side of the tank is lined up, adjust the corresponding support plates on the opposite side of the tank to exactly the same level. The top of the tank can now be finished off with concrete up to the bottom of the Sole Plate Supports. This will leave about a 1/2" space between channel sections and concrete to facilitate drilling and tapping of holes.

The Sole Plate channel sections (100), (101), (102), & (103) should now be marked off and 7/8" ø holes drilled for Anchor Bolts (105). All the Sole Plates should be flush with the inside of the tank and the top approximately 2" above the tile wall. Remove nuts on top of support plates and put channel sections in place. It is of great importance that the Sole Plates on the two sides of the tank are in level at the corresponding longitudinal points of the tank, so that subsequent measurement for erection of other parts can accurately be made from this Sole Plate.

It is advisable to check this very carefully with one of the shafts laid across the tank using an accurate water level. This should be done for the whole length of the tank and if not in level, the Sole Plate Channels should be shimmed before finally bolted in place.

The wood bottom Rail (68) can now be drilled and bolted in place. Check with Paddle and locate so that Rollers are centered on Rails for the whole length. Plug all bolt holes with hard wood dowels. The ends of the horizontal Rails should be trimmed down at the intersection with the 10° incline Rail as shown on the drawings in order to allow for proper passage of the Paddle Brackets.

The next part to assemble is the Outlet Ramp. First cut the length of the Cleats (65) & (66) 3/4" shorter than the width of the tank in order to allow for expansion. Then mark off and drill holes for Anchor bolts (67). Check the height of the Cleats with a few loose Ramp planks laid on top and with one Paddle in place. Now shim under Cleats until the rubber on the bottom of the Paddle is slightly flexed by the Ramp planks across the whole width of the tank and for the whole contact length of the incline. The Cleats can then be grouted in place but open space should be left under the Cleats at 3 or 4 places to accommodate drainage.

When Ramp Planks (63) are screwed in place allow about 3/16" clearance between the Planks for expansion and assemble in accordance to marking on Planks.

Bearing Brackets (94), (96) & (39) are next to be assembled in positions shown on the assembly drawings. The Track Bracket Base (72) can also be fastened to the Sole Plate Channel. Check Paddle clearance before fastening Brackets.

Next assemble Drive Shaft and in locating Bearings (15) & (16) make sure that shaft is square with the Paddle Rails (68). In locating the Idler Sprocket, make certain that the Ridged Pillow Block Clamps (31) are located directly opposite each other at the same distance from the Drive Shaft.

Assemble the Take-Up Shaft and fasten this in place, with Ridged Pillow Block Clamp (31) and Brackets (34).

Next adjust the height and spacing of Drive Sprockets (20), Idler Sprockets (22) and Take-Up Sprockets (19). Engage the Sprockets with the short piece of chain provided on the Paddle Brackets when making this adjustment.

The Top Rail (69) should then be bolted to Support Angles (144), (145) & (146) and Track Brackets (73) clamped to Track Bracket Bases (72) at approximately the correct height. Place the Top Rails loose on these Brackets and assemble the Chain and all the Paddles, spaced as called for on the assembly drawing, and in position so that Paddles are pulled on Rails, not pushed. All the Brackets should now be adjusted to the correct height.

Before drilling holes however, make sure that the Top Rail is in level with Rail at the same point on the opposite side. This can be checked by measuring the height from the Sole Plate at the corresponding point on both sides of Tank. Bolt the Top Rail to the Bracket directly over the Bottom Rail. The Rail should be centered under the Paddle Bracket Rollers for the entire length. After Rail is in place burn off excess height of all Brackets. Both ends of Rails should be trimmed as shown on the drawings to ease the movement of the Paddles.

The Guide Idlers (138 to 143) should now be bolted to the Top Rail at location shown on the assembly drawing. The height should be such that the Paddles are lifted up slightly when passing over the Sprockets. Idlers necessary on one side Saveall only.

Instructions for the installation of the Outlet Tubes (82) & (81), Dump Valves (79) & (80) and the lower Inlet Valve Disc (106) is given in the Instruction for the Tank Erection.

When securing the Wier Tube Support (90) to the Sole Plate make sure that the Wier Tube Adjustment Rod (88) can be worked freely up and down without binding.

Provide non-corrosive chain for all Dump Valves and set wood Dierboard (61) at Inlet Compartment in level at its lowest point before filling Tank.

Run the Paddles thru a complete cycle by hand to uncover any possible cause of trouble before connecting the Drive Chain.

Check Electric Motor, Worm Reducer, Vari Drive Pulley and all bearings to make certain that they are all greased or oiled before starting Motor. The chain should also have a thin film of oil or grease, but do not grease or oil the Rollers on the Paddles. These Rollers are provided with Carbon Bushing which would be damaged by application of grease or oil.

January 25, 1956

SUBJECT: White Water -- Angell Street Mill

CC: L. G. Fell
Dan Int-Hout, Jr.
E. H. Barnes
Wm. Shaw
L. Philipps
L. Carlson
W. O. Kroeschell
R. Armstrong
Mr. Hoad

It is very apparent from the daily checks on the white water effluent from the Sveen-Pedersen Savealls and the overall solids to sewer from the plant that the savealls are not doing the job of water clarification they did when first installed or are designed to do. This is the case in spite of additions and changes in savealls, as well as other changes in recent months. Therefore, it is imperative that the situation be corrected immediately and the following steps must be taken to attempt to do this:

1. Fully investigate present flocculating agent--Silicate of Soda and Sulphuric Acid processed--Call in service man from DuPont.

2. Investigate possible deficiencies in saveall operation--call in Sveen-Pedersen man--preferably Mr. Berg, who was here at time of installation.

3. Follow up on program outlined on 1/22/56--for achieving constant flow to savealls as outlined in discussion with Mr. Hoad, L. Carlson, G. Hoy, W. Kroeschell, E. Barnes and J. Harrison.

4. Trial runs with National Alumunite Product--as set up by W. Kroeschell.

5. Trial run with glue as flocing agent instead of Silica.

It is our opinion that if the above steps are taken the white water problem at Angell Street can be corrected.

James J. Harrison

E. H. Barnes

dmw

January 25, 1956

SUBJECT: White Water -- Angell Street

CC: L. G. Fell
Dan Int-Hout, Jr.
E. H. Barnes
Wm. Shaw
L. Philipps
L. Carlson
W. O. Kroeschell
R. Armstrong
Mr. Hoad
Leo Styer
Gordon Hoy

I have contacted today Sveen-Pedersen and DuPont Company regarding getting men into our plant next week. Sveen-Pedersen is contacting Herman Berg, who is considered the best man in the country on operation of Sveen-Pedersen Savealls. We will expect to hear from him today or tomorrow, as he is in the South setting up new installations. DuPont will contact their service man, Mr. Paul Lemerman or Mr. Planzanki who do their technical service work on Silicasol. They will have a man in here within the next week to go over this whole situation with our people.

James J. Harrison

dmw

KALAMAZOO TANK & SILO COMPANY

KALAMAZOO · MICHIGAN

16

500-508 HARRISON STREET TELEPHONE 2-0134

January 30, 1947

R H L Hand

~~Dowel Lengths & if furnished have them sent them over~~

Michigan Carton Co.
Battle Creek
Michigan

Attention of Mr. M. C. Jones

Gentlemen:

We received your letter of the 29th this morning and I tried to call you but you weren't in and, therefore, I talked with Dr. Harrison regarding the savealls.

Our original drawing probably was not too clear to you but the actual width of the inlet chamber above the floor of the inlet chamber itself will be as specified by Bulkley Dunton on their drawing and we have changed our drawing to conform. Actually this does not change the overall dimensions a bit since the wall of the inlet chamber above the floor will only be 6" thick instead of 8" thick. The 8" thick wall extends from the top of the foundation to the under side of the floor of the inlet chamber and we have made it that thick in order to use some vertical reinforcing steel in it to tie into the concrete slab forming the floor of the inlet chamber.

As to the short cross wall at the overflow end of the clarified water box, we have always made this 6" due to the fact that it is a very short wall inside the tank itself and it is a little bit simpler to make it 6" thick rather than 8" and is just as effective.

We are enclosing three copies of our drawing B-1206 which has been revised.

We believe that this is now satisfactory. With best regards, we remain

Yours truly,

KALAMAZOO TANK & SILO COMPANY

BY Lm Hallock
Vice-President

LMH:C
ENC.

Antl. Clarified water on 800 Gallon Savealls should be on opposite side from way shown. In other words the ~~inlet~~ savealls set ~~parallel to each other~~ and inlet ends face each other.

DATA ON WHITE WATER & SAVEALL PUMPS ---- "ANGEL STREET MILL"

ITEM NO.	SUCTION DIA.	DISCHARGE DIA.	HT. SUCT. ABOVE BASE	PUMP NO.	LOCATION
(white water pumps from pits)					
24	8*	6	10½	6AFV	Liner WW Supply to 16' Hydra.
20	6*	5	12½	5ALV	Liner WW to 800 Saveall
19	8*	6	10½	6AFV	Filler WW to 1200 Saveall
26	8*	6	10½	6AFV	Filler WW to 20' Hydra.
25	6*	5	12½	5ALV	Back WW to 14' Hydra.
(pumps from saveall)					
17	4	3	10¾ + 3'	3CORVL	Recovered Stock from Saveall
22	6*	5	12½ + 2'	5ALV	Clar water from 800 S.A.
21	6*	5	12½ - 2	5ALV	Clar H_2O from 1200 S.A.

* Not center auction pump.

LOCATION OF WHITE WATER PUMPS IN PITS UNDER MACHINE

1. Filler White Water Pump to 1200 gallon saveall.
   Item 19.
   6' 0" East J-27A
   18" Above elevation 96' 0" - to center of hole.
   Hole 16" square

2. Liner White Water Pump to 800. gallon saveall.
   Item 20. 6'0" Ea - J 21A
   6' 0" Above elevation 96' 0" to center of hole.
   Hole 16" square.

3. Liner White Water Supply from liner white water pit to 16' Hydrapulper.
   6' 0" East J 29A
   18" Above elevation 91' 0" to center of hole.
   Hole 16" square.

4. Filler White Water Supply from filler pit to 20' Hydapulper.
   6' 0" East row J 26A.
   18" Above elevation 96' 0" to center of hole.
   Hole 16" square.

5. Backliner White Water Supply from backliner pit to 14' pulper & screen shavers.
   10' 0" East row J 24A.
   18" Above elevation 96' 0" to center of hole.
   Hole 16" square.

LIST OF PUMPS REQUIRED FOR WHITE WATER SYSTEM

1. FLOCCULENT PUMP. 1 Centrifugal Pump and Motor. Capacity 5 to 10 GPM. Estimated head including friction loss, 30 feet. Fitting to be suitable for handling activated Silica and/or dilute glue solution, viscosity similar to H_2O. Iron ~~bronze fitted~~. Stainless Steel fitted

2. RECOVERED STOCK PUMP.- 1200 GALLON SAVEALL UNIT. 1 Centrifugal Pump and Motor, to pump recovered stock from 1200 GPM Saveall Unit to Filler Machine Chest. Stock will not be over 2-1/2% consistency. Bulkley, Dunton recommend an Ingersoll-Rand 30 RVL Pump. 150 GPM with a 50' head.

3. RECOVERED STOCK PUMP - 800 GALLON SAVEALL UNIT. 1 Centrifugal Pump and Motor. Pump should be the same as Item #2.

4. WHITE WATER SUPPLY PUMP TO 1200 GALLON SAVEALL UNIT. 1 Centrifugal 1300 GPM Pump to handle white water containing 3# to 6# paper stock per 1000 gallons at pH (due to alum) of 5.0. Requires 50 - 55#/Sq.In. pumping pressure at discharge of pump. White water to contain 1% air by volume at atmospheric pressure when leaving pump. Air to be added by injector at suction side of pump. Suction head positive.

5. CLARIFIED WHITE WATER PUMP TO REMOVE CLEAR WATER FROM 1200 GALLON SAVEALL UNIT. The clarified water will be used on cylinder showers. Estimated usage at present, 600 to 900 GPM. However, if possible, a pump probably should be bought to handle capacity of Saveall, or 1200 GPM plus 10%. Water is to be supplied to showers at 40#/Sq.In. pressure and will have pH of 5 to 5.5. A pumping pressure at 55 to 60#/Sq.In. at pump discharge should do this. Suction Head Positive.

6. WHITE WATER SUPPLY PUMP TO 800 GALLON SAVEALL UNIT. 1 - 900 GPM Centrifugal Pump and Motor. Same specifications as Item #4 for pump. Suction Head Positive.

7. CLARIFIED WHITE WATER PUMP TO REMOVE CLEAR WATER FROM 800 GALLON SAVEALL UNIT. The clarified water will be used on Felt, Top and Underliner Showers. Estimated usage on showers 600 to 900 GPM at 40#/Sq.In. pressure. 1 - Centrifugal Pump and Motor, capacity 1000 GPM. tion Head Positive

8. BIRD SCREEN HIGH PRESSURE SHOWERS. 1 Centrifugal Pump and Motor to supply 30 GPM at 90#/Sq/In. to 100#/Sq.In. Fresh water booster. Suction is tank pressure.

9. VICKERY FELT CONDITIONERS. Machine equipped with two conditioners which require 25 GPM each at 55 to 60#/Sq/In. fresh water. Possibly our constant head tank will supply this pressure and a separate pump will not be required.

10. WHITE WATER SUPPLY TO LINER SYSTEM FROM LINER WHITE WATER PIT. 1 - 1500 GPM Centrifugal pump and motor. Desire to supply 9,000 to 10,000 gallons of water to 16' Batch Pulper in 5 to 8 minutes prior to furnishing. A pump discharge pressure of 40 - 50#/Sq/In. should suffice for this pump. Water also to be supplied to top and underliner chests. Suction Head Positive.

Item 24

11. WHITE WATER SUPPLY TO CONTINUOUS 20' FILLER PULPER AND TO CONTINUOUS BROKE BEATER FROM FILLER WHITE WATER PIT. 1 - 1400 GPM Centrifugal Pump and Motor. It is estimated that about 1000 GPM will be required for the above usages. A pump which has a discharge pressure of 40 to 50# pressure should suffice for this pump. The usage could go up to 1320 GPM if 350 Tons of .030" Board with .021" filler were used. Suction Head Positive.

Item 25

12. WHITE WATER SUPPLY TO CONTINUOUS BACKLINER PULPER AND TO BIRD FILLER SCREEN SHOWERS FROM BACKLINER WHITE WATER PIT. Water to Filler Screen Showers to be delivered to shower at 35 to 40#/Sq/In. pressure. Estimated usage at 775 GPM. This particular figure should be plenty high as it is based on .003" Backliner on 350 tons of .018 Board a day. Showers figured at 70 GPM each. 1 - Centrifugal Pump and Motor - Capacity, 900 GPM. Suction Head Positive.

Item 26

ESTIMATED DISTANCES FOR WATER TO BE PUMPED WITH VARIOUS WHITE WATER PUMPS

1. Flocculent Pump - Vertical - 16' - Horizontal - 50'.

2. Recovered Stock Pump - 1200 Gallon Saveall Unit. Vertical - 20', Horizontal - 140'.

3. Recovered Stock Pump - 800 Gallon Saveall Unit. Vertical 20', Horizontal - 30'.

4. White Water Supply Pump to 1200 Gallon Saveall Unit. Vertical - 16', Horizontal - 40'.

5. Clarified Water Pump - 1200 Gallon Saveall Unit. Vertical - 25', Horizontal - 70'.

6. White Water Supply Pump to 800 Gallon Saveall Unit - Vertical - 16', Horizontal - 40'.

7. Clarified Water Pump - 800 Gallon Saveall Unit. Vertical - 25', Horizontal - 140'.

8. Bird High Pressure Screen Pump. Depends on desired location of booster pump.

9. Vickery Felt Conditioners.

10. White Water Supply to Liner System from Liner White Water Pit. Vertical - 25', Horizontal - 240'.

11. White Water Supply to 20' Filler Pulper from Filler White Water Pit. Vertical - 25', Horizontal - 375' (This includes 120' line to Filler Cycle Chest.) Vertical - 25', Horizontal - Length of Machine to Continuous Broke Beater.

12. White Water Supply to 14' Backliner Pulper from Backliner White Pit. Vertical 25', Horizontal - 375'.

E. D. JONES CORP. member BELOIT group PITTSFIELD, MASS.

E. D. JONES CORPORATION

PITTSFIELD, MASSACHUSETTS, U. S. A.

TELEPHONE: AREA CODE 413 443-5621 CABLE ADDRESS "JONANSON"

August 11, 1964

Michigan Carton Company
Battle Creek,
Michigan

Attention: Mr. Lou Phillips,
Vice-President Engineering

Subject: Your Discussion with J.R.Greene

Gentlemen:

We wish to thank you for your interest in conducting flotation studies with one of our pilot plants as expressed in your referenced discussion with J. R. Greene.

Our Sveen-Pedersen pilot plants provide a very convenient method by which a mill may witness and evaluate clarification of their white water and recovery of fiber and filler by the flotation process. The pilot plant, rated at approximately 30 GPM, is small enough to be placed at any convenient location in the mill where power (110 volt, single phase, 220/440 volt), a small amount of compressed air, and representative white water can be made available. The enclosed Drawing D66-199017, shows the dimensions of our unit and the normal way in which connections are made.

We are pleased to offer the use of this unit for a three-week period without a rental charge. Additional usage beyond this term would be at the rate of $100.00 per week; that may be credited on the purchase price of the Saveall, if purchased. Equipment transportation charges to and from the mill are paid by the mill. Naturally, the mill assumes responsibility for the unit while it is on their premises, agreeing to return it to us in the same condition as received, fair wear and tear expected.

We also normally provide a qualified engineer at the time of the trial to check out the temporary installation and to assist mill personnel in operating the unit initially. This service is provided by us at no charge to the mill for a two- to five-day period, this time normally being sufficient for evaluation of the principle white waters. If the mill wishes our engineer to remain for a longer period, our normal start-up engineering rates would apply.

Your advice as to a specific convenient date for the pilot plant trial will be appreciated as will your formal purchase order to us acknowledging the provisions as stated above.

Very truly yours,

E. D. JONES CORPORATION

John N. Diamond
Customer Service

mg
In Triplicate
Enclosures

cc: JRGreene
RFKozich

CC:
Mr. W. Shaw
Mr. G. Hoy

C O P Y

SVEEN-PEDERSEN SALES CORPORATION
25-36 JACKSON AVENUE
LONG ISLAND CITY 1, N. Y.

October 28, 1955.

Michigan Carton Company
Battle Creek, Michigan

Att: Mr. L. J. Philipps
Plant Engineer

Re: 1200 GPM Saveall Modernization
Your PO# 03598, Our #447-0

Gentlemen:

In reply to your wire inquiring on the valves, we wired in turn-

SHIPPING VALVES OCTOBER 28 VIA LONG TRANSPORTATION

Our shipping department advises that you should receive the valves on Monday, October 31. B/L is not to hand but the number is: -02485 and you should ask your receiving department to check in Battle Creek.

The following drawings are enclosed (in duplicate) covering the proposed valve installation:

2-2078-A DD Inlet Valve Assembly

2-2308-C Valve Installation on Present Grouted-In-Piece

9081-C " " with adaptor

We are not certain whether the 6 - 1/2 x 1 3/4 Cap Screws were included with the shipment and have asked our factory to send a duplicate set. (See 2-2308-C).

While we have not included our Sheet covering operation of these valves, we have asked our Mr. H. L. Berg to contact you next week by phone so that he can arrange to be present at start-up. Under no circumstances should the valves be operated without start-up by our engineer. (We presume that you will install the valves some week-end in the near future).

Anticipating the pleasure of being of further service, we remain,

Cordially yours,
SVEEN-PEDERSEN SALES CORP.

Fredric R. Meyers
Staff Engineer

frm/u enc. Dwgs. as noted
cc H. L. Berg
C. F. Hutchinson

E. D. JONES CORPORATION
PITTSFIELD, MASSACHUSETTS, U S A

TELEPHONE AREA CODE 413 443-5621 CABLE ADDRESS "JONANSON"

March 27, 1964

Michigan Carton Company
Battle Creek
Michigan

Attention: Mr. Robert Johnson

Subject: JONES 800 GPM Sveen-Pedersen Saveall

Gentlemen:

We wish to extend our thanks for the many courtesies extended to our Messrs. J. R. Greene and R. F. Kozich on the occasion of their recent visit to your mill.

As a result of discussions held during this visit, we wish to confirm the price of $31,300.00, given to you verbally by Mr. J. R. Greene, for an 800 GPM Sveen-Pedersen Saveall as illustrated in the enclosed Bulletin SB 66-002.

This unit would be similar to your present installation except that the latest improvements incorporated into the Sveen-Pedersen would be included. The price would include Items 1 through 9, the Sveen-Pedersen basic unit as described in the enclosed Appendix; and Item 11A, the Sveen-Pedersen Tile Block Vat. Also included would be the "Aqua Air Spray" Aeration Tank. Other items described in the enclosed Appendix are available at extra cost.

The Sveen-Pedersen parts would be quoted F.O.B. Dalton, Massachusetts and the tile vat, F.O.B. point of shipment with freight allowed to the first rail destination within the continental limits of the United States.

We hope that this information is of sufficient interest to merit your serious consideration. Upon your review of the information provided,

we would be most happy to prepare a formal quotation for you. In the meantime, if we may be of any further service, please do not hesitate to contact us.

Very truly yours,

E. D. JONES CORPORATION

F. F. Seymour Jr.

Frederick F. Seymour, Jr.
Customer Service

sp

cc: JRGreene
RFKozich
FRMeyers

Enclosures

Charge to the account of _____ $_____

CLASS OF SERVICE DESIRED			
DOMESTIC		CABLE	
TELEGRAM		ORDINARY	
DAY LETTER		URGENT RATE	
SERIAL		DEFERRED	
NIGHT LETTER		NIGHT LETTER	

Patrons should check class of service desired; otherwise the message will be transmitted as a telegram or ordinary cablegram

WESTERN UNION

JOSEPH L. EGAN
PRESIDENT

1206

CHECK
ACCOUNTING INFORMATION
TIME FILED

Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

NEW YORK NEW YORK MARCH 25, 1948

MICHIGAN CARTON COMPANY
ATTN: J. J. HARRISON

SUGGEST BLANKING WASH OUT LINE STOP INSTALL TWO INCH LINE AT RIGHT ANGLE INTO THREE INCH LINE TO ALLEVIATE RAISING TANK STOP CAN REDUCE TWELVE INCH PIPE TO TEN INCH ON 1208 INCH ON 800 STOP TWO GATE VALVES INSTALLED IF AT ALL POSSIBLE BUT NOT ABSOLUTELY NECESSARY STOP LETTER FOLLOWS.

O. F. HUTCHINSON

PAID
TIME:8:45
REC'D:IB

APPENDIX

All of these items may not be needed for your installation. The items we feel necessary have been quoted on.

ITEM 1 - SVEEN-PEDERSEN INLET VALVE

U. S. Patent No. 2330589 - Additional Patents Pending. This patented inlet valve enables us to maintain and control the proper formation and distribution of the sub-microscopic air bubbles needed for high efficiency flotation.

The Double-Disc inlet valve casting to be of bronze and adjusting rod manufactured of A.R.S. Inlet valves furnished with elbow for extension through wall for connection to inlet piping.

ITEM 2 - OUTLET TUBE ASSEMBLIES

The Sveen-Pedersen outlet tubes are scientifically designed to remove clarified water uniformly and gently across the entire width of the flotation chamber. Each tube is manufactured from stainless steel and consists of the outlet tube, outlet tube elbow, adjustable weir tube and auxiliary equipment such as tube clamp, tube support rods, etc.

ITEM 3 - SCRAPER FLIGHT ASSEMBLY

This assembly consists of:

(a) Channel iron sole plates for mounting on vat wall, complete with anchor bolts and anchor bolt casing.

(b) Maple rails resting on sole plates.

(c) Steel brackets for supporting scraper flight.

(d) Maple return rails, supported by steel angles for scraper flight returns.

(e) Necessary chain drive, idler pulleys, drive pulleys, shaft bearings, drive sprockets and bearing pedestals.

(NOTE: a, b, c, d, and e, do not come in contact with water)

(f) Scraper blade assembly complete with roller brackets and side guides.

Material:	Scraper Blade -	Stainless Steel
	Scraper Brackets-	Bronze
	Scraper Rollers -	Stainless Steel with Needle Bearings

ITEM 4 - VARIABLE SPEED DRIVE UNIT - U.S. VARIDRIVE SYNCHROGEAR RIGHT ANGLE

Complete with 1/2 or 3/4 or 1 HP motor, 6.2 - 25 RPM right-angle speed reducer, drive sprocket chain and mounting stand.

ITEM 5 - MISCELLANEOUS EQUIPMENT

(a) Stock outlet ramp (inclined table) - stainless steel

(b) One 8" and two 6" beater type brass dump valves for flotation tank compartments.

(c) Curved "Flo-Board" - Stainless Steel.

(d) Stainless steel partition wall (for units with more than one Double-D valve).

ITEM 6 - AIR ROTAMETER

One air rotameter to meter the required amount of air, complete with check valve, needle valve and pressure regulator mounted on Sveen-Pedersen Control Panel.

ITEM 7 - FLOCCULENT ROTAMETER

Designed to meter flocculent solutions, these meters are constructed of suitable material to prevent corrosion from normal flocculent solutions. Meter is complete with needle valve, check valve and injector for dilution purposes. The meter is designed to delivery sufficient flocculent to operate unit. Rotameter mounted on Sveen-Pedersen Panel. One Rotameter furnished for each inlet valve.

ITEM 8 - CONTROL PANEL

The control panel contains necessary pressure gauges and Items 6 and 7. This panel can be positioned in any convenient location and the operation of the Sveen-Pedersen Saveall controlled from the panel. Panel is completely assembled with necessary piping, valves, etc. All pipes tagged for easy connection in the field. The panel does not include motor switches.

ITEM 9 - WEIR PLATE

Consisting of rectangular cut, stainless steel plate, brass mounting angles, gaskets, mounting screws and Rawl plugs for securing to tile. This is mounted in the clarified water chamber so that the clarified water flow to the sewer can be measured.

ITEM 10 - AERATION TANK, NEW "AQUA-AIR SPRAY" AERATION SYSTEM

Steel Aeration Tank, equipped with the latest (Type "B") CONE AERATOR (Patent Pending), especially designed for dissolving the greatest quantity of air for flotation. ASME Code construction and stamp. Maximum operating pressure - 80 psi, hydraulic test pressure - 120 psi. Baked Heresite phenolic internal coating for corrosion protection.

ITEM 11A - SVEEN-PEDERSEN TILE VAT

Reinforced, cement filled, glazed tile construction, to be erected on your foundation by sub-contractor. The vat will be built to our design and will consist of:

(a) Inlet Chamber.

(b) Clarified Water Chamber.

(c) Flotation Chamber.

(d) Recovered Solids Chamber.

The erection of this equipment is complete and includes all glazed tile for walls, glazed plate tile for floors, reinforcing steel, sand, gravel, cement for fills and waterproof joints. Foundation and floor dowels by customer.

The services of a master tile setter and labor furnished. Vat installation subject to the general contract provisions of the sub-contractor.

ITEM 11B - TILE WATER COLLECTION BOX

Reinforced tile tank to be constructed at the same time and in accordance with the procedure in 11A.

ITEM 12 - FLOCCULENT STORAGE TANKS

Two round, reinforcing tile chemical storage tanks, to be constructed at the same time and in accordance with the procedure outlined in Item 11A.

ITEM 13 - FLOCCULENT STORAGE TANK MIXERS

Two side entering mixers, one for each storage tank equipped with a suitable propeller, complete with shaft, stuffing box, etc. This unit is directly connected to a 2 HP splashproof motor. The unit is to be mounted on an 8" IPS flange at nipple. All parts coming in contact with the chemicals will be corrosion resistant.

ITEM 14 - GLUE MELTING KETTLE AND MIXER

One steel glue melting kettle. This is a steam jacketed kettle, and is supplied with a portable mixer, shaft and propellers, all corrosion resistant.

ITEM 15 - RECIRCULATION CONTROL VALVE

This is a double seated Model 27 float valve manufactured by Klipfel Valves.

The valve has flanged connections, a cast iron body, and bronze fitted trim. The pattern may either be angle or globe.

ITEM 16 - FEED PUMP

This is a standard type of centrifugal pump, single or double suction with single action preferred on small water volumes. This pump is to have a discharge head sufficient for dissolving air in water under pressure. The pump will be constructed with a cast iron split casing, bronze fittings and directly connected to a splashproof motor.

ITEM 17 - RECOVERED SOLIDS PUMP

This is a special service pump for pumping recovered solids while still containing attached air bubbles. Standard types of centrifugal pumps air bind. This pump is equipped with an impeller of unique design, combining centrifugal and propeller action. This motor is frame mounted and complete with a splashproof motor. Pump casing is of stainless steel. The unit is a Centripeller Pump Model 100/170, 4 x 4 frame complete with base coupling and motor.

ITEM 20 - RECORDER SEWER FLOW

This unit is a liquid level recorder manufactured by Foxboro, including an air purge system. The case if Type VR-13 with a Type 27-LA chamber. The range is 20" of water. This instrument is to be mounted on the Sveen-Pedersen panel.

SECTION II - YOU WILL FURNISH AS FOLLOWS:

SERVICES

ITEM 1 Suitable tank for collection of waste water to feed Sveen-Pedersen pump, when collection tank is not included.

ITEM 2 Necessary piping between the component parts for this system with manual valves where required and piping to and from the Saveall.

ITEM 3 Suitable level concrete foundation on which the tile flotation vat will be erected when the tile vat is included. Foundation to accept a static operating load of 500 pounds per square foot.

Chemical storage tank foundation as above to accept a load depending on depth of tank (liquid gravity approximately one).

Vertical reinforcing rods (foundation dowels), to be furnished and placed in foundation by purchaser for the erection of tile tanks. Balance of reinforcement steel by tile contractor.

During the erection of the tile vat, you are to furnish a carpenter when required, to make the necessary forms and templates.

For steel or wood tanks, suitable foundations will be required.

ITEM 4 You will furnish all pumps, motors and starters when not included.

SERVICES

The following services are included in the above quotation:

ITEM 1 Assistance in determination of process water flows.

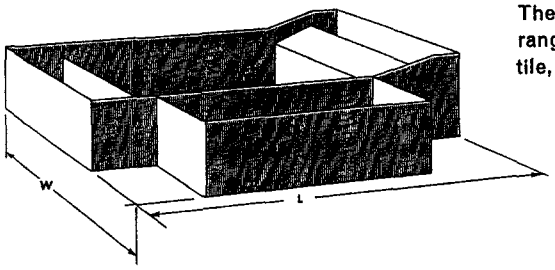
ITEM 2 Preparation of flow diagrams and layout drawings.

ITEM 3 Determination of flocculent requirements for most effective and least expensive operation where chemicals are needed.

ITEM 4 One of our experienced field engineers will supervise the initial start-up of the equipment and instruct personnel for successful chemical and mechanical operation. One week should accomplish this and if, for reasons beyond our control, this period must be extended, the rates for a field engineer are outlined in the body of the quotation.

jr
Typed 7/10/63

SVEEN-PEDERSEN FLOTATION SAVEALL

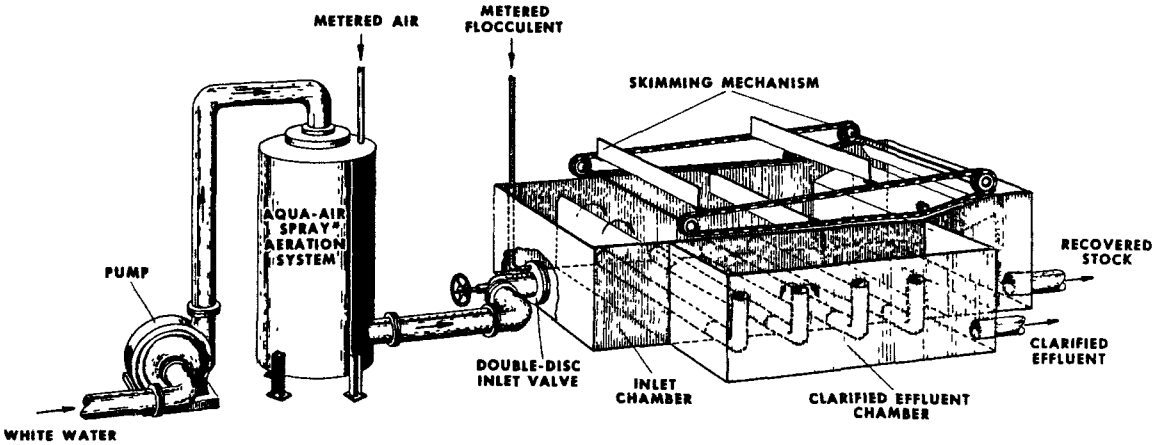


STANDARD UNIT SIZES

The Jones Sveen-Pedersen Flotation Saveall is available in sizes ranging from 25 gpm to 3000 gpm. Construction can be either in tile, concrete or steel. Multiple units are available for higher flows.

Length	Width	Length	Width
14′ 0″	8′ 6″	35′ 3″	15′ 9″
15′ 9″	13′ 6″	35′ 3″	18′ 6″
20′ 9″	13′ 3″	42′ 0″	18′ 6″
28′ 0″	13′ 3″	49′ 0″	18′ 6″
28′ 0″	15′ 9″	52′ 9″	21′ 0″
31′ 9″	15′ 9″	66′ 3″	21′ 0″

STANDARD METHOD



The Sveen-Pedersen Flotation Saveall System functions on the principle of dissolving air under pressure in the water to be clarified, with subsequent hydraulically controlled release of this pressure, and liberation of the air through a vacuum zone. The white water is pumped to the aeration tank where the Aqua-Air Spray mechanism completely dissolves a large volume of compressed air. The mixture of water, suspended solids and dissolved air is then released in the Saveall Vat inlet compartment via the vacuum zone of the Double-Disc Valve. Releasing the applied pressure in this special manner, creates a multitude of fine air bubbles which electrostatically attach themselves to the fiber and filler, producing a buoyant floc which rapidly rises to the surface and compacts itself. If required, flocculants may be added either before or at the time of pressure release. The floated recovered stock is removed from the surface of the unit by the skimming mechanism, while clarified water is withdrawn automatically from the bottom of the unit through specially designed outlet tube assemblies.

SELECTION OF EQUIPMENT

White water treatment recommendations, based on research and performance, can be made available to you or your consultant. We are prepared to survey your particular problem, perform basic laboratory tests, and make specific recommendations on equipment required. If warranted, a pilot plant unit can be brought in to prove out the merits of the Jones Sveen-Pedersen approach on a semiplant scale.

SPECIFICATIONS (STANDARD MODEL)

Aeration Tank: Heresite lined carbon steel, ASME code construction

Flotation Vat: Tile
Valves: Bronze Double-Disc and dump valves

Skimmer Mechanism: Stainless steel, where in contact with white water, complete with variable speed drive unit

Curved Flo-Board, outlet ramp, weir: Stainless steel

Control Panel: Complete with necessary gages, regulator, and air rotameter

OPTIONAL EQUIPMENT:
Flocculant feeding systems
Automatic controls

Parts in contact with white water are available in special corrosion-resistant materials.

JONES
E. D. JONES CORPORATION, PITTSFIELD, MASS., U.S.A.

QUOTATION

JONES
MEMBER BELOIT GROUP
E. D. JONES CORPORATION
PITTSFIELD, MASSACHUSETTS

No.	JRG-48-126		
To	Michigan Carton Company Battle Creek Michigan	*Date*	March 21, 1963
		Prices	See below
Attention of	Mr. L. Philips, Vice-President Engineering	*Terms*	Net 30 days
		Shipment	See below
Your Inquiry	Discussion with Mr. H. L. Berg		
SUBJECT:	Modernization Sveen-Pedersen Saveall Serial No. 31-800		

Gentlemen:

Your courtesies extended our Messrs. H. L. Berg and J. R. Greene during their recent visit at your mill are sincerely appreciated and we take pleasure, at their request, to submit our proposal relative to the parts necessary to modernize your subject Saveall.

It is recommended that the Take-up be raised to afford improved operation and drawing C66-P2791 is enclosed to illustrate this alteration. Labor and materials by the customer.

WE PROPOSE TO FURNISH:

TWO (2) Baffle Valves, D66-600014.....$314.00 each

ONE (1) New Style Curved Flo-board, 9'-6", B66-814021.....$611.00

ONE (1) Pemberthy Injector, No. 64-A, as shown on drawing C66-499002 enclosed.....$ 25.00

We recommend that your inlet compartment be enlarged by the Stebbins Engineering and Manufacturing Company and the cost would be calculated on the time and material basis. The extension will be 9'-6" inside width by 4' inside the semi-radial ends and 5'-7" high. The extension involves removing the elevated end and building it of tile construction with square ends from the floor up.

The outside face course of the corner tile would be removed by others to expose the reinforcing, and some modification to the existing partition may be involved. The existing tile walls to be modified would be demolished and suitable dowels installed by others.

Stebbins will erect all of the new walls of 6" Semtile shapes with coping, install a nominal amount of floor fill and pave this with their 2" Semplate. All tile will be laid up in chemically hardened Portland cement joint.

Stebbins will supply the tile shapes (approximately 475 pieces) with necessary reinforcing steel and the aggregates for the extension delivered to the mill.

The labor portion would be performed according to SEL-162 enclosed.

The above would be in accordance with the Tile Erector's Standard Contract Conditions, per the Stebbins proposal conditions, Form No. 7-59, copies of which are enclosed.

PRICE (estimated).....$1,300.00

SHIPMENT: Present shipping schedule is approximately six (6) weeks from receipt of order and clearance of engineering details, but alternate schedule can usually be arranged to suit your requirements.

PRICES: JONES Parts: F.O.B. Dalton, Mass.

Tile: F.O.B. Point of shipment with freight allowed to the first rail destination within the continental limits of the United States.

PRICE CLAUSE: Prices quoted do not include any sales, use or similar taxes and are subject to adjustment to prices in effect at time of shipment.

We trust that you find the above to your satisfaction and that we may be favored with your early acceptance.

Very truly yours,

E. D. JONES CORPORATION

John N. Diamond

John N. Diamond
Customer Service

jr
Enc.
cc: JRGreene
HLBerg
FRMeyers
RFKozich

MARCH 6, 1961

TO: W. O. KROESCHELL

cc: L.Philipps, R.Johnson, R.Armstrong, C.Cameron, L.Carlson, R.Morgan

SUBJECT: THE USE OF "RESIN 763" FOR INCREASED SAVEALL EFFICIENCY

PROCEDURE:

A trial was conducted on the use of Hercules "resin 763" as a flocculating agent in the Sveen-Pederson Saveall process. This trial was on white water from hard-sized grades, and limited to the 1200 g/minute saveall at Angell Mill.

Because Resin 763 takes a longer period to cause floc formation than does glue, it was desired to add it to the water prior to the gravity fed distribution box as is usually done with glue. The resin was added by means of a positive displacement pump, to allow for volume measurement, to the white water as it was being withdrawn from the pit. This gave added contact time while passing through the pump and the retention tank prior to entering the saveall.

Samples of both entering and clarified water were taken and tested for suspended solids.

RESULTS:

The data has been expressed in the form of a graph. On it can be seen the increase in efficiency as the trial was started. The resin was first added at a rate of 30 ppm (figuring the saveall to be operating at capacity). This was soon cut to 2.6 ppm and this rate was maintained for the duration of the trial.

CONCLUSIONS:

A greater degree of difficulty is encountered in the clarification of hard-sized grades white water, than with slack sized. Definitely some promise has been shown by the trial of resin 763. An average efficiency of 72.9% compares favorably with approximately 49.1% which we have had in the past using glue.

The resin is priced at $70.00 per drum or $14.00 per 100 pounds at 20% solids. At the addition rate of 2.6 ppm the cost would come to $25.20/day for the 1200 gallon saveall or $42.00/day for operation in both savealls, compared with $23.00 for glue.

pH of the white water is not a factor in the use of resin 763 according to the manufacturer. Very little alum, if any, is used to control the pH of the water when running hard-sized grades. This could be eliminated completely, along with the pH meter electrodes and control when using 763 on these grades.

Solution make up presents no problem, simple dilution with water and no conditioning time is needed with this product. Further, it is not a bacteria nutrient,

thereby retarding the growth of slime with the reuse of clarified water.

The clarified water had an average of 1.35 pounds/M gallon during the test. This is still considerably higher than desired. The incoming white water averaged 5.04 pounds/M gallon which also is felt to be higher than desired. In addition to evaluating other flocculating agents with similar procedures, it is felt that further retention of solids on the wet end of the machine is an area in need of further study. A small reduction in the pounds/M gallon coming to the savealls could result in a larger increase in operating performance. Further work will be done along these lines.

J. Hamelink

JDH/dj

Attachements (2)

MICHIGAN CARTON COMPANY

LABORATORY DATA SHEET

EXPERIMENT:

DATE 22-23 FEB 61

PROJECT NO.

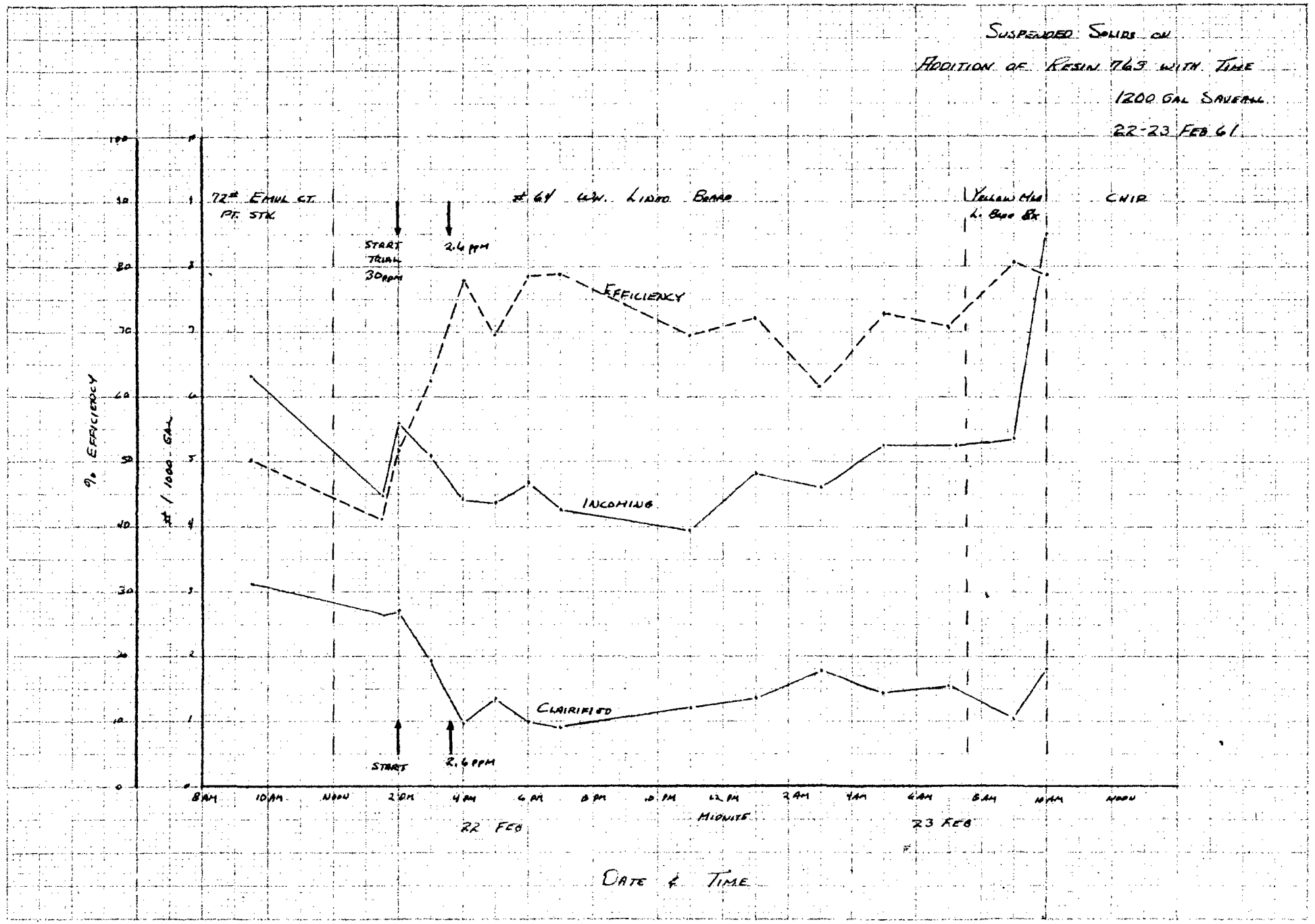
BY HAMELINK

SAMPLE	IN OR OUT	NUMBER		TIME		SOLIDS		% EFFICIENCY				
SAVEALL				DATE	TIME	#/M GAL	DIFF					
										72# EMUL CT PT STK.		
1200	IN	1	A	22 FEB	9:30	6.33	3.20		50.6			
"	OUT		B	"	"	3.13						
										#64 WH LINED BOARD		
1200	IN	2	A	22 FEB	1:30 PM	4.47	1.84		41.2			
"	OUT		B	"	"	2.63						
"	IN	3	A	"	2:00 PM	5.60	2.90		51.8			
"	OUT		B	"	"	2.70						← TRIAL STARTED 30 PPM
"	IN	4	A	"	3:00 PM	5.07	3.17		62.5			
"	OUT		B	"	"	1.90						← 2.6 PPM
"	IN	5	A	"	4:00 PM	4.40	3.43		78.0			
"	OUT		B	"	"	.97						
"	IN	6	A	"	5:00 PM	4.37	3.04		69.6			
"	OUT		B	"	"	1.33						
"	IN	7	A	"	6:00 PM	4.67	3.67		78.6			
"	OUT		B	"	"	1.00						
"	IN	8	A	"	7:00 PM	4.27	3.37		78.9			
"	OUT		B	"	"	.90						
"	IN	9	A	"	11:00 PM	3.93	2.73		69.5			
"	OUT		B	"	"	1.20						
"	IN	10	A	23 FEB	1:00 AM	4.80	3.47		72.3			
"	OUT		B	"	"	1.33						
"	IN	11	A	"	3:00 AM	4.60	2.83		61.5			
"	OUT		B	"	"	1.77						
"	IN	12	A	"	5:00 AM	5.27	3.84		72.9			
"	OUT		B	"	"	1.43						
"	IN	13	A	"	7:00 AM	5.27	3.74		71.0			
"	OUT		B	"	"	1.53				YELLOW MLR LINED FREE BK		
"	IN	14	A	"	9:00 AM	5.37	4.34		80.8			
"	OUT		B	"	"	1.03						
"	IN	15	A	"	10:00 AM	8.50	6.90		78.8			
"	OUT		B	"	"	1.80		AVG FOR TRIAL	72.9	BLENDING CHIP		

AVG IN — 5.04

AVG OUT — 1.95

FORM MCC 5117 10/57



SUSPENDED SOLIDS ON
ADDITION OF RESIN 763 WITH TIME
1200 GAL SAVEALL
22-23 FEB 61
72# EMUL CT.
PT. STK.
START TRIAL 30 PPM
2.6 PPM
#64 WN. LINED BOARD
YELLOW MED
L. BOARD BX
CHIP
EFFICIENCY
INCOMING
CLAIRIFIED
START
2.6 PPM
% EFFICIENCY
# / 1000 GAL
8 AM
10 AM
NOON
2 PM
4 PM
6 PM
8 PM
10 PM
12 PM
2 AM
4 AM
6 AM
8 AM
10 AM
NOON
MIDNITE
22 FEB
23 FEB
DATE & TIME

PAPER-MAKING Jones MACHINERY
ESTABLISHED 1845

E. D. JONES CORPORATION
PITTSFIELD, MASSACHUSETTS, U S A
TELEPHONE HILLCREST 3-9151 CABLE ADDRESS "JONANSON"

3441

October 11, 1960

Cocktail N.J.
Railway Expression

Michigan Carton Company
Battle Creek,
Michigan

Attention: Mr. Robert Johnson

Subject: Sveen-Pedersen Vat Rebuild

Gentlemen:

At our Mr. Herman Berg's request, we shipped to you on Friday, October 4th, from our shop one 4" dump valve assembly complete with valve handle.

Regarding the use of drum type hoods around your two inlet baffels, due to the time involved in building and shipping the baffel hood to you from here, we suggest that you build and install this hood with your own facilities. Enclosed you will find two copies of a sketch showing necessary work to build and install these two baffel hoods.

Enclosed also are two copies of our drawing 9024-BC which shows the necessary flexible piping from the retention tank to the inlet compartment of the saveall. This line should not be submerged in the inlet compartment.

Please do not hesitate to call on us for further assistance in rebuilding this saveall.

Very truly yours,

E. D. JONES CORPORATION

Lyndal J Winslow

Lyndal J. Winslow,
Assistant Product Engineer

/del
Enclosures
cc: JRAyers
HLBerg
FRMeyers

January 11, 1961.

E. D. Jones Corporation,
Pittsfield, Mass.

Attention: Mr. Lyndal J. Winslow,
Assistant Product Engineer.

Re: Purchase Order #1047.

Gentlemen:

During October of 1960, we, with the help of your Mr. Herman Berg, modified our Sveen-Pedersen savealls. At that time we wrote a purchase order, #1047, for 2-4" dump valves and 2-6" dump valves. Our records show that we have received the 2-4" valves but that we have only received one (1) 6" valve.

Would you kindly check into this and let us know the status of this missing valve?

Yours very truly,

MICHIGAN CARTON CO.

Robert O. Johnson,
Project Engineer.

ROJ:efo

42-254

42502

October 13, 1960

Kalamazoo Tank & Tile Co.
504 Harrison St.
Kalamazoo 16, Michigan

Please furnish the necessary labor and materials to rebuild
the feed end of the 1200 gallon saveall.
AS PER AGREEMENT

CONFIRMING

Needed October 12, 1960

DELIVER TO ANGELL MILL.
R. O. Johnson

Kalamazoo TANK and SILO COMPANY

KALAMAZOO · MICHIGAN

500-508 HARRISON STREET TELEPHONE FI 5-2141

June 19, 1963

Michigan Carton Company
Battle Creek, Michigan

Attention: R. Johnson
Angel Street Mill

Subject: Remodeling of Tile Saveall

Gentlemen:

We are enclosing two prints of our sketch D-2993 illustrating our requirements for the foundation slab for the extension of the walls on your existing tile saveall. The No. 5 dowels which are shown should be well anchored into the foundation slab with a hook on the lower end as shown.

We understand you are planning to shut down your mill on June 29th and expect to complete the removal of the existing elevated end and installation of the foundation pad required on June 30th so we can start work on the morning of July 1st.

If you should have any questions regarding this foundation layout please let us know.

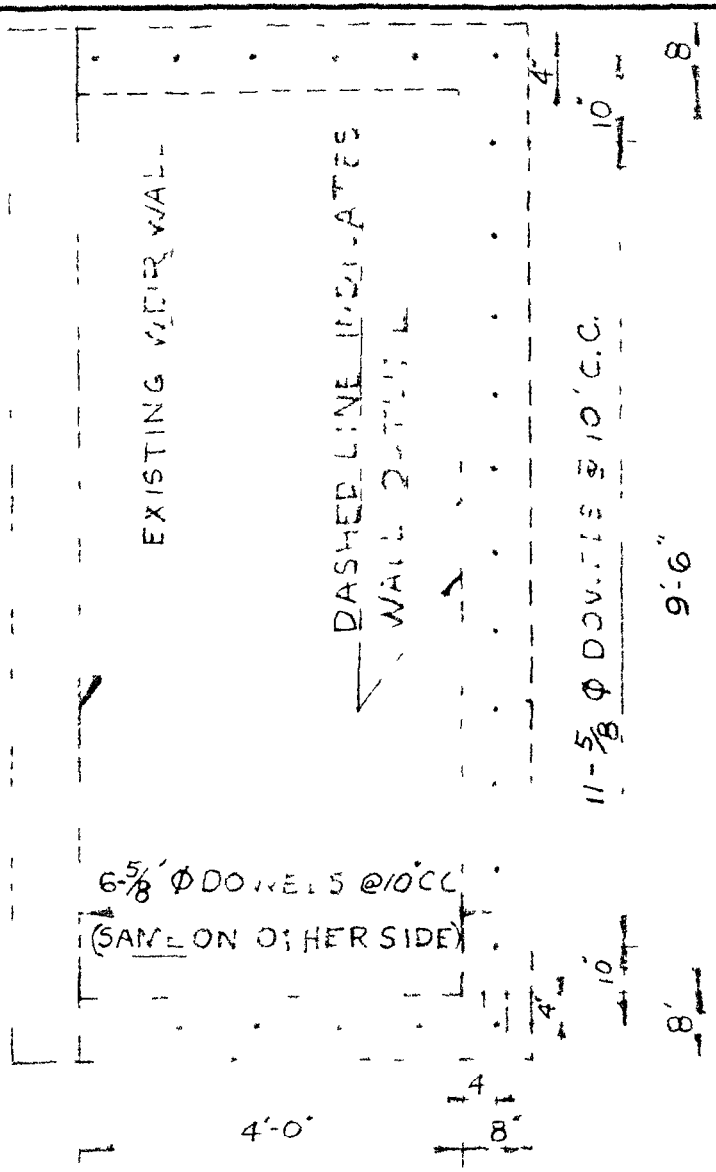
Yours truly

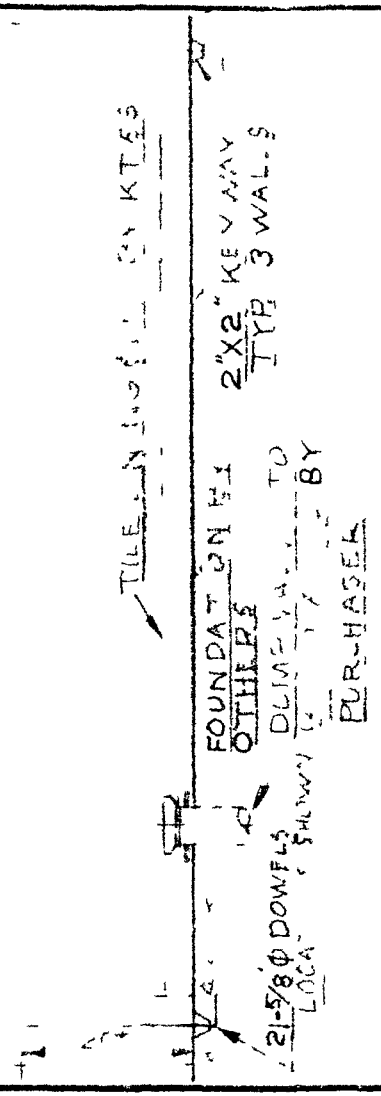
KALAMAZOO TANK AND SILO COMPANY

H. E. McKelvey

H. E. McKelvey
Sales Manager Tank Department
HEM:aca
encl.

POST 175H 500 6 55





REMODEL INLET TO 800 GPM SAVE ALL
MICHIGAN, LARTON CO BATTLE CREEK

KALAMAZOO TANK & SILO CO.
KALAMAZOO, MICH.

DR. BY D BLED.	SCALE 1/2 1'-0"	DRAWING NO D-2993
CK. BY	DATE 6-1-55	

57-254

24259

May 22, 1963

Kalamazoo Tank & Silo Company
500 Harrison Street
Kalamazoo, Michigan

Remodel inlet to 600 gallon saveall located at our Angel Mill as directed by our Plant Engineering Dept.

Work to be done week of June 29, 1963

DELIVER TO ANGEL STREET MILL
ATTN: R. Johnson

Kalamazoo TANK and SILO COMPANY

KALAMAZOO · MICHIGAN

500-508 HARRISON STREET TELEPHONE FI 5-2141

May 17, 1963

Michigan Carton Company
Battle Creek, Michigan

Attention: Lou Phillips

Gentlemen:

As you have requested we have discussed with your Mr. Norris Decker the remodeling of an existing tile save-all vat. This would be quite similiar to the job we did for you about a year ago. We understand this work is to be done during your shutdown which starts the 29th of June and runs through the following week. Due to the nature of the work involved and the probability of having to work some overtime to complete the work during your shutdown, it is impossible to determine accurately what the actual cost of the work would be. Therefore, we feel this job should be handled on a time and material basis. To give you some idea of the approximate cost we have estimated this cost at approximately $1250.00.

As you no doubt realize that particular week is a very busy time for us due to the large number of mills that will be shutdown and have various projects to be done. However if you can let us know sometime soon we will be able to take care of it for you.

With best regards we remain,

Yours truly

KALAMAZOO TANK AND SILO COMPANY

H. E. McKelvey

H. E. McKelvey
Sales Manager Tank Department
HEM:aca

QUOTATION

JONES
MEMBER BELOIT GROUP
E. D. JONES CORPORATION
PITTSFIELD, MASSACHUSETTS

No. JRG-48-143

To Michigan Carton Company
Battle Creek
Michigan

Date May 10, 1963

Prices F.O.B. Dalton, Mass.

Attention of Mr. Lou Phillips
Vice-President, Engineering

Terms Net 30 days

Shipment See below

Your Inquiry Verbal to our Mr. H. L. Berg

SUBJECT: Dump Valves for Sveen-Pedersen Saveall
Serial No. 31-800

Gentlemen:

In accordance with the request of our Mr. H. L. Berg, we are pleased to forward our quotation covering dump valves to replace existing plug valves in the inlet and flotation compartments for the above subject.

WE PROPOSE TO FURNISH:

ONE (1) 6" Silicon bronze Dump Valve complete with handle as shown on drawing D66-P2833 enclosed.

PRICE:.....$ 89.00

ONE (1) 8" Silicon bronze Dump Valve complete with handle as shown on drawing D66-P2833 enclosed.

PRICE:.....$110.00

SHIPMENT: Present shipping schedule is 2 weeks from receipt of order, but alternate schedule can usually be arranged to suit your requirements.

PRICE CLAUSE: Prices quoted do not include any sales, use or similar taxes and are subject to adjustment to prices in effect at time of shipment.

SEE REVERSE SIDE FOR CONDITIONS OF CONTRACT

We trust this information will be of interest to you and that you will let us know when we may be of further service.

Very truly yours,

E. D. JONES CORPORATION

William E. Broschard
Customer Service

jr
Enc.

cc: JRGreene
HLBerg
FRMeyers
LJWinslow
RFKozich

QUOTATION

JONES
MEMBER BELOIT GROUP
E. D. JONES CORPORATION
PITTSFIELD, MASSACHUSETTS

No.	JRG-48-126		
To	Michigan Carton Company Battle Creek Michigan	*Date*	March 21, 1963
		Prices	See below
Attention of	Mr. L. Philips, Vice-President Engineering	*Terms*	Net 30 days
		Shipment	See below
Your Inquiry	Discussion with Mr. H. L. Berg		
SUBJECT:	Modernization Sveen-Pedersen Saveall Serial No. 31-800		

Gentlemen:

Your courtesies extended our Messrs. H. L. Berg and J. R. Greene during their recent visit at your mill are sincerely appreciated and we take pleasure, at their request, to submit our proposal relative to the parts necessary to modernize your subject Saveall.

It is recommended that the Take-up be raised to afford improved operation and drawing C66-P2791 is enclosed to illustrate this alteration. Labor and materials by the customer.

WE PROPOSE TO FURNISH:

TWO (2) Baffle Valves, D66-600014.....$314.00 each

ONE (1) New Style Curved Flo-board, 9'-6", B66-814021.....$611.00

ONE (1) Pemberthy Injector, No. 64-A, as shown on drawing
C66-499002 enclosed.....$ 25.00

We recommend that your inlet compartment be enlarged by the Stebbins Engineering and Manufacturing Company and the cost would be calculated on the time and material basis. The extension will be 9'-6" inside width by 4' inside the semi-radial ends and 5'-7" high. The extension involves removing the elevated end and building it of tile construction with square ends from the floor up.

The outside face course of the corner tile would be removed by others to expose the reinforcing, and some modification to the existing partition may be involved. The existing tile walls to be modified would be demolished and suitable dowels installed by others.

Stebbins will erect all of the new walls of 6" Semtile shapes with coping, install a nominal amount of floor fill and pave this with their 2" Semplate. All tile will be laid up in chemically hardened Portland cement joint.

Stebbins will supply the tile shapes (approximately 475 pieces) with necessary reinforcing steel and the aggregates for the extension delivered to the mill.

The labor portion would be performed according to SEL-162 enclosed.

The above would be in accordance with the Tile Erector's Standard Contract Conditions, per the Stebbins proposal conditions, Form No. 7-59, copies of which are enclosed.

PRICE (estimated).....$1,300.00

SHIPMENT: Present shipping schedule is approximately six (6) weeks from receipt of order and clearance of engineering details, but alternate schedule can usually be arranged to suit your requirements.

PRICES: JONES Parts: F.O.B. Dalton, Mass.

Tile: F.O.B. Point of shipment with freight allowed to the first rail destination within the continental limits of the United States.

PRICE CLAUSE: Prices quoted do not include any sales, use or similar taxes and are subject to adjustment to prices in effect at time of shipment.

We trust that you find the above to your satisfaction and that we may be favored with your early acceptance.

Very truly yours,

E. D. JONES CORPORATION

John N. Diamond

John N. Diamond
Customer Service

jr
Enc.
cc: JRGreene
HLBerg
FRMeyers
RFKozich

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THE PAPER INDUSTRY
and PAPER WORLD

NOVEMBER 1948

Michigan Carton Company's six-million-dollar mill

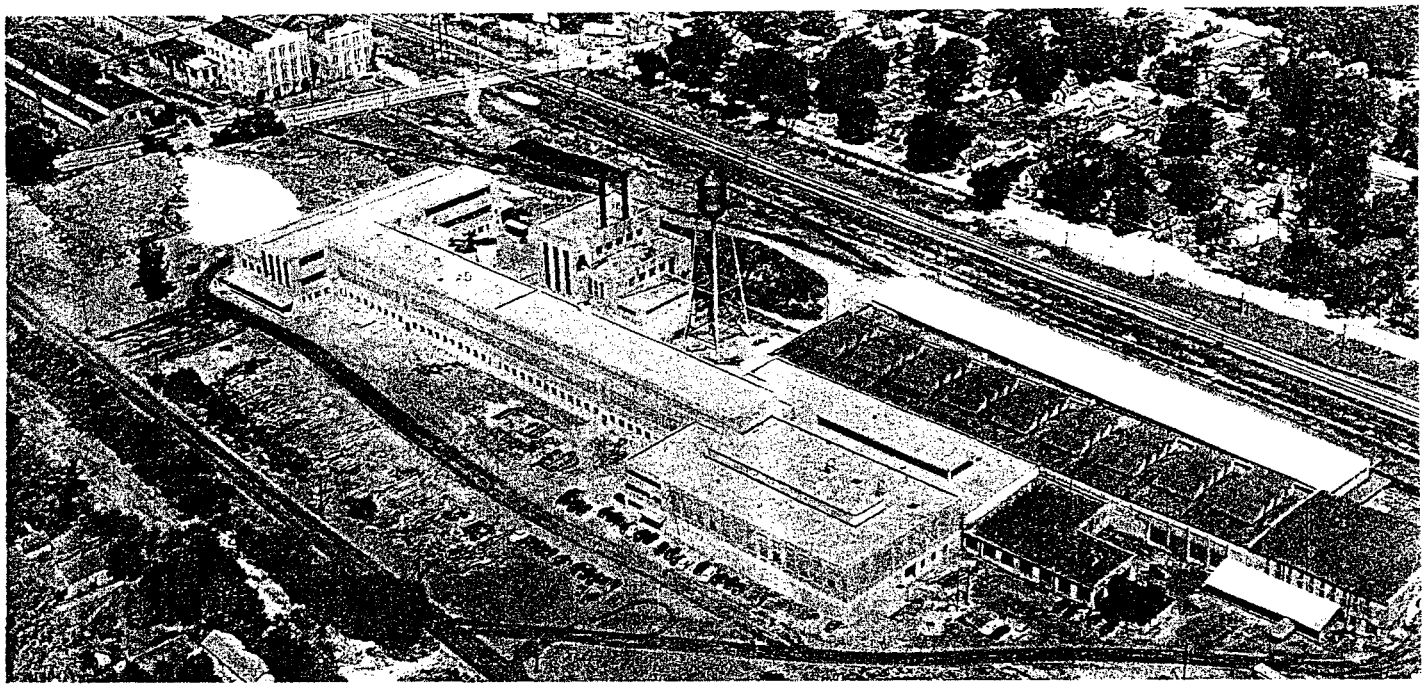
Michigan's Newest Mill Starts Operation

By HARRY WILLIAMSON

▸▸▸ LONG A MANUFACTURER of high grade folding boxboard the Michigan Carton Company recently marked another milestone of progress by starting up its new Angel Street plant in Battle Creek, Michigan After the intervening war years, plans for expansion made in 1936 finally have come to fruition. Utilizing both batch and continuous stock preparation equipment, followed by an 8-cylinder board machine nicknamed the Angel," this $6,000,000 mill is designed to turn out 300 tons of board per day.

Every possible improvement has been incorporated into this new mill and much of the "back-breaking" physical labor ordinarily encountered has been eliminated. Having achieved a high standard of efficiency and progress in its old plant in Battle Creek, the company, under its president, Lawrence G Fell, utilized fully the combined knowledge and experience of its own staff, plus the know-how and ability of equipment builders and engineers

EDITOR'S NOTE: Mr. Williamson's long experience as a practical papermaker and paper mill consultant should make his observations in this new mill interesting. He has contributed articles to this magazine over a period of nearly thirty years. Outstanding contribution was his Lessons in Paper Making, Parts 1 and 2, published from 1926 to 1929. These lessons dealt principally with the fourdrinier machine and stock preparation. At present, however, Mr. Williamson is writing a book on cylinder machine operation, part of which soon will be published in serial form in The Paper Industry and Paper World.



THE INDUSTRY *—is a leading asset to the community. About 150 workers are employed at the Michigan Carton Company's Angel Street mill*

trash removal and classifying equipment, thickeners, and agitators.

While a four-stock system is employed, only three Hydrapulpers and three Hydrafiners are installed. Bulk of the stock is filler prepared in a straight line—continuous system, the subliner and bottom liner can be prepared by either batch or continuous operation, while top liner is prepared in definite batches.

Ordinarily, the top liner is pulped in a 16 ft diameter batch Hydrapulper, the subliner and bottom liner are pulped in a 14 ft. diameter Hydrapulper arranged for either batch or continuous operation, and the filler in a 20 ft diameter continuous Hydrapulper. Top liner from the 16 ft Hydrapulper is discharged directly to a Hydrafiner circulating chest, while through a flexibility of piping arrangement the stock from the 14 ft diameter Hydrapulper can be discharged either directly to a chest, discharged through the cleaning system or blended with filler stock from the 20 ft Hydrapulper depending upon its particular use in the finished sheet of board. This Hydrapulper is equipped with a junk remover and ragger so that it may be used on filler stock.

The large Hydrapulper for filler stock is designed to run continuously. It is equipped with an automatic junk remover that continuously removes heavy trash too large to pass through the 3/8 in perforations in the Hydrapulper extraction plates. A "ragger" removes baling wires, rags, strings, etc. This consists of a wire rope suspended in the whirling vortex of the Hydrapulper. Rags and wire cling to the rope and are slowly and continuously removed from the stock in the form of a twisted rope 6 in to 8 in in diameter.

The defibered filler stock at approximately 2 per cent consistency, passes through the perforated plates in the bottom of the unit to the regulating box. The regulating box is a 30 in diameter vertical tank divided by a vertical adjustable dam, this dam regulates the level of stock in the Hydrapulper tub while at the same time provides sufficient back pressure to prevent "felting over" of the extraction plates. The stock discharges over a dam and is pumped to the first section of the grit remover where it is diluted with white water to permit settling of heavy grit in the first settling chamber.

The stock then passes through three Dilts Classifiners where floating rejects are screened out and passed through a disintegrator pump and Selectrap or screen to reclaim all usable fiber.

Accepted stock from the Classifiners is discharged to the second settling chamber of the grit remover where it is further diluted for final settling. Rejects are removed automatically and continuously from the system. The clarified stock is then discharged by gravity to four thickeners from which it is discharged to a filler dump chest, thence to jordan regulating box—to jordans—to the machine.

Liner stocks are discharged to their respective chests and are passed through the Hydrafiners for a definite number of passes necessary to develop fiber characteristics for the particular grade of board being manufactured. From these units each type of stock goes to a storage chest from which it is pumped to the jordan headbox, which gives a 20 ft gravity feed to the battery of six jordans.

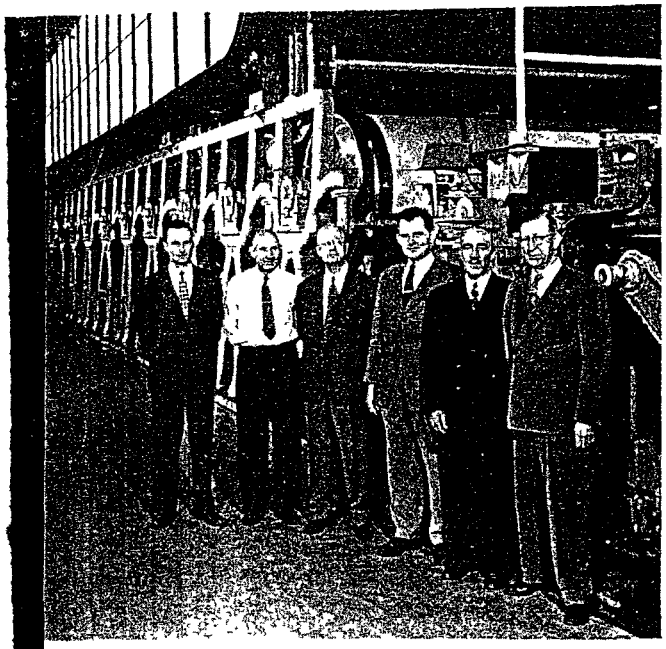
Jordaned stock is held in the machine chest until pumped to the machine headbox. All stock chests are equipped with Agi-flo circulation and pumping systems to keep the stock at uniform consistency and to provide constant delivery of stock to the succeeding operation.

Machine Headbox

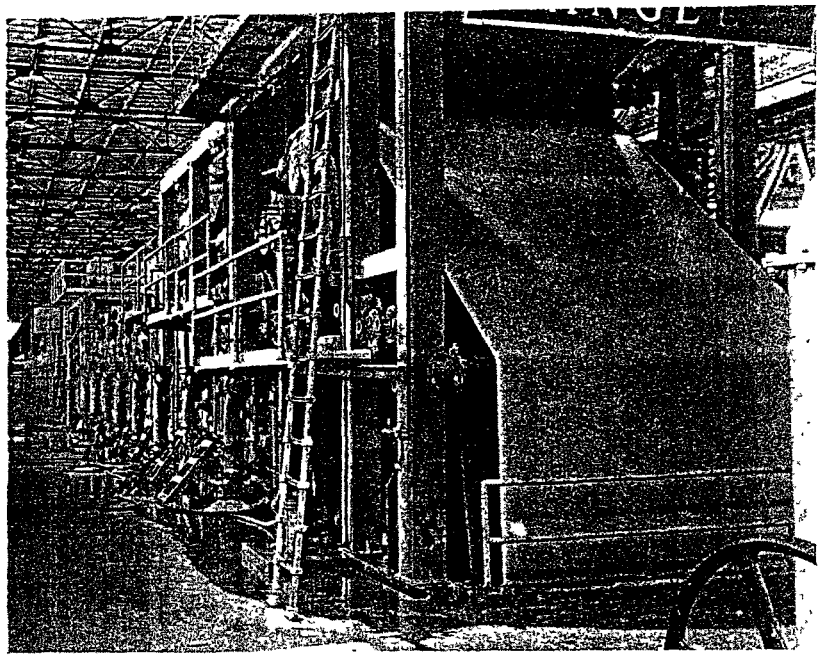
The machine headbox is designed to handle four types of stock. Each of the four compartments are equipped with eight separate gates which permits each kind of stock to be delivered to any one of the eight molds of the cylinder machine. Flow of stock from the headbox is regulated by the discharge gates and the head is regulated by an overflow gate. A wash down system aids the delivery stock to the screens and overflow returns to the machine chest.

Since filler stock comprises the bulk of the sheet formed on the machine (usually 4-6 of the 8 molds), its regulation can, in a measure, control the caliper and weight of the sheet. This is accomplished by a Harvey-Lewellen caliper control which changes the stock level in the filler headbox by adjusting the opening of the overflow gate.

Supply of stock to each of the eight molds passes through individual Bird rotary screens. Screen vats and delivery box are constructed of stainless steel and are designed to eliminate turbulence in the flow and to prevent the entrainment of air. Constant and even flow to the cylinder mold is aided by a level control in the delivery box.



THE MEN —*Philipps, Shaw, Bohn, Harrison, Jones, Barnes*



THE MACHINE —*designed for 300 tons of board per day*

The Men

Major responsibilities were shoultered by M. C. Jones, director of purchasing and engineering; E. H. Barnes, general mill superintendent; W. J. Shaw, superintendent of the Angel Street mill, R G. Bohn, plant engineer; L. F. Philipps, assistant plant engineer; and J. J. Harrison, technical director, all of the Michigan Carton Company. The plant was designed by Shreve, Walker and Associates, Detroit, Michigan, while construction and erection was handled by the Herlihy Mid-Continent Company, Chicago, Illinois. Stock preparation equipment was furnished by Shartle Brothers Machine Company, Middletown, Ohio; the board machine was built by the Beloit Iron Works, Beloit, Wisconsin; steam is produced in two new boilers built by the Springfield Boiler Company, Springfield, Illinois; and process water is filtered in a plant the equipment for which was furnished by Hungerford & Terry, Inc., Clayton, New Jersey.

From the architecture of the buildings to the minute details of equipment, design and layout, this mill is an example of the finest in modern board mill design. The main building, from stock preparation room through the finishing room, is 820 ft long. Operating floor is one story above the ground, leaving ample space for stock chests, pumps, and other equipment on the ground floor. Extensive glass block panels aid the maximum utilization of natural light and by diffusing the light, prevent glare in the machine room. Auxiliary buildings, such as the boiler house, storage warehouses and loading docks, form a composite whole that exemplifies up-to-date industrial building practice.

Raw Materials

Raw materials are received at an unloading dock that accommodates eleven railroad cars, all of which may be unloaded simultaneously. Truck shipments are readily handled at a platform designed for this purpose. Two large warehouses provide storage for some 12,000 tons of wood pulp and paper stock, all of which is segregated into bays or compartments according to its quality and the use for which it is intended.

Various grades of boxboard require a variety of different stocks including virgin wood pulp such as bleached and unbleached sulphite and soda. Wastepaper, such as white envelope, ledger, and flyleaf shavings, together with overissue newspapers and mixed wastepapers, comprise the bulk of the stock used.

Operations

The mill is designed as a four-stock system: (1) top liner, (2) subliner, (3) filler, and (4) bottom liner. The mill can operate as a one-, two,- three-, or four-stock system. For instance, a single-grade stock can make up a solid sheet, while double patent coated board utilizes three kinds of stock with a liner and subliner on top and bottom, and filler in the middle. This four-stock system provides a flexibility and versatility that permits the manufacture of almost any grade of boxboard.

Main operations are stock preparation, board fabrication and finishing, but here, the major finishing operation, that of cutting the boxboard into final finished sheets, is integrated in a straight line operation with the machine. Board coming from the machine can be put on a reel for rewinding and subsequent cutting, or can pass directly to an automatic cutter and double layboy where finished sheets are loaded directly onto skids. There the finished skidloads are removed with fork trucks and transferred directly to storage and shipping with a minimum of manual handling.

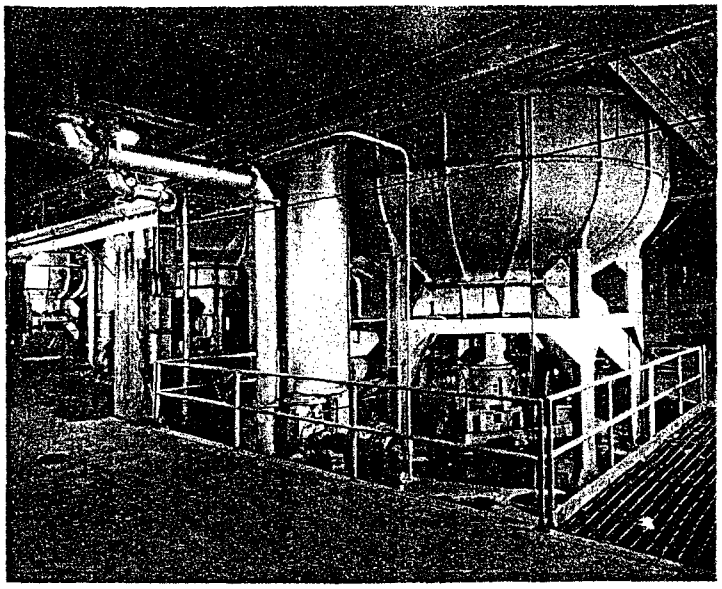
Elimination of "back-breaking" jobs, however, starts right at the beginning Bales of raw stock are taken from the storage bays with fork trucks. These first run onto a floor scale, then deposit the weighed load on an inclined conveyor which elevates and transfers the material to the operating floor of the stock preparation building. Several loads of the fork truck make up each weighed charge to the batch operated Hydrapulpers.

This materials handling system is comprised of three inclined conveyors, each with its own floor scale, each of which discharges into a separate Hydrapulper. It is thus possible to control the exact amount of water to follow the formula designated for each particular grade of board manufactured. This initial control of stock and water proportions gives a controlled consistency which is the first step in obtaining uniformly prepared stock for the machine.

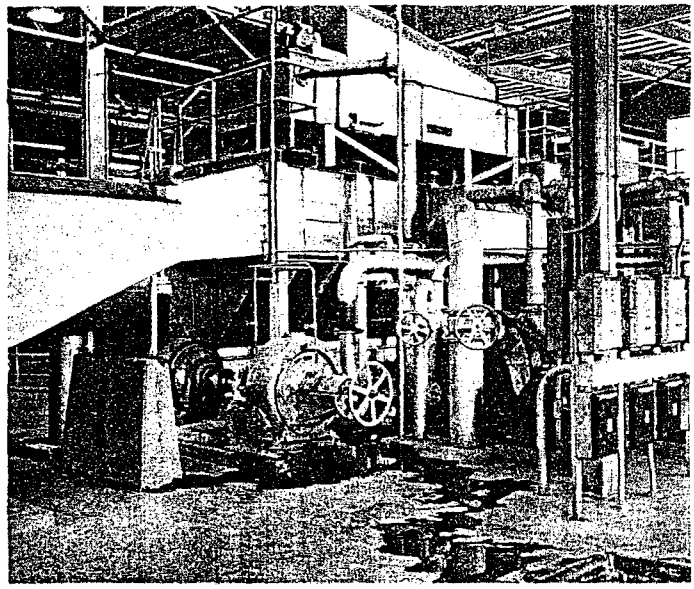
Stock Preparation

The stock preparation system, from the inclined conveyors through the machine headbox, comprises a complete Shartle-Dilts stock preparatory and cleaning system supplied by Shartle Brothers Machine Company.

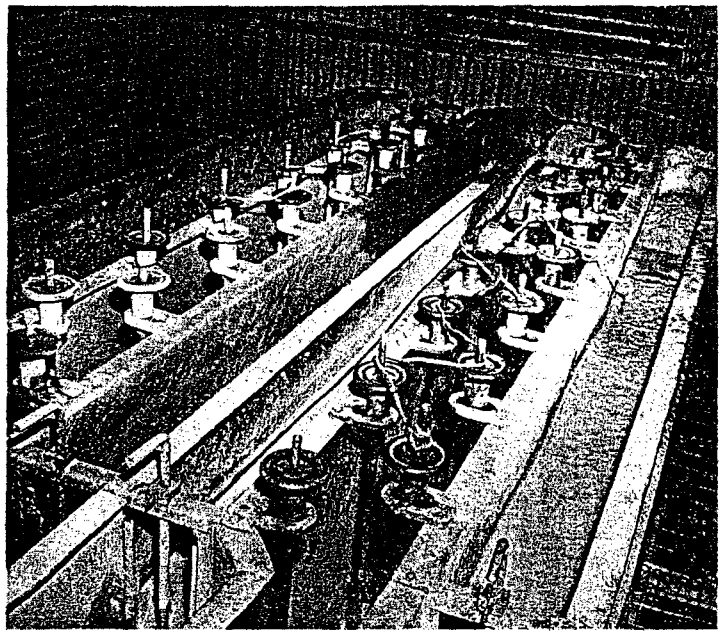
Three basic types of units employed are: Hydrapulpers, Hydrafiners and jordans, together with the necessary



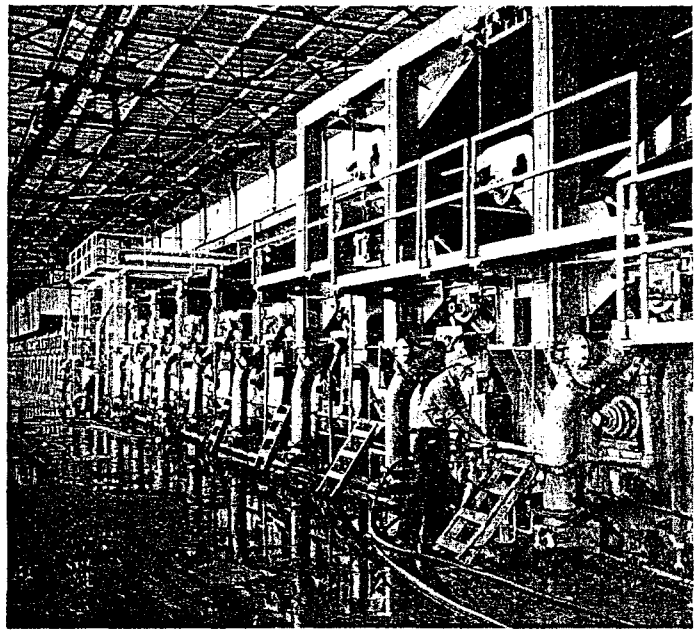
3 *Filler stock is prepared in Hydrapulper. Slushed pulp is discharged through vertical column at left*



4 *Grit removal and classifier system. Accepted stock passes over the deckers at left and then to storage*

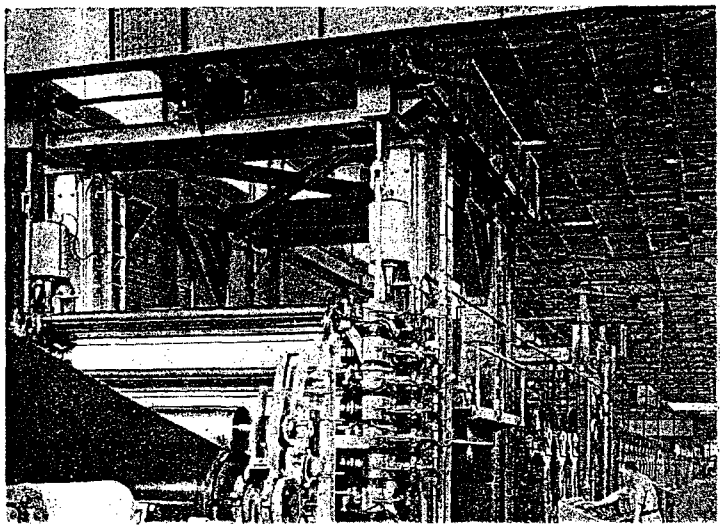


7 *All stocks go through this four-stock headbox to screens below; then to any of 8 molds on machine*

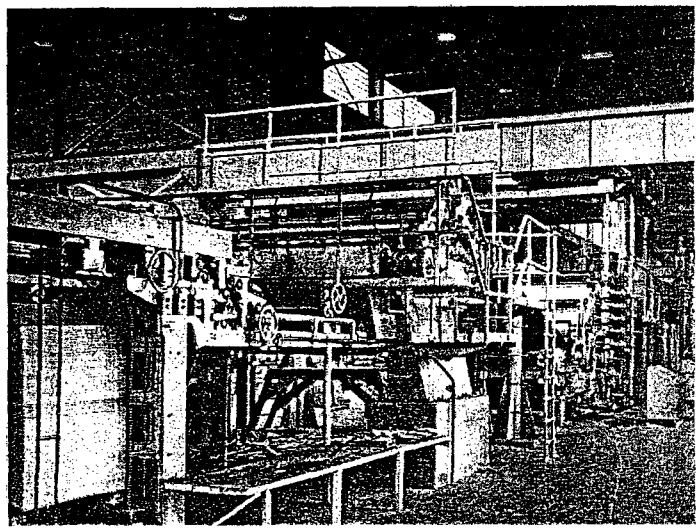


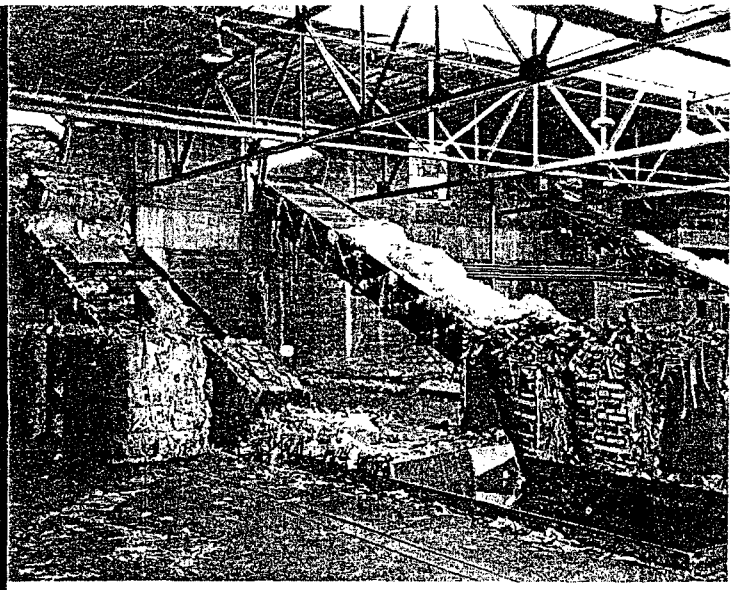
8 *Board is formed by eight-cylinder molds on this 140-in machine equipped with five suction rolls*

11 *Final finish to board is given by this open-side calender stack. Note the control panels*

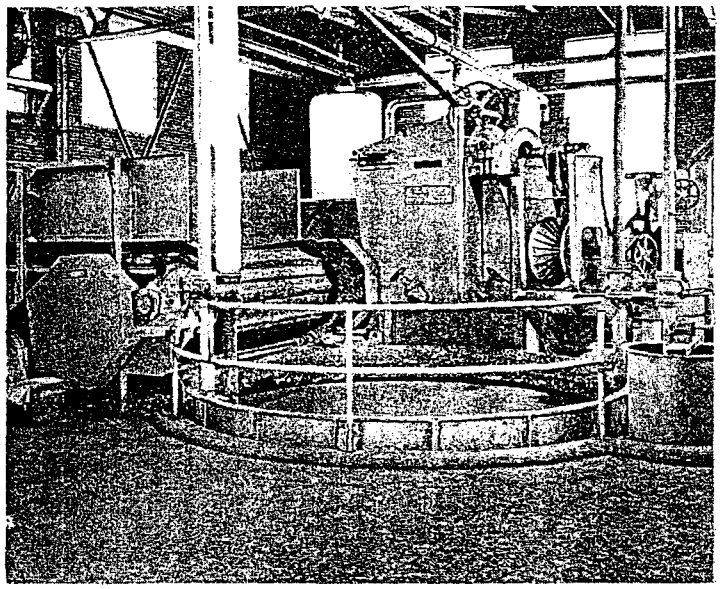


12 *Board from the finishing calender stack by-passes the reel and goes to automatic cutter and layboy*

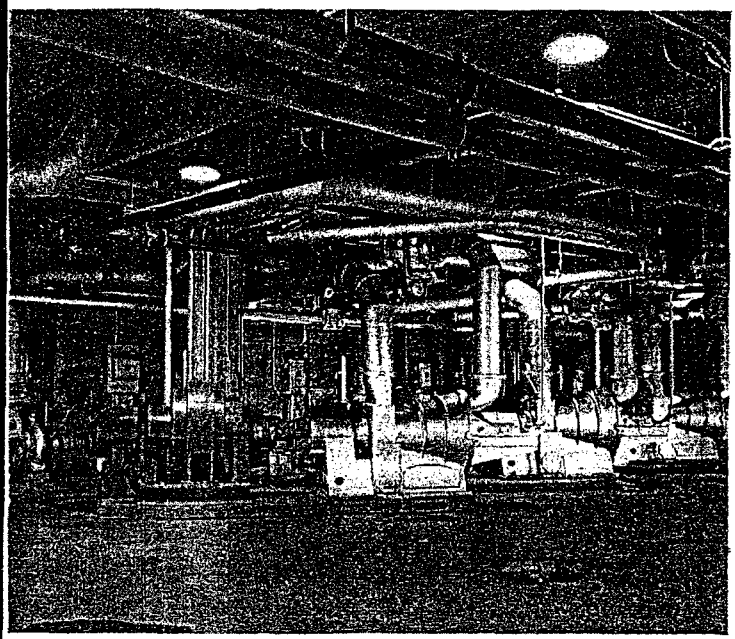




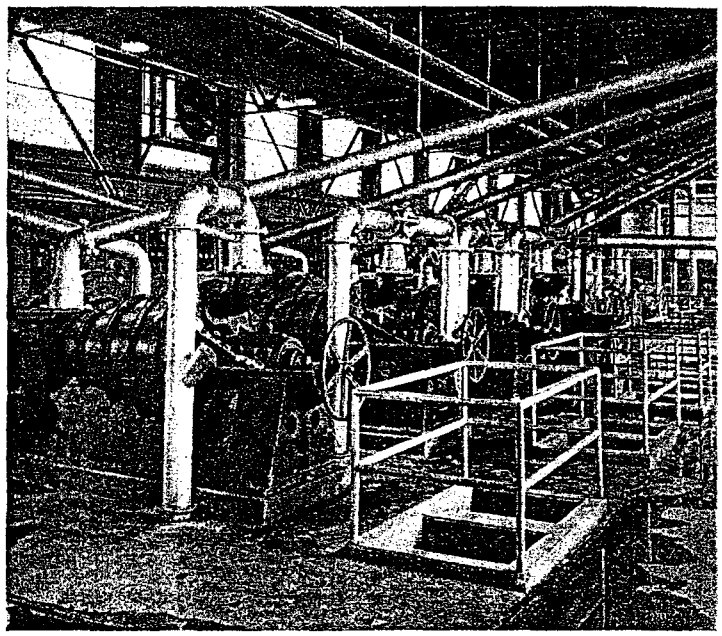
1 *Incline conveyors carry weighed paper stock to the operating floor of the stock preparation building*



2 *Weighed stock with a measured quantity of water is slushed up in this 14-ft diameter Hydrapulper*

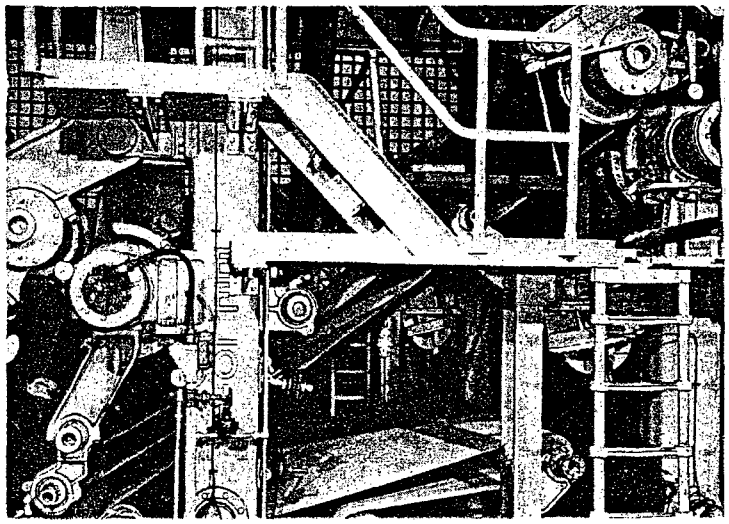


5 *This battery of Hydrafiners, hooked up to cycling chests, are used on liner stock prior to jordaning*

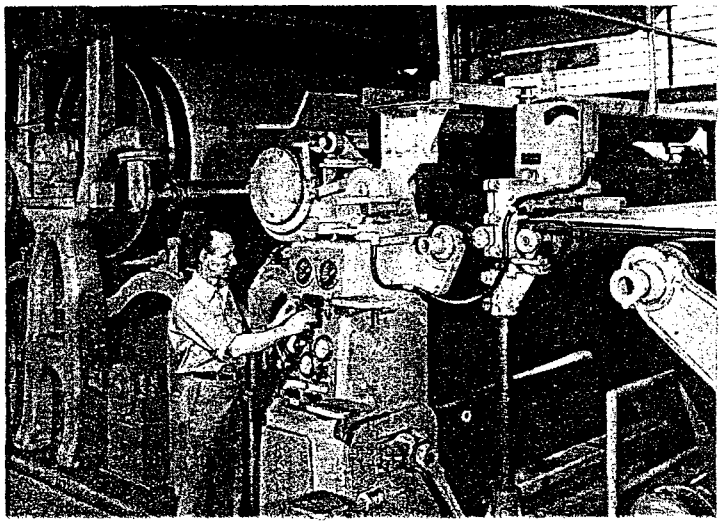


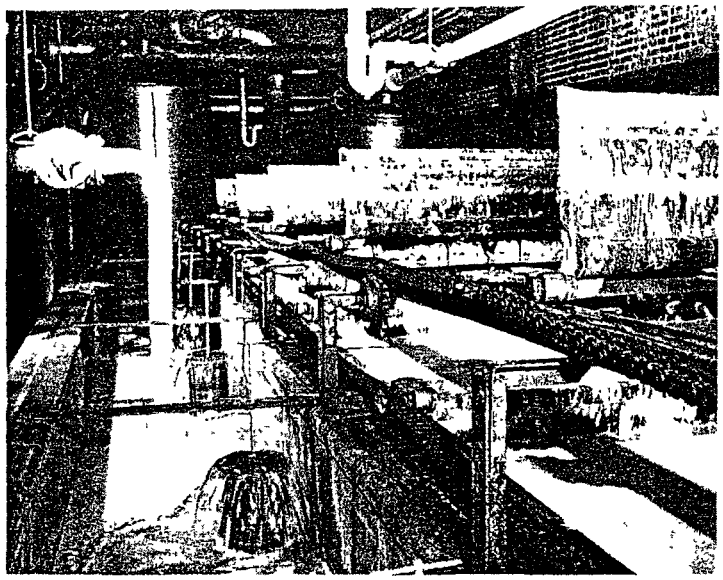
6 *Six jordans, fed by gravity from four-stock headbox, give stock final treatment before going to machine*

9 *Sheet passes through main suction press (right) and reverse suction press (left), then to smoothing press*

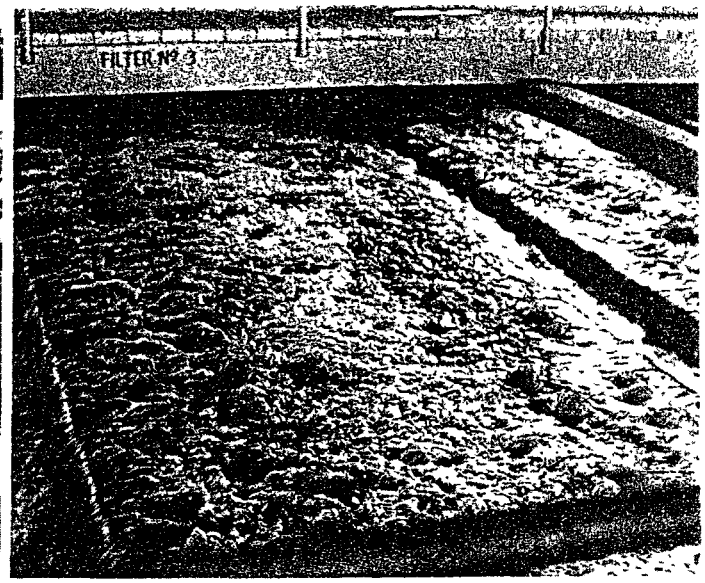


10 *Just before entering smoothing press, sheet passes through caliper control device*





Usable fiber is recovered from white water in two tile-lined save-alls



Water filter being backwashed. Total capacity of the four filters is 3000 gpm

Calenders

After the sheet is dried it passes through calender stacks, all of the new Beloit open-side design with each roll held in separate bearings hinged to a single vertical column at the front and back of the machine Pressure is exerted by means of an air-operated power cylinder on each of the vertical columns. This type of calender stack is easy to operate and maintain. Maintenance time is cut since any roll may be removed readily and replaced without disturbing the others. Each calender is equipped with a motor operated lift.

From the finishing calender stack, the sheet may be wound on a drum reel equipped with a pneumatic cylinder for controlling roll hardness or it may pass directly over the reel unit to the automatic cutter and layboy. When the board is wound on reels, the 6-ton jumbo rolls are transferred by an overhead crane to a Beloit rewinder, set off to one side of the reel The winder is equipped with a special shaft puller, shaft return and roll lowering device.

Cutter and Layboy

Ordinarily, however, the sheet passes direct to the cutter. Cutter and layboy are both designed for high speed operation. The moving sheet first runs over slitters and is cut to the desired widths before passing through the double blade revolving cutter which delivers the finished individual sheets of board to receiving tapes. From the first set of tapes, the sheets are delivered to a second set of slower moving tapes. Here the sheets overlap one another and their velocity is thus reduced so that they fall readily into place on the layboy skids without being damaged. Adjustment of the overlapping on the second set of tapes by means of speed control permits maximum efficiency of layboy operation, regardless of the speed of the paper machine.

Tandem layboy units, each with separate tape delivering system, provide continuous operation with no interruptions for removing full skid loads. Guide fingers are positioned to deliver sheets from the revolving cutter to the receiving tapes for either of the layboy units.

Auxiliary Equipment

Control of tension or draws between various sections of the machine is accomplished by positioning the drive belts on the cone pulleys of the enclosed gear reduction units. But instead of the old handshift arrangement. the operator merely pushes a button to start a motor that automatically shifts the belt to attain the desired speed for each section. An air-operated diaphragm clutch is used to start and stop each section but the dryer drives require air-operated brakes for quick stopping. These are operated from individual control panels on the front side of the machine.

While speed adjustment of the various sections is accomplished by shifting the drive belts on cone pulleys, machine speed is regulated by controlling the turbine drive.

Recording controllers mounted on a control panel show the pressure of steam to each section of dryers. This is automatically controlled according to the value set on the instrument by the backtender.

Dryers are equipped with roller bearings and the dryer gears are enclosed. A Bowser pressure lubrication system is used. Over 8,000 gallons of oil is cleaned, filtered and recirculated by this system.

Heart of the automatic control system is the Ingersoll-Rand compressor that furnishes compressed air for controller operation, for applying pressure to the press rolls, and for the wide variety of uses on the paper machine.

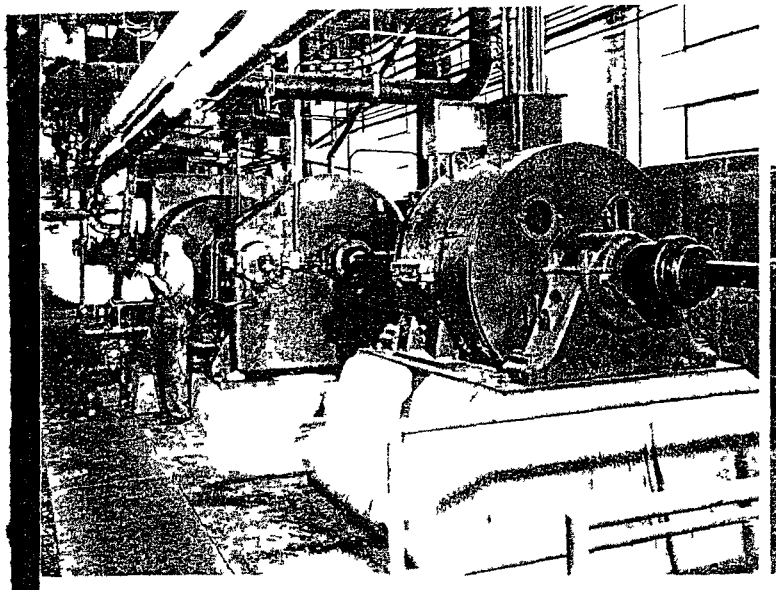
Steam is provided by two new Springfield boilers operating at 415 psi with a design capacity of 60,000 lb of steam per hour.

These boilers are fired by Detroit Stoker Company "Rotograte" traveling grate spreader stokers. A fairly wide range of coals can be handled by this stoker equipment. Traveling grates move forward and continuously discharge ashes at the front while a series of revolving rotors feed coal from the hoppers and throw it into the furnace.

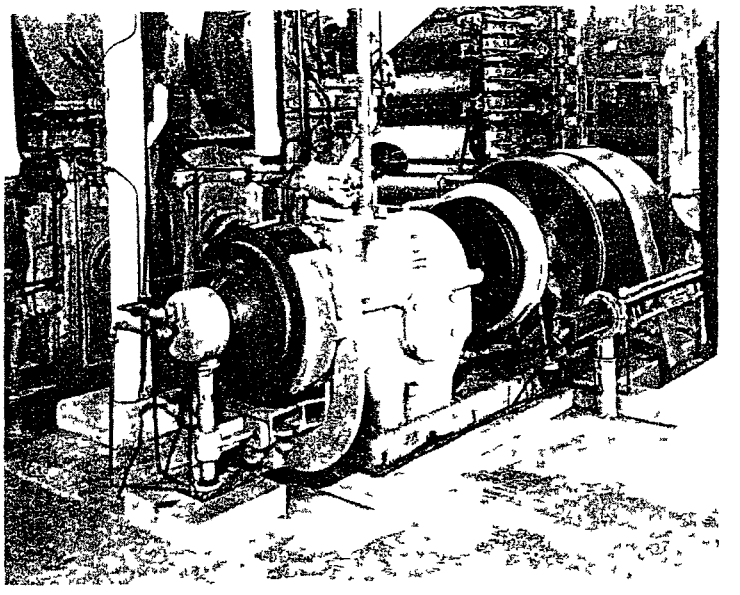
Also located in the new boiler house is the water treating plant. This consists of a large clear well and gravity sand filters furnished by Hungerford and Terry, Inc. Four filters, having a total capacity of 3000 gpm, are each 15 ft wide by 23 ft long and are installed on the operating floor of the boiler plant. The clear-well, with a capacity of over 140,000 gallons of filtered water, is located on the ground floor. Raw water from the Kalamazoo River, for the filter plant, is taken from the main mill pump which supplies water for condenser and other purposes. Water entering the filters is controlled by float valves which cut off the feed when the clear-well fills up.

Acknowledgment

Grateful acknowledgment is made to Lawrence G. Fell, president of the Michigan Carton Company, for permission to publish this article and to various members of his organization whose help and co-operation were invaluable.



The 'Angel' is driven by a 1200 hp variable speed steam turbine dc generator is installed on line shaft



Drive unit for one section of the paper machine Note air-operated clutch and brake arrangement

Cylinder Board Machine

One of the most modern in design the 140 in wide eight cylinder board machine built by the Beloit Iron Works, trims 128 inches, has an overall length of 550 ft employs 5 suction rolls, 81 paper dryers a machine coating unit and an automatic cutter and layboy Driven by a 1200 hp, 10 to 1 ratio Westinghouse steam turbine through a line shaft, the different sections of the machine are connected to a line shaft by belts operating on cone pulleys Adjacent to the steam turbine on the line shaft is a 200 hp Westinghouse d c generator set This d c current is used to drive the 'helper motors on the cylinder molds and the suction press roll motors

Cylinder molds are 140 inches wide, 60 inches in diameter, and form the eight layers of stock that make up the sheet Even distribution of stock in each of the vats is aided by a rotating perforated roll, and level control is governed by both slice and wing board action Vats are also equipped with an air exhaust system to remove air from the inside of the rotating mold above the level of white water Deckle showers trim the wet edges from the formed sheet

Water Removal

Water is extracted from the sheet by both plain and suction press rolls First is the drum combination press and suction roll equipped with a side suction roll to remove water from the top felt This combination of two suction rolls and one top roll is followed by a plain primary press which, in turn, is followed by a primary suction press Up to this point, the top and bottom felts, with the sheet between them, have been operated on by this applied suction and mechanical weight

The top felt now returns from the sheet and passes back around the machine and the sheet is carried forward only by the bottom felt The bottom felt and sheet then pass through the main suction press and then through the reverse suction press so the bottom side of the sheet receives the smoothing influence of a plain top roll In all, there are five suction presses extracting liquid water from the sheet and felts at the wet end of the machine Following the suction presses is a plain press and immediately preceding the dryers is a pair of smoothing rolls to remove any felt impressions from the sheet

The main suction drum roll and the side suction roll both discharge water through a receiving tank and gooseneck system connected to the suction side of a vacuum pump Air and water are thus separated Primary suction rolls, main suction roll, and the reverse suction roll, each with its separate vacuum pump, all discharge to a single air water separator As there is not a large volume of water at these points, these three pumps discharge into a common header system White water is pumped to a set of two Sveen Pederson save alls to recover usable fiber One of these is for filler fiber and the other for liner fiber Clarified water is reused

One of the features of the machine is that pressure is applied to the squeeze rolls by means of air operated diaphragms instead of by a system of levers and weights Gauges mounted on a panel board indicate the pressure applied to the front and back of each press roll Manually adjusted pressure regulators are used to regulate the pressure to the desired value This makes it possible for the machine tender to control accurately the work accomplished by each press

Caliper Control

The detecting device of the Harvey Lewellen caliper control unit, previously mentioned, is located just prior to the smoothing rolls It consists of a roller wheel running on a bottom tube roll between which the sheet passes Variations in caliper are detected and transmitted to the controller which operates the adjustable overflow gate on the filler stock headbox Indication is given by three signal lights White light indicates the caliper to be correct, green light indicates low caliper, and red indicates high caliper This constantly tells the machine tender whether or not the sheet is of the right thickness and weight Accurate control within a half point of caliper is accomplished with this system Accurate regulation of stock consistency makes possible this close control of caliper and corresponding weight

Drying

Paper machine dryers of 60 inches diameter are divided into four sections with a total of 81 rolls The first two sections, comprising 40 dryers, are fully enclosed by a Ross hood and hot air system for removing vapor evaporated from the wet sheet The same two sections are equipped with top and bottom dryer felts and the necessary felt dryers This practice is somewhat unusual and new for boxboard machines

Third and fourth sections of dryers do not employ dryer felts nor do they utilize a hood system Fans in the roof effectively exhaust the air and vapor from the two sections while hot air blowers in the basement appreciably aid the drying A two roll breaker stack is located in the dryer section for the purpose of improving drying and finish

QUESTION 18

6-29-90

TO: PAUL STOFER
FROM P. CHAD DERDON

RE: SAVEALL OPERATIONS

ATTACHED IS A REPORT ON SAVEALL OPERATIONS PREPAIRED BY TONY NIGRELLI IN 1983. ALSO ATTACHED IS A FLOW DIAGRAM OF OUR SAVEALLS

THE KEY POINTS IN OPERATING OUR SAVEALLS ARE:

1. MAINTAIN THE PROPER LEVEL IN THE MAIN SAVEALL VAT BY ADJUSTING THE STAND PIPES IN THE CLEAR WELL

2. MAINTAIN CONSTANT FLOW TO THE SAVEALLS BY KEEPING A CONSTANT LEVEL IN THE WIRE PIT.

3. MONITOR THE POLYMER FLOW AT THE ROTOMETERS

4. KEEP A LITTLE DILUTION WATER GOING TO THE SLUDGE PITS TO PREVENT THE SLUDGE PUMPS FROM PLUGGING.

5 KEEP THE MACHINE REJECTS TANK FROM OVERFLOWING. (THE DRAINS ON THE BACK SIDE OF THE MACHINE GO TO THE WIRE PIT AND THE EXTRA SOLIDS OVERLOAD THE SAVEALLS.

Pat
6-29-90

COPY DALE B. MIKE M.
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JIM O.

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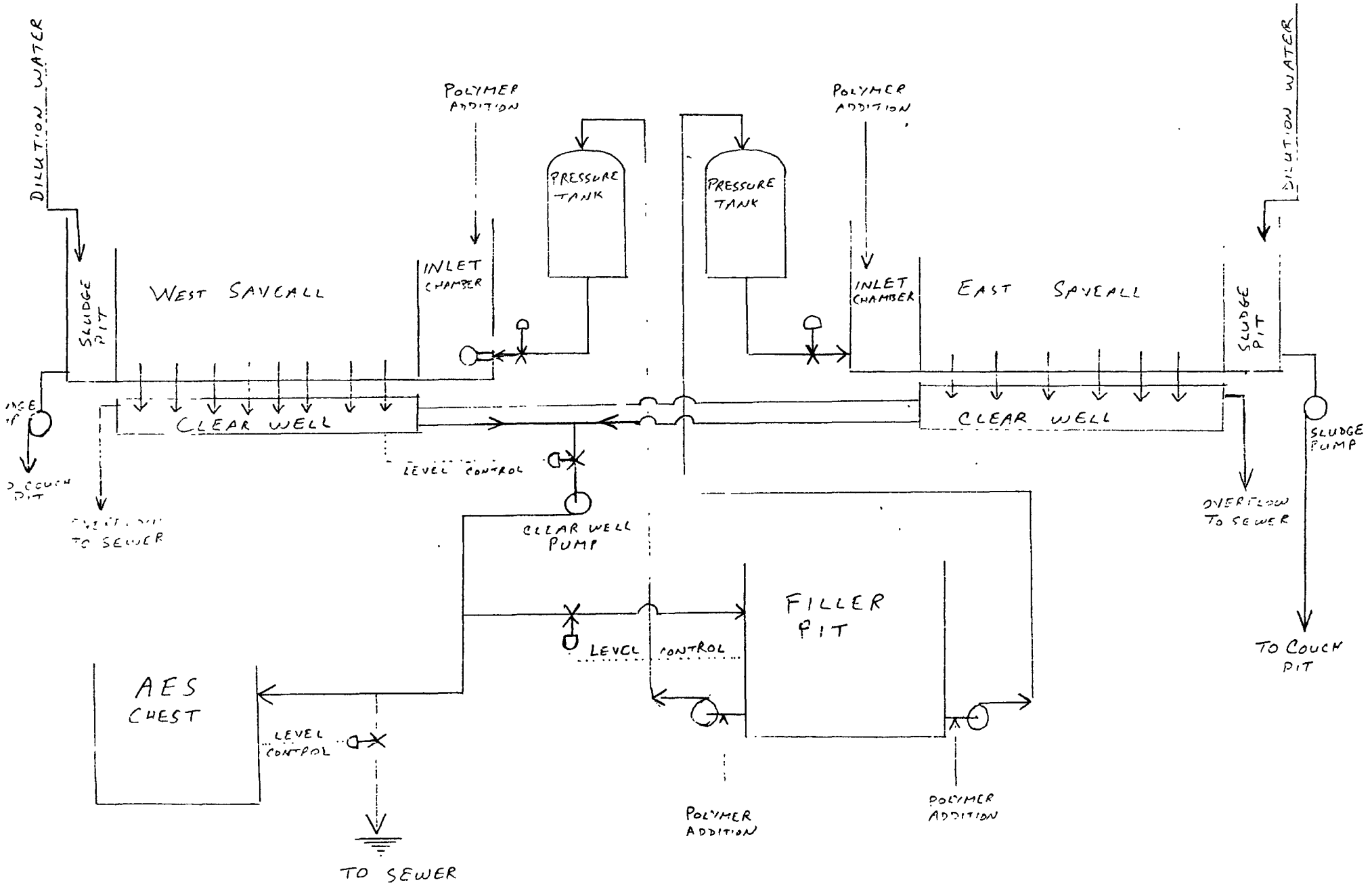
DILUTION WATER
SLUDGE PIT
WEST SAVEALL
POLYMER ADDITION
INLET CHAMBER
PRESSURE TANK
PRESSURE TANK
POLYMER ADDITION
INLET CHAMBER
EAST SAVEALL
DILUTION WATER
SLUDGE PIT
CLEAR WELL
CLEAR WELL
LEVEL CONTROL
CLEAR WELL PUMP
OVERFLOW TO SEWER
SLUDGE PUMP
TO COUCH PIT
FILLER PIT
LEVEL CONTROL
AES CHEST
LEVEL CONTROL
TO SEWER
POLYMER ADDITION
POLYMER ADDITION

NALCO

PERSONAL SERVICE REPORT

Plant of St. Regis Paper Company Date December 3, 1983

Address Battle Creek, Michigan Plant No.

Attention: Mr. W. Thomas Myers

Copy to: Mr. Roland Johnson

Mr. Terry Tiffany

Nalco Copies to: Dick Miller

Subject: Improvement of performance and dependability of the flotation savealls to permit greater white water reuse and reduce fresh water use further.

At your request, we are submitting a review of flotation saveall operating principles and parameters and ways that Nalco can assist St. Regis achieve better operation while reducing fresh water flow.

Recently the Angel Mill personnel have made several changes that have reduced fresh water use greatly and made significant contributions to saving effluent charges and energy use. The first change was the cascading of seal water s to the vacuum pumps allowing reuse of seal water. The second change was the connection of the West saveall to the whitewater chests to allow a greater reuse of recovered water. The third change was the pumping of water from the mill #3 sump to the saveall allowing the recovery of water that would be otherwise lost. Further improvements are planned.

The mill objective is to stabilize and better control the flotation savealls to permit further white water reuse in critical areas.
Nalco can contribute in the following areas:

1). Operator training - Attached are technical papers that review the principles of operation and control. This can serve as a basis for an operators manual.

2). Suggest Mechanical modifications.

3) Help determine operational guidelines, appropriate monitoring procedures and instruments to monitor and control.

4). Optimize the chemical program (coagulant and flocculant) to maximize dependable operation and economy. Automatic monitors and feed rate controls.

Copy left with Signed A. L. Vigilli Title Asst. Mgr. District P06

NALCO CHEMICAL COMPANY

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PERSONAL SERVICE REPORT

Plant of St. Regis Paper Company Date December 3, 1983
Address Battle Creek, Michigan Plant No.
Attention: W. Thomas Myers
Copy to: Roland Johnson
Terry Tiffany
Nalco Copies to: Dick Miller

5) Monitor effect of increased recycling (eg. Dissolved solids, conductivity,) on corrosion tendency, scaling, effect on the retention/drainage/ sizing programs, and on machine cleanliness.

To achieve the maximum efficiency of a flotation saveall the following are necessary:

I. Constant volume, flow, and pressure

II. Maintaining incoming solids loading within capacity of saveall (reaction time- sludge handling cap) Proper use of 7607/625 can increase capacity by speeding up reaction time, stronger floc and better float and control of floc density and water content.

III. Monitor flow, solids, efficiency, air pressure-level in retention tank and adjustment of polymers as necc. These functions can be automated.

Recommendations:

Feed of Water: Larger pump will be installed during Christmas shutdown A collection tank for all waters will assist maintainence of constant volume, flow , and pressure requirements. The incorporation of a constant recycle of water from the clarified compartment of the saveall will smooth out the flows and seed the floc action. The recycle line should have a level control so that saveall operation can be maintained even if the machine goes down allowing quicker stabilization of the paper machine on startup.

Air : Inspect, clean, repair air pressure tank and diffuser. Install level monitor device and air bleed, install pressure guages , remove oil from air, adjust inlet point.

Copy left with Signed A. S. Nigrelli Title Area Mgr District P06

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PERSONAL SERVICE REPORT

Plant of St. Regis Paper Company Date December 3,1983

Address Battle Creek, Michigan Plant No.

Attention: Tom Myers

Copy to: Roland Johnson

Terry Tiffany

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Valves : For proper air bubble formation run air tank to 60# drop to 20 # at valves prior to saveall inlet. Convert inlet back to patented Sveen-Pederson Double-Disc valve which can be adjusted to create negative pressure for best tiny air bubble formation and entrainment in floc.

Loading : Avoid excess fiber loading through your plan to run sump water over sidehills to remove fiber.
Avoid the disruptive effect of coating pigment, binder, and dispersant by your plan to run coating sump to head tank to allow trickle of coating in a controlled fashion into pulper filler or saveall.

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Polymer : Adjustment to be controlled with a positive metering system. Install new lines for better distribution and efficiency. Can be controlled by shift audit or by automatic control with a recording/control turbidimeter.

Monitor, control, adjust, train.

We hope the attached technical manuals on flotation save-all operations will be useful to you. We at Nalco are committed to assist you in achieving your goals for effluent reduction and energy savings.

Copy left with _____ Signed A. S. Nigrelli Title Area Mgr. District P06

NALCO CHEMICAL COMPANY

FLOTATION SAVEALLS

Flotation savealls are quite common in paper operations. The operation concept consists simply of injecting paper mill white water with air, which is dissolved under pressure, releasing it in a tank of water, and scraping the rising solids from the surface, with filtrate being removed from the bottom.

Most are designed to handle up to 20—25 lb/1000 gallon loadings and produce a filtrate that has less than 0.5 lb/1000 gallons. To determine their efficiency (in terms of a percent figure of solids removed) you determine gravimetrically the amount of solids in the incoming white water and the outgoing filtrate, then use this formula.

$$100\% - \frac{\text{Solids Out}}{\text{Solids In}} = \%\ \text{Efficiency}$$

As an example: If you find 20 lb/1000 gallon loading going in and 2 lb/1000 gallons going out:

$$100\% - \frac{2}{20} = 90\%\ \text{Efficiency}$$

The saveall can deliver 99% plus efficiency when properly operated.

Let's examine the system step by step referring to Figure 1.

The rich white water to be treated is collected in a supply tank (or white water box) which is often an extension of the seal pit. From here it is pumped (usually by a centrifugal pump) to an aeration/retention tank. During this transfer, air is siphoned in via a Penberthy type air injector mounted between the suction and discharge side of the pump. There is generally a rotameter used here to help determine the amount of air injected. It is seldom working.

Our white water then goes into the aeration/retention tank at the top through a cone shaped nozzle (this is the newer design). The upper portion of this tank should have an air pad. The liquid level is generally controlled by the valve on the discharge side of the tank. The idea is to get a SS—92% oxygen saturation in the water.

The air-charged water is now forced out of the bottom of this tank. The gauge on the line coming out should show 60 psi minimum. Next it goes through a hand valve. Many systems are missing this valve between the retention tank and the actual inlet valve. It is crucial to efficient saveall operation as here the pressure release is stepped down from 60 psi to about 20 psi, for control, as it is released into the tank.

Now it passes through the inlet valve. The double disc type is most common on the newer savealls. This inlet valve is machined so there are 20 threads to an inch on the screw feed. The back plate is fixed but the front plate is adjustable. It will operate best at 5/16 of an inch open but must be adjusted for flow. The air-saturated white water passes out into the vat through the periphery around the circumference of the plate. As the air gets into the inlet compartment with the corresponding reduction in pressure, bubbles form on the surface of this plate, are swept off continuously and replaced. These bubbles attach to flocced solids (via ionic charge) and carry them to the surface. Flocculants are frequently used to promote this flocculation and subsequent bubble attachment to the solids.

The solids rise to the surface and are slowly swept off by the rotating paddles or sweeps into a collection compartment for recycle to the paper stock system. The clarified white water is recovered through weir tubes located in the bottom of the main saveall vats. This clear water flows up into a compartment adjacent to the vat and subsequently into a storage tank for reuse.

CRITICAL AREAS

Now, let's explore some of the critical sequences of this operation. Several key points are:

1. Constant volume to the saveall
2. Constant pressure to the saveall
3. Minimum pressure to the saveall must exceed 60 psi
4. Accurate air control
5. Pressure release stepwise
6. Quiescent area to allow floc formation and bubble attachment
7. Oil free compressed air at 80 psi

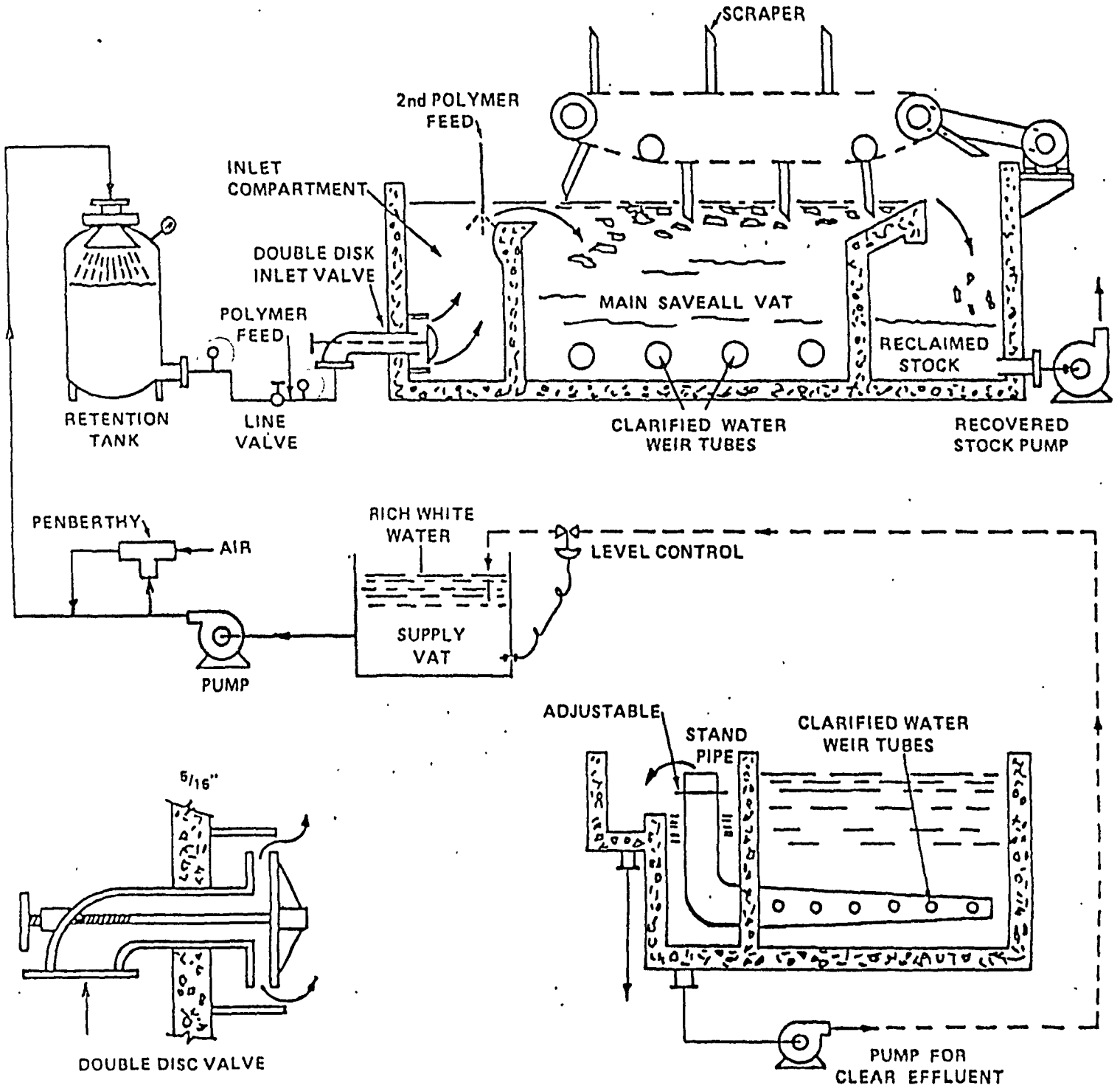
SCRAPER
2nd POLYMER FEED
INLET COMPARTMENT
DOUBLE DISK INLET VALVE
POLYMER FEED
MAIN SAVEALL VAT
RECLAIMED STOCK
RETENTION TANK
LINE VALVE
CLARIFIED WATER WEIR TUBES
RECOVERED STOCK PUMP
PENBERTHY
AIR
RICH WHITE WATER
LEVEL CONTROL
SUPPLY VAT
PUMP
ADJUSTABLE
STAND PIPE
CLARIFIED WATER WEIR TUBES
5/16"
DOUBLE DISC VALVE
PUMP FOR CLEAR EFFLUENT

FIGURE 1

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TONY NIGRELLI
7526 SANDY RIDGE ST.
PORTAGE, MI 49002

NALCO CHEMICAL COMPANY
6100 ROCKSIDE WOOD BLVD. 205-P
INDEPENDENCE, OHIO 44131

St. Regis Paper Company

ANGEL MILL

Battle Creek, Michigan

This report will describe the controls successfully used to obtain the best economical control of the Sveen Pedersen flotation saveall installations and to improve the performance of these installations. The controls are designed for one or all of the following purposes.

1. To save additional fiber and filler currently being lost in the plant's effluent. This is very important if the recovered stock is reused.

2. To improve the clarity of the treated white water by removing more suspended solids, (less than .10#/ton) to enable use in a higher priority function.

3. To decrease the number of man hours required for operation.

4. To minimize chemical feed dosages.

In order to provide a proper background for discussing the various recommended saveall changes, we will review briefly a typical flow for a Sveen Pedersen type saveall.

The mechanical operation of a Sveen Pedersen saveall is very critical. Good mechanical operation will remove 80% of the incoming suspended solids, to the saveall. The other 20% of the suspended solids are removed by chemical means.

In order to achieve maximum efficiency of a Sveen Pedersen saveall, three fundamental things are necessary.

a. A constant "volume" to the saveall.

b. A constant flow to the saveall.

c. A constant pressure to the saveall.

NALCO

First, we must have a constant volume, and a constant flow through the pump to the saveall itself, then you can have a constant pressure. Unless you have a constant volume and flow it is almost impossible to have a constant pressure. When the above two requirements are met, then it is possible to come up with an air flow that will give you the air saturation of ± 1-2% consistently.

FLOW PATTERN

The white water to be clarified enters a collection tank of a suitable size, usually having a five minute retention time. It is pumped by means of a high pressure centrifugal feed pump, into an air retention tank suitably baffled. Prior to the air retention tank about 1-2% oil-free compressed air is metered through a rotometer by means of an air injector, operating from the pump, and is drawn into the down-stream side of the pump, by running a side arm line off and back into the line. The compressed air is run through a filter then into the top of a Penberthy mixer. The air-water mixture under pressure has certain minimum limiting factors. These factors are generally recognized as being 30 seconds minimum from the retention tank exit to the inlet of the saveall.

After the air-water mixture system is under pressure for the required amount of time, then it will form a bubble which inturn will "coalesce" fibers and coating this fiber, holding it on top, until it is recovered at the end of the saveall. The aerated white water, after passing through the retention tank by virtue of its residual pressure flows through a suitably sized pipe to the inlet of the saveall proper. At a point just ahead of the saveall, a hand-valve is used to reduce the somewhat excessive pressures to the patented inlet valve in the saveall.

In a step-wise progression a bubble has been built by reducing the pressure at the hand-valve prior to the inlet valve. The pressure prior to the "hand-valve" is in the 60-70 psi range and will be reduced to the normal operating range of 3-10 psi. Some savealls run with a hand-valve back pressure of 20 psi, but never over 20 psi.

Advantages of replacing present ball valves on the saveall inlet line with the patented Sveen-Peterson Double-Disc valves:

The next step after the hand-valve is going to the patented inlet valve, which is a double disk-type valve. There are two plates which operate under a vacuum. The plates will vary in size from 18" to 30" in diameter. Between the two plates a vacuum will exist eventhough you have pressure coming into them. The vacuum exists because of a circumferential orifice prior to this inlet valve. By regulating the water flow coming in and the space between the two plates, as high as 28 inches of vacuum can be pulled. No one can successfully operate with 28 inches of vacuum. The normal operating range of vacuum is in the 4-12 inch range. Again, various vacuum ranges should be tested to determine the best range for each specific system.

Now that you have reduced the air-water mixture from 60-70 psi, to less than 20 psi, after the hand-valve, this is probably the first place where these "air bubbles" start coming out of solution. At this point the air bubbles are very small, but they are the seeds of air bubbles coming out. As the air bubbles go through the inlet valve, the vacuum drawn has the tendency to greatly enlarge the air bubble. The air bubbles here, actually are formed on the smooth surface of the plates and are being swept off from a pressure zone, to a vacuum zone, back to a pressure of the head of the saveall water above it. Starting out with a seed of an "air bubble" at the hand-valve, increasing through the vacuum zone and out of the vacuum zone, the weight of the water then has a tendency to slightly compress the air bubbles to make them more stable. The bubbles will hold until they are swept off at the end of the saveall.

A series of paddle scrapers drawn on a chain and driven by a variable speed fractional horsepower drive, push the floating solids across the saveall and over an inclined baffleboard into a reclaimed solids chamber. The scrapers are about 6 feet apart and travel at a rate of about 6 fpm. The reclaimed solids usually have a concentration of 1 to 3%.

The flotation chamber is a relatively long, narrow, rectangular chamber, quite shallow in depth, having about one quarter hour retention. The weir tubes draw off to a side chamber. The weir tubes having receiving orifices drilled and properly spaced are to receive the clarified subnatant water which flows into them uniformly and then upward to the up-draft part of the tube into the clarified water chamber. Each of these pieces has a slip tube inside the up-draft part of the tube which is adjustable to level the saveall. The clarified water, after overflowing the up-draft outlets of the tubes, drops into the long and narrow clarified chamber along one side of the saveall. From this chamber, a pump or series of pumps can transport the clarified water back for various uses in the papermaking process.

SAVEALL OPERATIONS

When there is a floc in the clarified saveall water compartment this generally is due to an unstable pad. The pad generally was not stable enough to be swept off at the end of the saveall. The pad is settling to the bottom of the saveall before the end, thus part of the floc is coming out of the effluent overflow tubes.

This situation can be checked by running settling rates in a 250 ml. graduate cylinder on each overflow tube. The end two tubes settlement will be greater than the first two tubes.

Possible corrective changes:

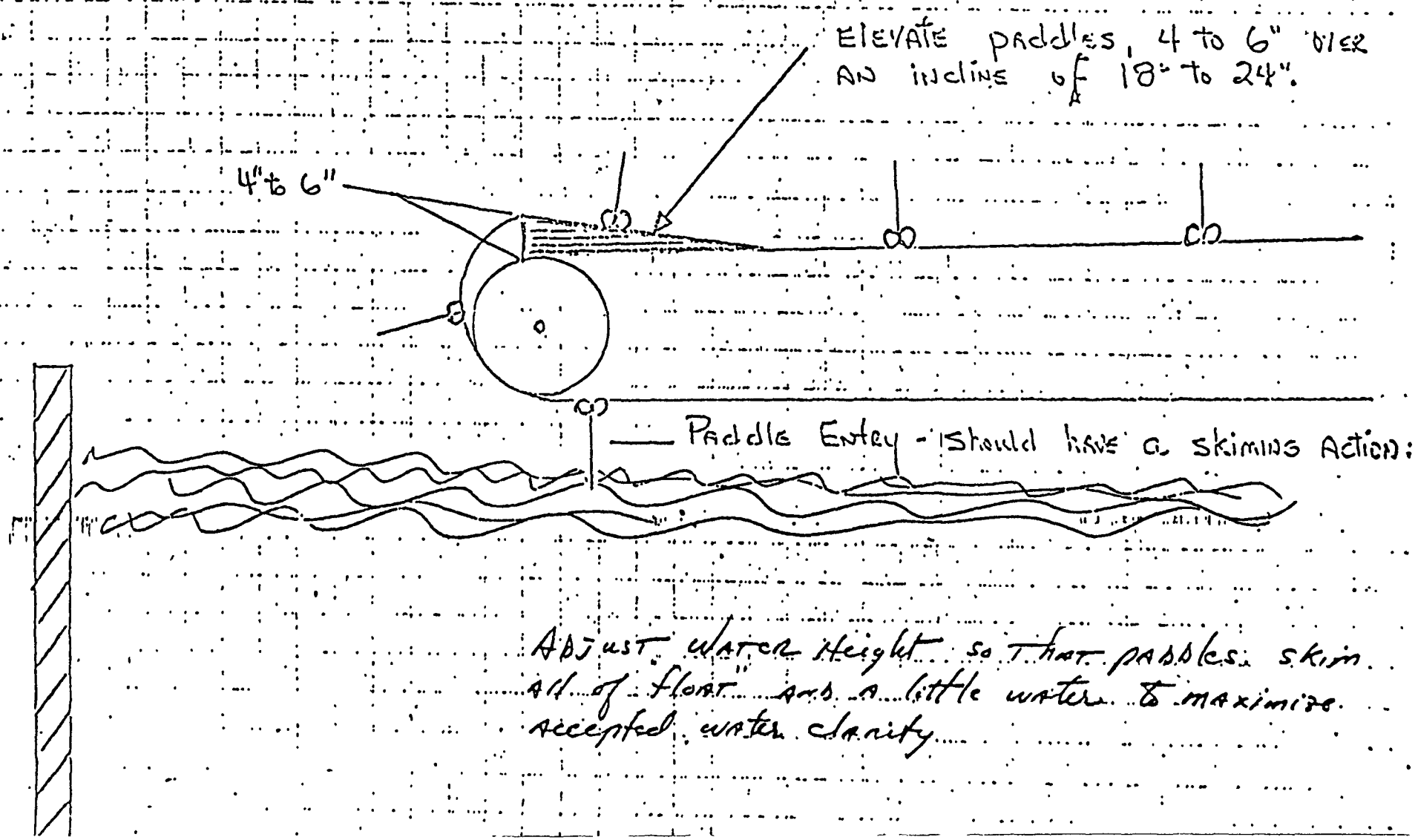
a. Speed the paddles up - if the motor speed is variable.

b. The best way to stablize the pad is by using a dual polymer feed; a cationic and anionic polymer combination. This enables you to change the feedrates slightly when the "charge" requirements on the fibers change. A single polymer installation can only increase or decrease the polymer feedrate, generally not stablizing the pad.

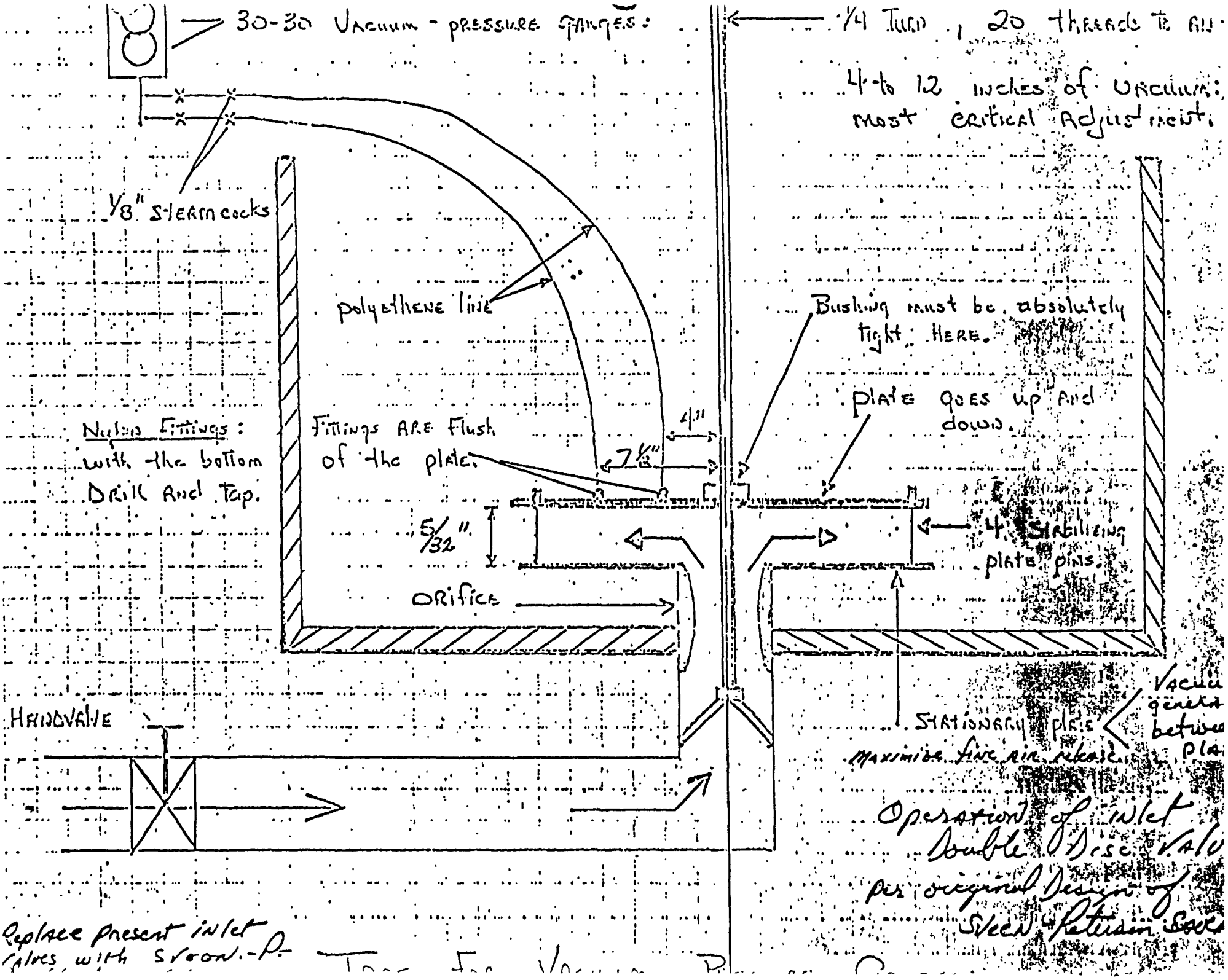
c. Adjust air flow/pressure to optimize proper air bubble formation. Level monitor in aeration tank is essential.

Paddle Entry

Adjust angle of entry. Paddle to maximize skimming action and avoid sinking "float".



Adjust water height so that paddles skim all of "float" and a little water to maximize accepted water clarity.


30-30 Vacuum - pressure gauges:
1/4 Turn, 20 threads to an
4 to 12 inches of vacuum: most critical adjustment.
1/8" Steam cocks
polyethene line
Bushing must be absolutely tight here.
plate goes up and down.
Nylon Fittings: with the bottom Drill and Tap.
Fittings are flush of the plate.
4"
7 1/8"
5/32"
4 Stabilizing plate pins.
Orifice
Handvalve
Stationary plate
Maximize fine air release.
Vacuu
genera
betwe
pla
Operation of inlet Double Disc Valv
per original Design of Sveen & Petersen Save
Replace present inlet valves with Sveen-P-

ST. REGIS PAPER CO., BATTLE CREEK, MI

Improvement of performance and dependability of the floatation save-alls to permit greater white water reuse & reduce fresh water use further.

October 2, 1984

NALCO

Miller, G.Tyree, G.Dennis, J.Moodie, K.Edwards, [illegible], [illegible], [illegible]
S.Linn

PULP & PAPER CHEMICALS

NALCO CHEMICAL COMPANY
6100 ROCKSIDE WOODS BLVD □ SUITE 205G □ INDEPENDENCE, OH 44131 □ AREA 216-524-9399

October 2, 1984

St. Regis Paper Co.
79 East Fountain St.
Battle Creek, MI 49016

Attention: Mr. W. Thomas Myers

Subject: Improvement of performance and dependability of the floatation save-alls to permit greater white water reuse and reduce fresh water use further.

Dear Mr. Myers:

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The mill objective is to stabilize and better control the floatation savealls to permit further white water reuse in critical areas. Nalco can contribute in the following areas:

1. Operator training - Attached are technical papers that review the principles of operation and control. This can serve as a basis for an operators manual.
2. Suggest Mechanical modifications.
3. Help determine operational guidelines, appropriate monitoring procedures and instruments to monitor and control.
4. Optimize the chemical program (coagulant and flocculant) to maximize dependable operation and economy. Automatic monitors and feed rate controls.
5. Monitor effect of increased recycling (eg. dissolved solids, conductivity), on corrosion tendency, scaling, effect on the retention/drainage/sizing programs, and on machine cleanliness.

To achieve the maximum efficiency of a floatation saveall the following are necessary:

1. Constant volume, flow, and pressure.
2. Maintaining incoming solids loading within capacity of saveall (reaction time - slug handling cap). Proper use of 7607/625 can increase capacity by speeding up reaction time, stronger floc and better float and control of floc density and water content.
3. Monitor flow, solids, efficiency, air pressure-level in retention tank and adjustment of polymers as necessary. These functions can be automated.

Recommendations:

Feed of Water - Larger pump will be installed during Christmas shutdown. A collection tank for all waters will assist maintenance of constant volume, flow, and pressure requirements. The incorporation of a constant recycle of water from the clarified compartment of the saveall will smooth out the flows and seed the floc action. The recycle line should have a level control so that saveall operation can be maintained even if the machine goes down allowing quicker stabilization of the paper machine on start-up.

Air - Inspect, clean, repair air pressure tank and diffuser. Install level monitor device and air bleed, install pressure guages, remove oil from air, adjust inlet point.

Valves - For proper air bubble formation run air tank to 60# drop to 20# at valves prior to saveall inlet. Convert inlet back to patented Sveen-Pederson Double-Disc valve which can be adjusted to create negative pressure for best tiny air bubble formation and entrainment in floc.

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Monitor, control, adjust, train.

We hope the attached technical manuals on floatation save-all operations will be useful to you. We at Nalco are committed to assist you in achieving your goals for effluent reduction and energy savings.

Thank you for allowing Nalco to be of service.

Sincerely,

Anthony S. Nigrelli

Anthony S. Nigrelli
Area Manager

cc: A.Crabtree
M.Minger
C.Roberts
P.Stofer
M.Shapton
T.Thomas

Research
W.Nyack,
New York
C.Day
R.Dobbins

FLOTATION SAVEALLS

Flotation savealls are quite common in paper operations. The operation concept consists simply of injecting paper mill white water with air, which is dissolved under pressure, releasing it in a tank of water, and scraping the rising solids from the surface, with filtrate being removed from the bottom.

Most are designed to handle up to 20—25 lb/1000 gallon loadings and produce a filtrate that has less than 0.5 lb/1000 gallons. To determine their efficiency (in terms of a percent figure of solids removed) you determine gravimetrically the amount of solids in the incoming white water and the outgoing filtrate, then use this formula.

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As an example: If you find 20 lb/1000 gallon loading going in and 2 lb/1000 gallons going out:

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The saveall can deliver 99% plus efficiency when properly operated.

Let's examine the system step by step referring to Figure 1.

The rich white water to be treated is collected in a supply tank (or white water box) which is often an extension of the seal pit. From here it is pumped (usually by a centrifugal pump) to an aeration/retention tank. During this transfer, air is siphoned in via a Penberthy type air injector mounted between the suction and discharge side of the pump. There is generally a rotameter used here to help determine the amount of air injected.

Our white water then goes into the aeration/retention tank at the top through a cone shaped nozzle (this is the newer design). The upper portion of this tank should have an air pad. The liquid level is generally controlled by the valve on the discharge side of the tank. The idea is to get a 88—92% oxygen saturation in the water.

The air-charged water is now forced out of the bottom of this tank. The gauge on the line coming out should show 60 psi minimum. Next it goes through a hand valve. Many systems are missing this valve between the retention tank and the actual inlet valve. It is crucial to efficient saveall operation as here the pressure release is stepped down from 60 psi to about 20 psi, for control, as it is released into the tank.

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CRITICAL AREAS

Now, let's explore some of the critical sequences of this operation. Several key points are:

1. Constant volume to the saveall
2. Constant pressure to the saveall
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6. Quiescent area to allow floc formation and bubble attachment
7. Oil free compressed air at 80 psi

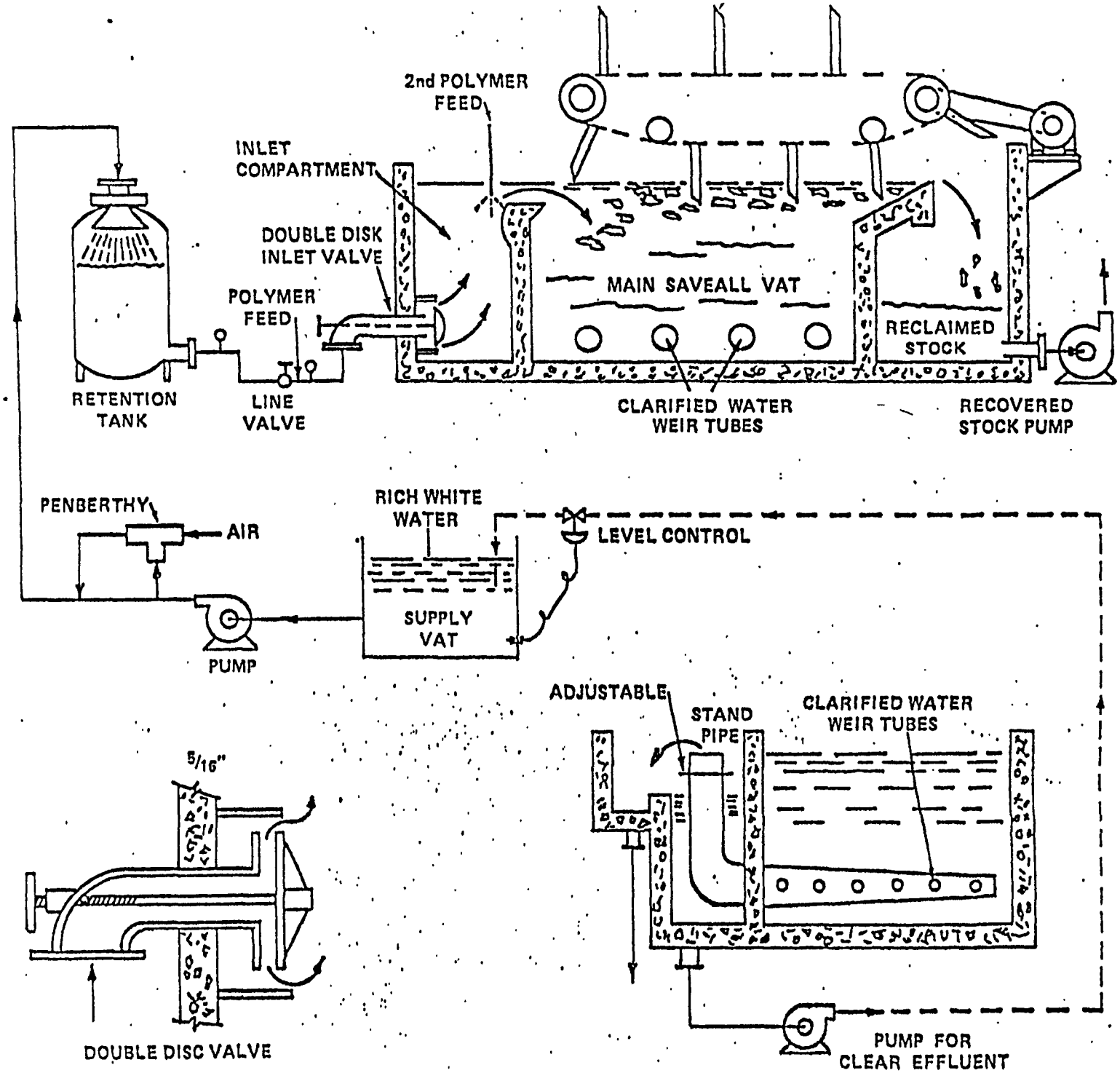

FIGURE 1

INDEPENDENCE, OHIO 44131

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ST. REGIS PAPER COMPANY

ANGEL MILL

BATTLE CREEK, MICHIGAN

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NALCO

FLOW PATTERN

The white water to be clarified enters a collection tank of a suitable size, usually having a five minute retention time. It is pumped by means of a high pressure centrifugal feed pump, into an air retention tank suitably baffled. Prior to the air retention tank about 1-2% oil-free compressed air is metered through a rotometer by means of an air injector, operating from the pump, and is drawn into the down-stream side of the pump, by running a side arm line off and back into the line. The compressed air is run through a filter then into the top of a Penberthy mixer. The air-water mixture under pressure has certain minimum limiting factors. These factors are generally recognized as being 30 seconds minimum from the retention tank exit to the inlet of the saveall.

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Advantages of replacing present ball valves on the saveall inlet line with the patented Sveen-Peterson Double-Disc valves:

> The next step after the hand-valve is going to be patented inlet valve, which is a double disk-type valve. There are two plates which operate under a vacuum. The plates will vary in size from 18" to 30" in diameter. Between the two plates a vacuum will exit eventhough you have pressure coming into them. The vacuum exists because of a circumferential orifice prior to this inlet valve. By regulating the water flow coming in and the space between the two plates, as high as 28 inches of vacuum can be pulled. No one can successfully operate with 28 inches of vacuum. The normal operating range of vacuum is in the 4-12 inch range. Again, various vacuum ranges should be tested to determine the best range for each specific system.

NALCO CHEMICAL COMPANY
8001 BUTTERFIELD ROAD · OAK BROOK, ILLINOIS 60521

Now that you have reduced the air-water mixture from 60-70 psi, to less than 20 psi, after the hand-valve, this is probably the first place where these "air bubbles" start coming out of solution. At this point the air bubbles are very small, but they are the seeds of air bubbles coming out. As the air bubbles go through the inlet valve, the vacuum drawn has the tendency to greatly enlarge the air bubble. The air bubbles here, actually are formed on the smooth surface of the plates and are being swept off from a pressure zone, to a vacuum zone, back to a pressure of the head of the saveall water above it. Starting out with a seed of an "air bubble" at the hand-valve, increasing through the vacuum zone and out of the vacuum zone, the weight of the water then has a tendency to slightly compress the air bubbles to make them more stable. The bubbles will hold until they are swept off at the end of the saveall.

A series of paddle scrapers drawn on a chain and driven by a variable speed fractional horsepower drive, push the floating solids across the saveall and over an inclined baffle-board into a reclaimed solids chamber. The scrapers are about 6 feet apart and travel at a rate of about 6 fpm. The reclaimed solids usually have a concentration of 1 to 3%.

The floatation chamber is a relatively long, narrow, rectangular chamber, quite shallow in depth, having about one quarter hour retention. The weir tubes draw off to a side chamber. The weir tubes having receiving orifices drilled and properly spaced are to receive the clarified subnatant water which flows into them uniformly and then upward to the up-draft part of the tube into the clarified water chamber. Each of these pieces has a slip tube inside the up-draft part of the tube which is adjustable to level the saveall. The clarified water, after overflowing the up-draft outlets of the tubes, drops into the long and narrow clarified chamber along one side of the saveall. From this chamber, a pump or series of pumps can transport the clarified water back for various uses in the papermaking process.

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When there is a floc in the clarified saveall water compartment this generally is due to an unstable pad. The pad generally was not stable enough to be swept off at the end of the saveall. The pad is settling to the bottom of the saveall before the end, thus part of the floc is coming out of the effluent overflow tubes.

NALCO

This situation can be checked by running settling rates in a 250 ml. graduate cylinder on each overflow tube. The end two tubes settlement will be greater than the first two tubes.

Possible corrective changes:

a. Speed the paddles up - if the motor speed is variable.

b. The best way to stablize the pad is by using a dual polymer feed; a cationic and anionic polymer combination. This enables you to change the feed-rates slightly when the "charge" requirements on the fibers change. A single polymer installation can only increase or decrease the polymer feed rate, generally not stablizing the pad.

c. Adjust air flow/pressure to optimize proper air bubble formation. Level monitor in aeration tank is essential.

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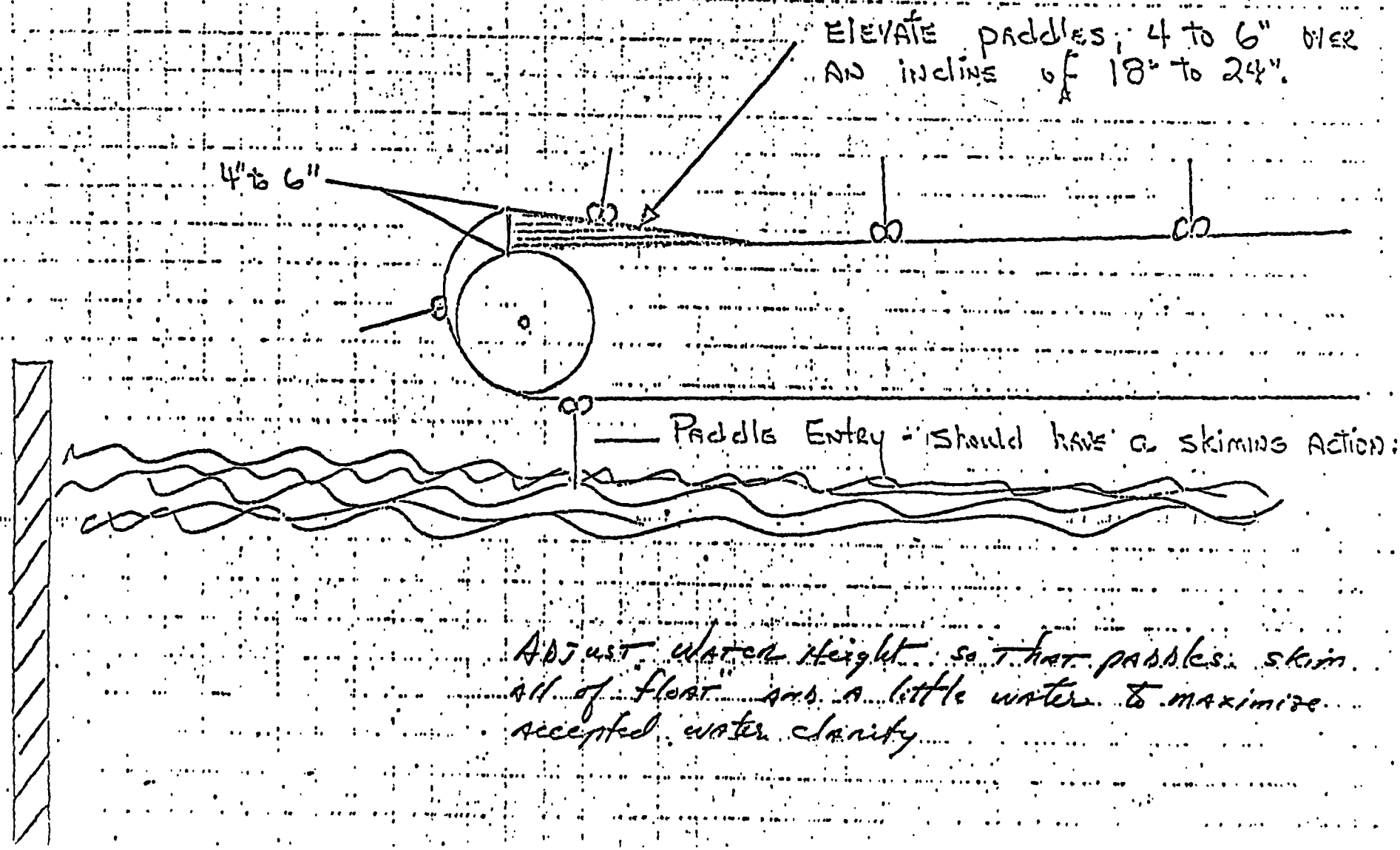
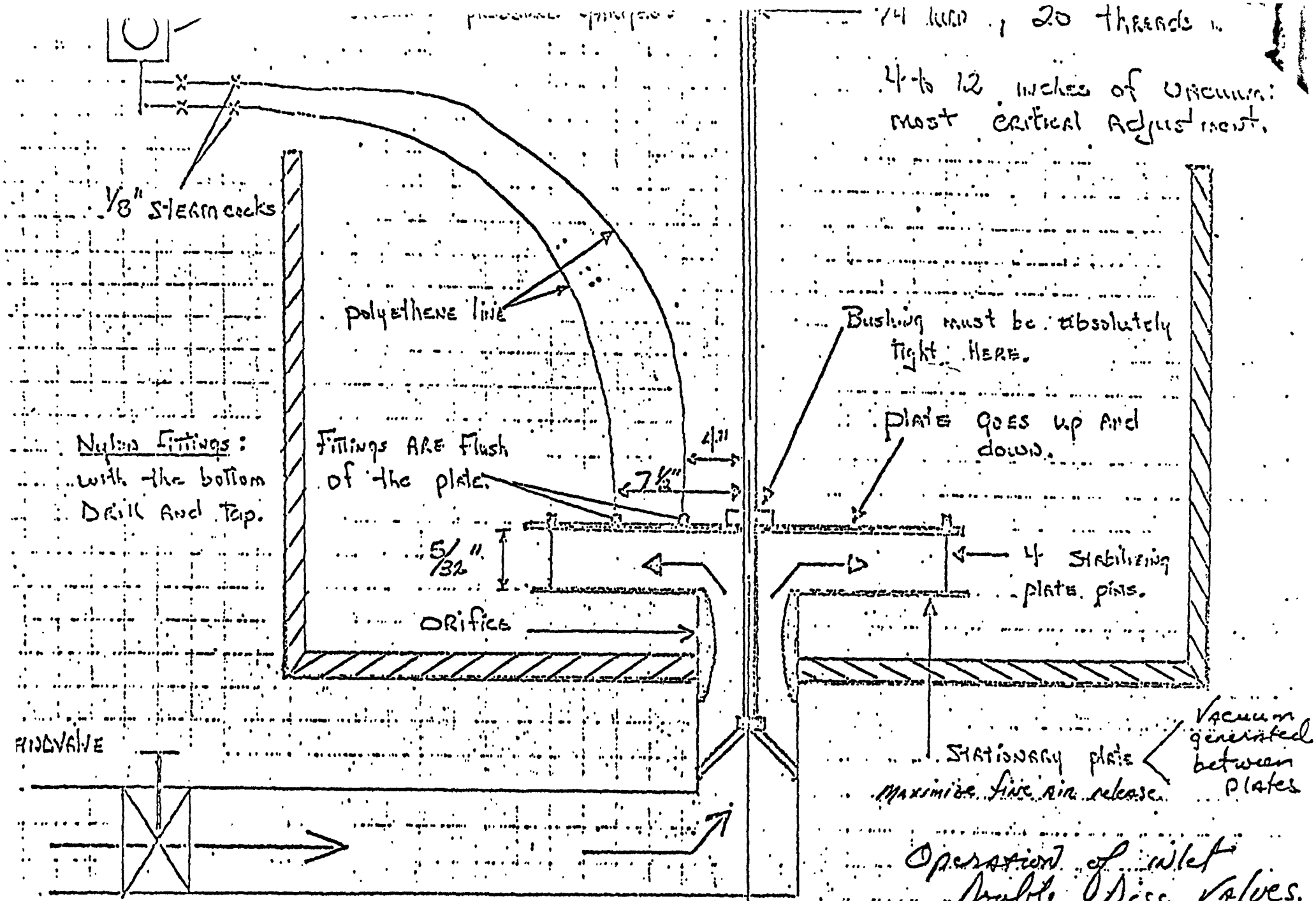
Paddle Entry

ADJUST Angle of ENTRY. = PADDLE to maximize skimming ACTION AND AVOID SINKING "FLOAT".



ADJUST water height so that paddles skim all of "float" and a little water to maximize accepted water clarity

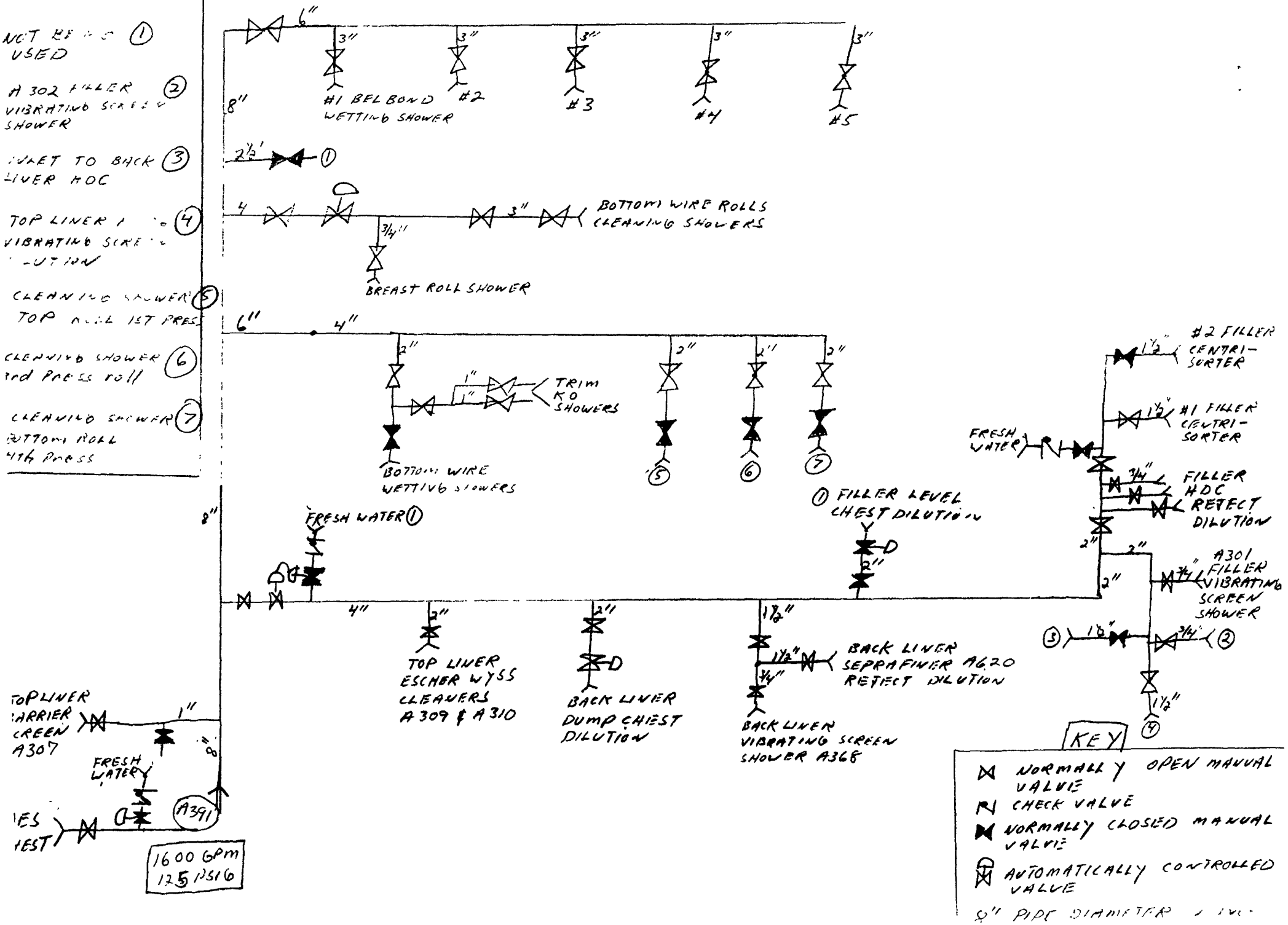


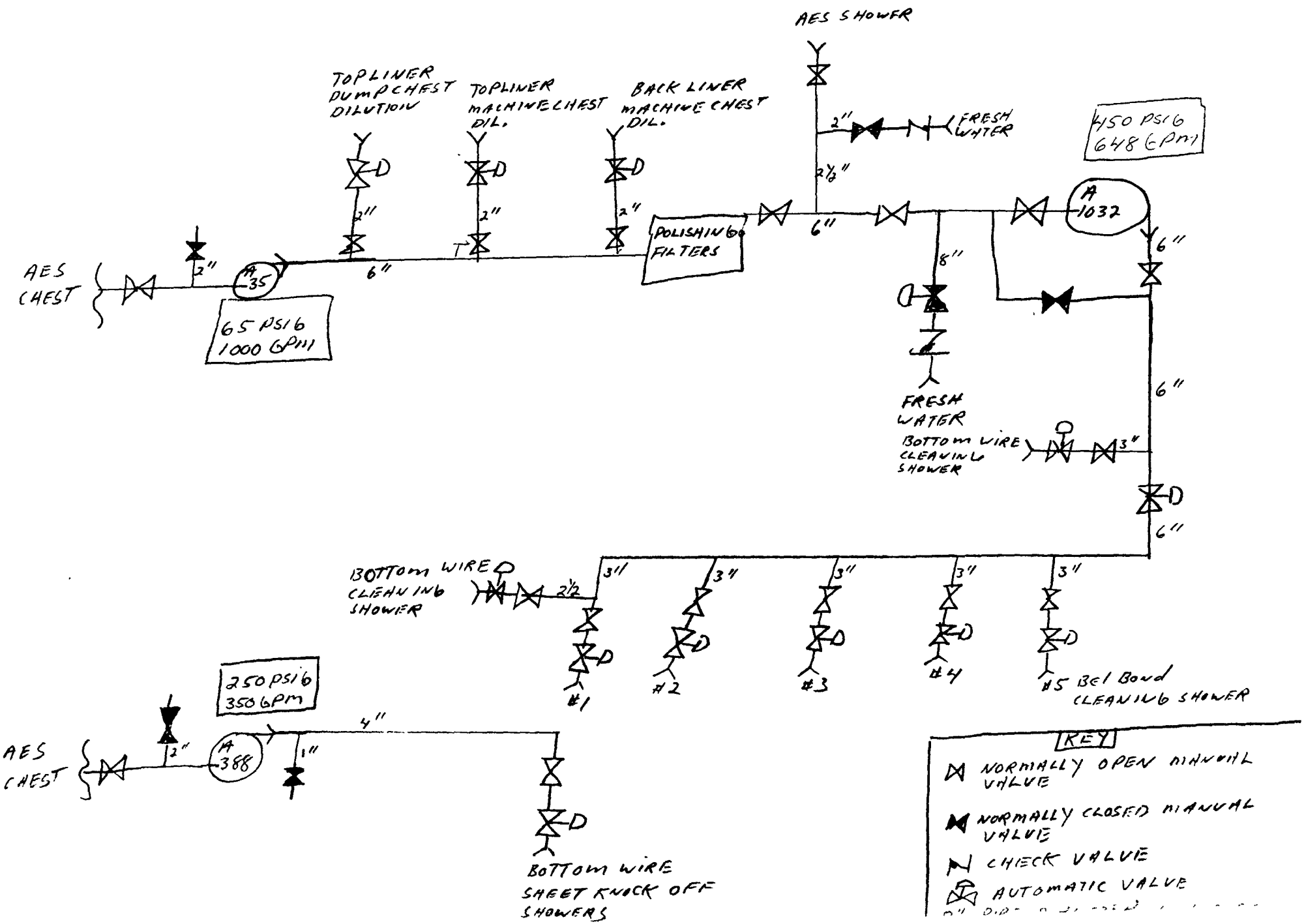
Operation of inlet Double Disc Valves. per original Design of Sveen-Petersen Sovalls.

lace present inlet
es with sroon.-P-

NOTES

1. NOT [illegible] USED
2. A 302 FILLER VIBRATING SCREEN SHOWER
3. INLET TO BACK LINER HDC
4. TOP LINER [illegible] VIBRATING SCREEN [illegible]UTION
5. CLEANING SHOWER TOP ROLL 1ST PRESS
6. CLEANING SHOWER 2nd PRESS ROLL
7. CLEANING SHOWER BOTTOM ROLL 4th PRESS




AES SHOWER
TOPLINER DUMPCHEST DILUTION
TOPLINER MACHINE CHEST DIL.
BACK LINER MACHINE CHEST DIL.
FRESH WATER
450 PSIG 648 GPM
POLISHING FILTERS
AES CHEST
65 PSIG 1000 GPM
FRESH WATER
BOTTOM WIRE CLEANING SHOWER
BOTTOM WIRE CLEANING SHOWER
#1
#2
#3
#4
#5 Bel Bond CLEANING SHOWER
250 PSIG 350 GPM
AES CHEST
BOTTOM WIRE SHEET KNOCK OFF SHOWERS
KEY
NORMALLY OPEN MANUAL VALVE
NORMALLY CLOSED MANUAL VALVE
CHECK VALVE
AUTOMATIC VALVE

AN APPRAISAL OF

MICHIGAN CARTON COMPANY

PLANT #2

BATTLE CREEK, MICHIGAN

1973

Area Beater Room Water Reclamation
Item Number 18

Salvage Value $75,000
Replacement Value $250,000

The system processes white water from the savealls for re-use as clean shower water on the fourdrinier, bel-bonds, tri squirts, and is also used for insturmentation and consistency control applications. The system consists of a model 3645 Auburny Engineered Systems strainer, a bank of 6 Auburny Engineered Systems polishing filters, series 3000D, and associated pumps. The pumps are AES model 3000C-6-A-2 high pressured pump with 100 horsepower, 3600 rpm motor, a Warren 6-DTS-19 which feeds the showers with a 200 horsepower, 1750 rpm motor, and a Ingersoll-Rand HOC8-6-15, 50 horsepower motor with 1750 rpm.

Area Water Reclamation
Item Number 17

Salvage Value $50,000
Replacement Value $300,000

Sveene Floatation Savealls

The Angel Mill has two Sveene units, one rated at 1,200 gallons per minute; the other rated at 800 gallons per minute. The saveall filterate is pumped through two units to the Beater Room water reclamation system, for beater uses. The units are complete with sludge transferring units as well as agitators, air areation tanks, sump pumps, level controlls, sludge controlls, inlet valve controlls, twin pumps to pump from the filler pit to the savealls and discharge pumps.

6-29-90

TO: PAUL STOFER

FROM P. CHAD DERDON

RE: SAVEALL OPERATIONS

ATTACHED IS A REPORT ON SAVEALL OPERATIONS PREPAIRED BY TONY NIGRELLI IN 1983. ALSO ATTACHED IS A FLOW DIAGRAM OF OUR SAVEALLS

THE KEY POINTS IN OPERATING OUR SAVEALLS ARE:

1. MAINTAIN THE PROPER LEVEL IN THE MAIN SAVEALL VAT BY ADJUSTING THE STAND PIPES IN THE CLEAR WELL

2. MAINTAIN CONSTANT FLOW TO THE SAVEALLS BY KEEPING A CONSTANT LEVEL IN THE WIRE PIT.

3. MONITOR THE POLYMER FLOW AT THE ROTOMETERS

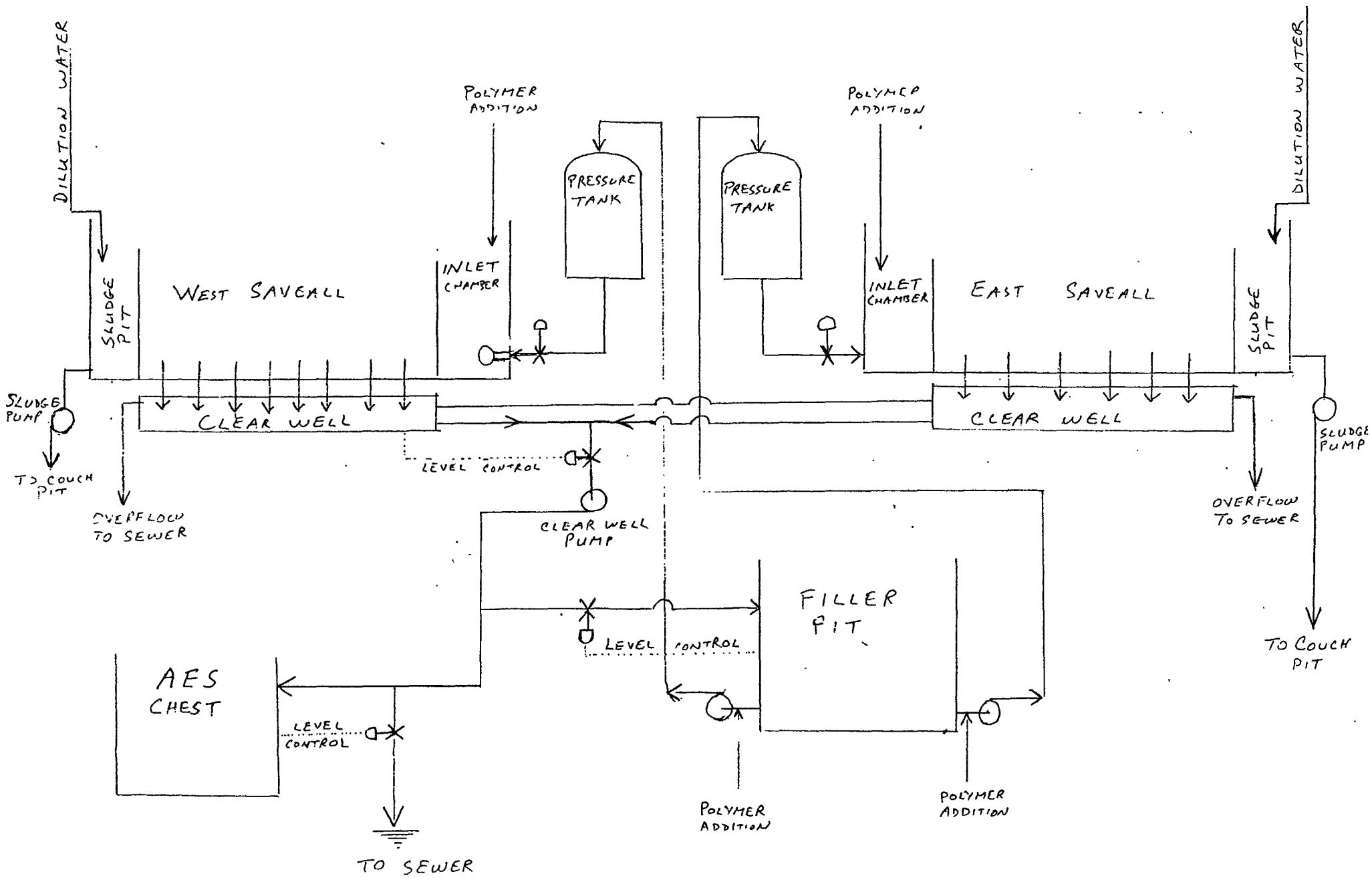
4. KEEP A LITTLE DILUTION WATER GOING TO THE SLUDGE PITS TO PREVENT THE SLUDGE PUMPS FROM PLUGGING.

5 KEEP THE MACHINE REJECTS TANK FROM OVERFLOWING. (THE DRAINS ON THE BACK SIDE OF THE MACHINE GO TO THE WIRE PIT AND THE EXTRA SOLIDS OVERLOAD THE SAVEALLS.

Pat
6-29-90

COPY DALE B. MIKE M.
BILL D. LES S.
NELSON G. MICK S.
JIM O.

6-24-90
R.C.


DILUTION WATER
POLYMER ADDITION
PRESSURE TANK
PRESSURE TANK
POLYMER ADDITION
DILUTION WATER
SLUDGE PIT
WEST SAVEALL
INLET CHAMBER
INLET CHAMBER
EAST SAVEALL
SLUDGE PIT
SLUDGE PUMP
CLEAR WELL
CLEAR WELL
SLUDGE PUMP
TO COUCH PIT
OVERFLOW TO SEWER
LEVEL CONTROL
CLEAR WELL PUMP
OVERFLOW TO SEWER
FILLER PIT
LEVEL CONTROL
TO COUCH PIT
AES CHEST
LEVEL CONTROL
TO SEWER
POLYMER ADDITION
POLYMER ADDITION

NALCO

Plant of St. Regis Paper Company Date December 3, 1983

Address Battle Creek, Michigan Plant No.

Attention: Mr. W. Thomas Myers

Copy to: Mr. Roland Johnson

Mr. Terry Tiffany

Nalco Copies to: Dick Miller

Subject: Improvement of performance and dependability of the flotation savealls to permit greater white water reuse and reduce fresh water use further.

At your request, we are submitting a review of flotation saveall operating principles and parameters and ways that Nalco can assist St. Regis achieve better operation while reducing fresh water flow.

Recently the Angel Mill personnel have made several changes that have reduced fresh water use greatly and made significant contributions to saving effluent charges and energy use. The first change was the cascading of seal water s to the vacuum pumps allowing reuse of seal water. The second change was the connection of the West saveall to the whitewater chests to allow a greater reuse of recovered water. The third change was the pumping of water from the mill #3 sump to the saveall allowing the recovery of water that would be otherwise lost. Further improvements are planned.

The mill objective is to stabilize and better control the flotation savealls to permit further white water reuse in critical areas.
Nalco can contribute in the following areas:

1). Operator training - Attached are technical papers that review the principles of operation and control. This can serve as a basis for an operators manual.
2). Suggest Mechanical modifications.
3) Help determine operational guidelines, appropriate monitoring procedures and instruments to monitor and control.
4). Optimize the chemical program (coagulant and flocculant) to maximize dependable operation and economy. Automatic monitors and feed rate controls.

Copy left with Signed A. S. Nigrelli Title Area Mgr. District P06

plus attachments

NALCO CHEMICAL COMPANY

NALCO

Plant of St. Regis Paper Company Date December 3, 1983
Address Battle Creek, Michigan Plant No.
Attention: W. Thomas Myers
Copy to: Roland Johnson
Terry Tiffany
Nalco Copies to: Dick Miller

5) Monitor effect of increased recycling (eg. Dissolved solids, conductivity,) on corrosion tendency, scaling, effect on the retention/drainage/ sizing programs, and on machine cleanliness.

To achieve the maximum efficiency of a flotation saveall the following are necessary:

I. Constant volume, flow, and pressure

II. Maintaining incoming solids loading within capacity of saveall (reaction time- sludge handling cap) Proper use of 7607/625 can increase capacity by speeding up reaction time, stronger floc and better float and control of floc density and water content.

III. Monitor flow, solids, efficiency, air pressure-level in retention tank and adjustment of polymers as necc. These functions can be automated.

Recommendations:

Feed of Water: Larger pump will be installed during Christmas shutdown A collection tank for all waters will assist maintainence of constant volume, flow , and pressure requirements. The incorporation of a constant recycle of water from the clarified compartment of the saveall will smooth out the flows and seed the floc action. The recycle line should have a level control so that saveall operation can be maintained even if the machine goes down allowing quicker stabilization of the paper machine on startup.

Air : Inspect,clean, repair air pressure tank and diffuser. Install level monitor device and air bleed, install pressure guages , remove oil from air, adjust inlet point.

Copy left with Signed A. S. Nigrelli Title Area Mgr District P06

NALCO CHEMICAL COMPANY

NALCO

Plant of St. Regis Paper Company Date December 3,1983

Address Battle Creek, Michigan Plant No.

Attention: Tom Myers

Copy to: Roland Johnson

Terry Tiffany

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Valves : For proper air bubble formation run air tank to 60# drop to 20 # at valves prior to saveall inlet. Convert inlet back to patented Sveen-Pederson Double-Disc valve which can be adjusted to create negative pressure for best tiny air bubble formation and entrainment in floc.

Loading : Avoid excess fiber loading through your plan to run sump water over sidehills to remove fiber.
Avoid the disruptive effect of coating pigment, binder, and dispersant by your plan to run coating sump to head tank to allow trickle of coating in a controlled fashion into pulper filler or saveall.

Float Skimmer : Adjust entry to avoid sinking float. Adjust speed to permit skimming a heavy pad before it sinks. Add paddles if necessary. Run for maximum pad removal by running to take some water. Automatic level control and skim speed can be connected to turbidimeter.

Audit : Monitor shift audit sheet inlet solids, outlet solids by filter paper or Imphoff cone. Monitor rise rate with a gratuate cylinder, monitor turbidity, guage setti

Polymer : Adjustment to be controlled with a positive metering system. Install new lines for better distribution and efficiency. Can be controlled by shift audit or by automatic control with a recording/control turbidimeter.

Monitor, control, adjust, train.

We hope the attached technical manuals on flotation save-all operations will be useful to you. We at Nalco are committed to assist you in achieving your goals for effluent reduction and energy savings.

Copy left with _____ Signed A. S. Nigrelli Title Area Mgr. District P06

NALCO CHEMICAL COMPANY

FLOTATION SAVEALLS

Flotation savealls are quite common in paper operations. The operation concept consists simply of injecting paper mill white water with air, which is dissolved under pressure, releasing it in a tank of water, and scraping the rising solids from the surface, with filtrate being removed from the bottom.

Most are designed to handle up to 20—25 lb/1000 gallon loadings and produce a filtrate that has less than 0.5 lb/1000 gallons. To determine their efficiency (in terms of a percent figure of solids removed) you determine gravimetrically the amount of solids in the incoming white water and the outgoing filtrate, then use this formula.

$$100\% - \frac{\text{Solids Out}}{\text{Solids In}} = \%\ \text{Efficiency}$$

As an example: If you find 20 lb/1000 gallon loading going in and 2 lb/1000 gallons going out:

$$100\% - \frac{2}{20} = 90\%\ \text{Efficiency}$$

The saveall can deliver 99% plus efficiency when properly operated.

Let's examine the system step by step referring to Figure 1.

The rich white water to be treated is collected in a supply tank (or white water box) which is often an extension of the seal pit. From here it is pumped (usually by a centrifugal pump) to an aeration/retention tank. During this transfer, air is siphoned in via a Penberthy type air injector mounted between the suction and discharge side of the pump. There is generally a rotameter used here to help determine the amount of air injected. It is seldom working.

Our white water then goes into the aeration/retention tank at the top through a cone shaped nozzle (this is the newer design). The upper portion of this tank should have an air pad. The liquid level is generally controlled by the valve on the discharge side of the tank. The idea is to get a SS—92% oxygen saturation in the water.

The air-charged water is now forced out of the bottom of this tank. The gauge on the line coming out should show 60 psi minimum. Next it goes through a hand valve. Many systems are missing this valve between the retention tank and the actual inlet valve. It is crucial to efficient saveall operation as here the pressure release is stepped down from 60 psi to about 20 psi, for control, as it is released into the tank.

Now it passes through the inlet valve. The double disc type is most common on the newer savealls. This inlet valve is machined so there are 20 threads to an inch on the screw feed. The back plate is fixed but the front plate is adjustable. It will operate best at 5/16 of an inch open but must be adjusted for flow. The air-saturated white water passes out into the vat through the periphery around the circumference of the plate. As the air gets into the inlet compartment with the corresponding reduction in pressure, bubbles form on the surface of this plate, are swept off continuously and replaced. These bubbles attach to flocced solids (via ionic charge) and carry them to the surface. Flocculants are frequently used to promote this flocculation and subsequent bubble attachment to the solids.

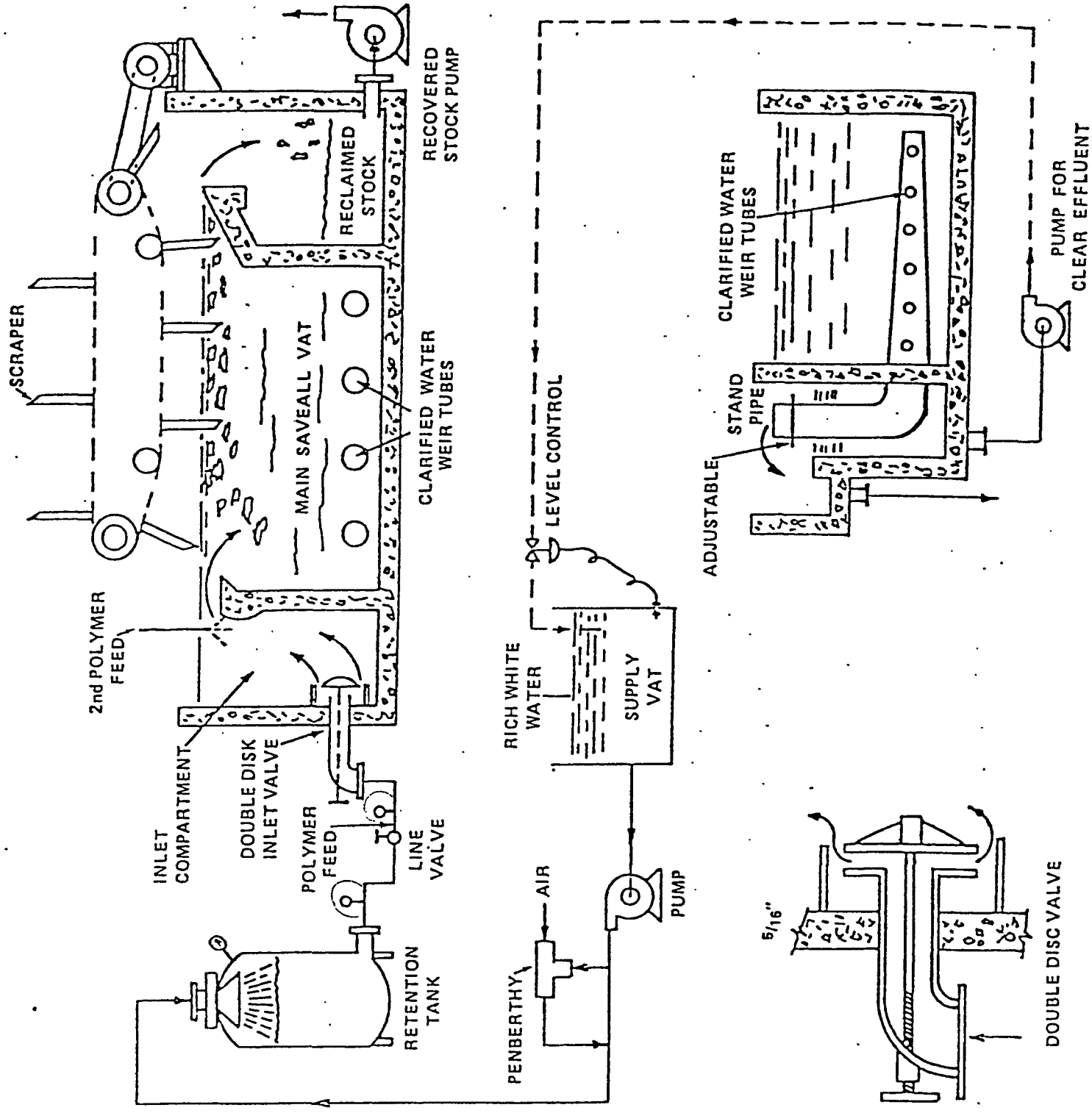
The solids rise to the surface and are slowly swept off by the rotating paddles or sweeps into a collection compartment for recycle to the paper stock system. The clarified white water is recovered through weir tubes located in the bottom of the main saveall vats. This clear water flows up into a compartment adjacent to the vat and subsequently into a storage tank for reuse.

CRITICAL AREAS

Now, let's explore some of the critical sequences of this operation. Several key points are:

1. Constant volume to the saveall
2. Constant pressure to the saveall
3. Minimum pressure to the saveall must exceed 60 psi
4. Accurate air control
5. Pressure release stepwise
6. Quiescent area to allow floc formation and bubble attachment
7. Oil free compressed air at 80 psi

FIGURE 1


SCRAPER
RECOVERED STOCK PUMP
RECLAIMED STOCK
MAIN SAVEALL VAT
CLARIFIED WATER WEIR TUBES
2nd POLYMER FEED
INLET COMPARTMENT
DOUBLE DISK INLET VALVE
POLYMER FEED
LINE VALVE
RETENTION TANK
LEVEL CONTROL
RICH WHITE WATER
SUPPLY VAT
AIR
PENBERTHY
PUMP
CLARIFIED WATER WEIR TUBES
STAND PIPE
ADJUSTABLE
PUMP FOR CLEAR EFFLUENT
5/16"
DOUBLE DISC VALVE

NALCO
7526 SANDY RIDGE ST.
PORTAGE, MI 49002
NALCO CHEMICAL COMPANY
6100 ROCKSIDE WOOD BLVD. 205-P
INDEPENDENCE, OHIO 44131

St. Regis Paper Company

ANGEL MILL

Battle Creek, Michigan

This report will describe the controls successfully used to obtain the best economical control of the Sveen Pedersen flotation saveall installations and to improve the performance of these installations. The controls are designed for one or all of the following purposes.

1. To save additional fiber and filler currently being lost in the plant's effluent. This is very important if the recovered stock is reused.

2. To improve the clarity of the treated white water by removing more suspended solids, (less than .10#/ton) to enable use in a higher priority function.

3. To decrease the number of man hours required for operation.

4. To minimize chemical feed dosages.

In order to provide a proper background for discussing the various recommended saveall changes, we will review briefly a typical flow for a Sveen Pedersen type saveall.

The mechanical operation of a Sveen Pedersen saveall is very critical. Good mechanical operation will remove 80% of the incoming suspended solids, to the saveall. The other 20% of the suspended solids are removed by chemical means.

In order to achieve maximum efficiency of a Sveen Pedersen saveall, three fundamental things are necessary.

a. A constant "volume" to the saveall.

b. A constant flow to the saveall.

c. A constant pressure to the saveall.

First, we must have a constant volume, and a constant flow through the pump to the saveall itself, then you can have a constant pressure. Unless you have a constant volume and flow it is almost impossible to have a constant pressure. When the above two requirements are met, then it is possible to come up with an air flow that will give you the air saturation of ± 1-2% consistently.

FLOW PATTERN

The white water to be clarified enters a collection tank of a suitable size, usually having a five minute retention time. It is pumped by means of a high pressure centrifugal feed pump, into an air retention tank suitably baffled. Prior to the air retention tank about 1-2% oil-free compressed air is metered through a rotometer by means of an air injector, operating from the pump, and is drawn into the down-stream side of the pump, by running a side arm line off and back into the line. The compressed air is run through a filter then into the top of a Penberthy mixer. The air-water mixture under pressure has certain minimum limiting factors. These factors are generally recognized as being 30 seconds minimum from the retention tank exit to the inlet of the saveall.

After the air-water mixture system is under pressure for the required amount of time, then it will form a bubble which inturn will "coalesce" fibers and coating this fiber, holding it on top, until it is recovered at the end of the saveall. The aerated white water, after passing through the retention tank by virtue of its residual pressure flows through a suitably sized pipe to the inlet of the saveall proper. At a point just ahead of the saveall, a hand-valve is used to reduce the somewhat excessive pressures to the patented inlet valve in the saveall.

In a step-wise progression a bubble has been built by reducing the pressure at the hand-valve prior to the inlet valve. The pressure prior to the "hand-valve" is in the 60-70 psi range and will be reduced to the normal operating range of 3-10 psi. Some savealls run with a hand-valve back pressure of 20 psi, but never over 20 psi.

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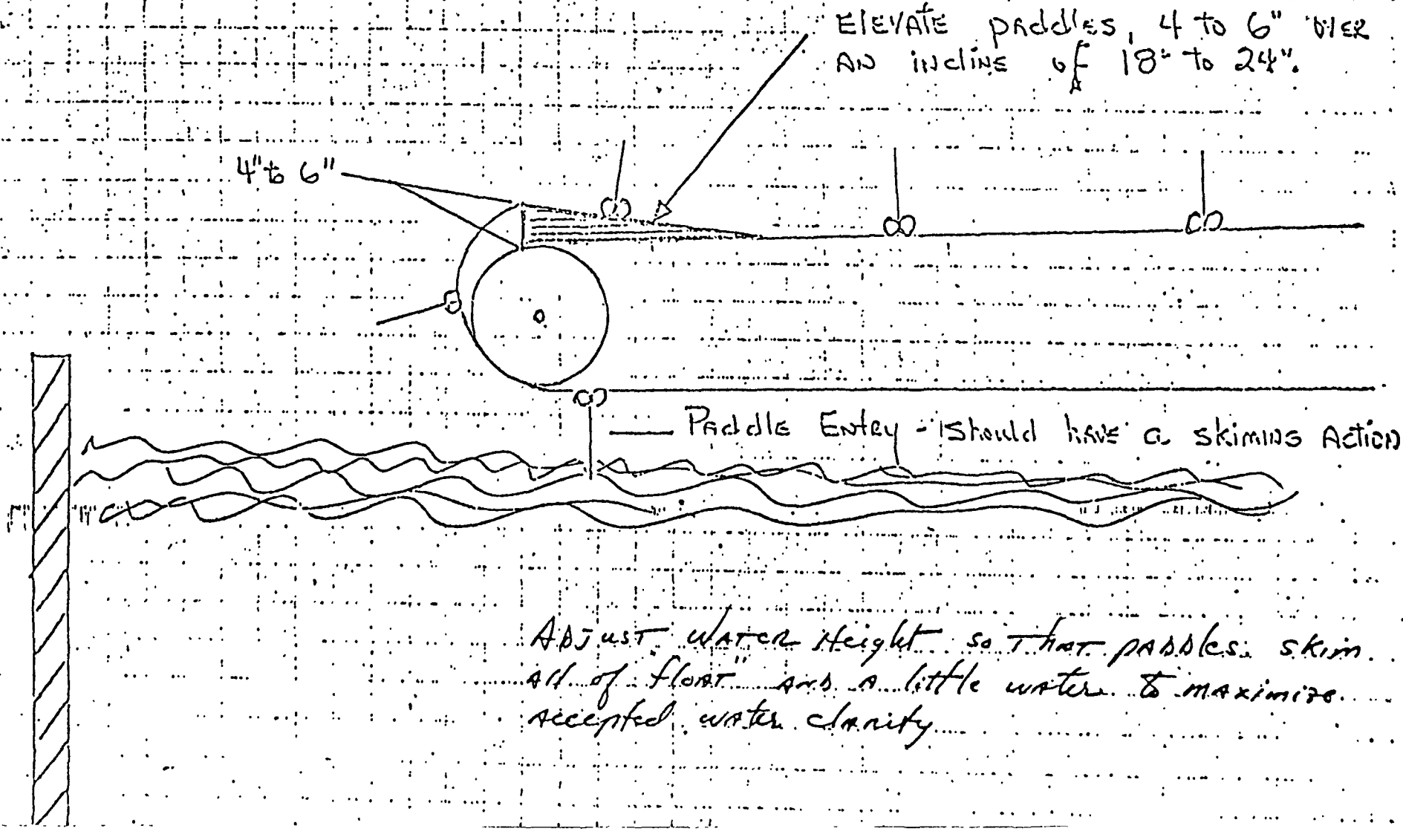
Paddle Entry

Adjust Angle of Entry. F Paddle to maximize skimming action and avoid sinking "Float"



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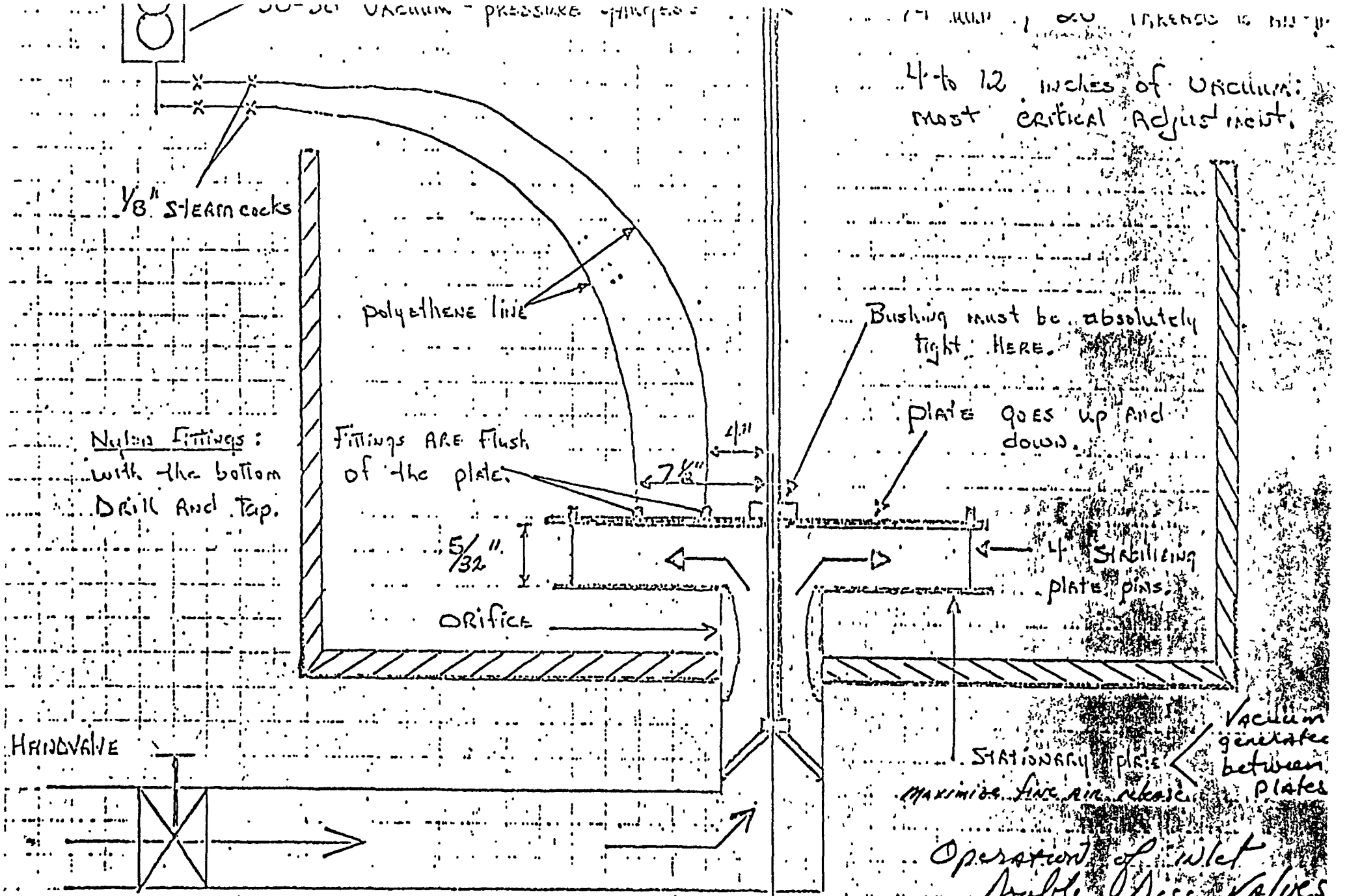

Operation of inlet Double Disc Valves per original Design of Sveen Petersen Savalla

Replace present inlet valves with Sveen-P. Double Disc Valves.

Taps for Vacuum - Pressure Gauges:

DATA SHEET

Mill - Battle Creek, MI 49016
616 963-5511

Products - 10 mil (32lbs/MSF) to 26 mil (99 lbs/MSF) Recycl Board.

Production - 1984 Plan - 250T/D Total
235T/D Prime
1984 YTD (9 mos.) - 228.5T/D Total
208.5T/D Prime

RAW MATERIALS

Recycled News, CPO, Manifold Ledger, Double Lined Corrugated, Boxboard and various printed and unprinted Bleached Krafts.

POWER HOUSE

2 Springfield Boilers - installed in 1948, capacity 70,000 lbs/hr. each, 400 lbs. steam, 525 degree superheat and gas or oil fired.

1 Elliott Turbine Generator, installed in 1948.

Mill generates 20-24% of own power. Capacity about 50%.

STOCK PREP

Top Liner

1 16' Hydropulper - Black Clawson
2 High Density Cleaners - Escher Wyss
1 Deflaker - Bird
1 Barrier Screen - Bird
2 Refiners - (1 - 24" Beloit & 1 - 20" Sprout)

Back Liner

1 14' Hydropulper - Black Clawson
2 High Density Cleaners - Black Clawson
1 Seprafiner - Lodding
1 Refiner - 24" Beloit
1 Deflaker - Bird

Filler System

~~1 20' Hydropulper - Black Clawson~~
1 Float Purge System - Custom Design (1984), Hi Density Cleaner, Seprafiner and Johnson Screen.
3 High Density Cleaners - Bird
2 Pressure Screens - Bird
1 Deflaker - Bird
2 Johnson Screens (1-RPM 1 - Johnson)
4 Thickners - Shartels
2 Refiners (1-Beloit 34" 1 - Sprout 24")

BOARD MACHINE - 130" Trim

Manufacturer - Beloit, 146" wire. Rebuilt in 1978.
Maximum Current Speed 946 ft./minute.
Design production with current feed system 350 TPD, Nominal 250T/D.
5 Head Boxes - (1- Strataflow, 4 - single flow)
5 Bel Bond dewatering units
6 Pressure screens

Board Machine continued

Dryer Section

82 - 60" dryers - Beloit
1 Drive - Westinghouse turbine, 1200 H.P.
3 Calender Stacks - Beloit design

Coating Section

1 Trailing Blade Coater - Rice Barton
1 Air Knife Coater - Black Clawson
1 Drying oven - Ross

Winder

1 Beloit, 1948, 130" max. trim.

Rewinder

1 Beloit, 1948, two drum, max. speed 2400 ft./minute.

Auxiliary Equipment

1 Clark Aiken sheeter

Fiber Recovery

1 1200 gpm Sveen Pedersen

1 800 gpm Sveen Pedersen

QUESTION 19

RECEIVED APR 1 1974

TURAL RESOURCES COMMISSION
E. M. LAITALA
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
JOHN P. WOODFORD
Chairman
ALVIN R. BALDEN
Vice Chairman
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JOHN E. VOGT
STANLEY QUACKENBUSH
THOMAS F. JAMES
JOHN H. KITCHEL, M.D.

April 10, 1974

CERTIFIED MAIL

Mead Corporation, Paperboard Products Div.
431 Helen St.
Otsego, Michigan

Re: NPDES Permit No. MI 0000787

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
Comp. Studies
Planning
Files
T. K. Wu
C. Oden
R. Schaffer

mi 0000787

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"),

The Mead Corporation, Paperboard Products Division

is authorized to discharge from a facility located at

431 Helen St.
Otsego, 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 the date of issuance.

This permit and the authorization to discharge shall expire at midnight, February 28, 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.

This permit is based on the company's application numbered MI 070 0X5 2710101, dated as amended on November 22, 1971.

Issued this 10 day of [illegible], for the Michigan Water Resources Commission.

W. G. Turney
Assistant Executive Secretary

RTMY 016685

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Initial Effluent Limitations Process Wastes

During the period beginning upon the issuance of this permit and lasting until September 30, 1976, the permittee is authorized to discharge treated process wastes from outfall (s) 001 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
Outfall 001						
Flow M^3day (mgd)	-	-	-	-	Continuous	Report tot daily flo
BOD_5	591 (1300)	955 (2100)	-	-	Daily	24-hr. Composite
Total suspended solids	386 (850)	910 (2,000)	-	-	Daily	"
Settleable solids	-	-	-	-	"	grab
Phenol*	-	-	-	-	Twice Monthly	24-hr. Composite
Polychlorobiphenyls*	-	-	-	-	Twice monthly	24-hr. Composite

Polychlorobiphenyls and phenol shall be monitored for a period of one year starting thirty (30) days from the issuance of this permit after which time the Michigan Water Resources Commission shall determine if a limitation shall be imposed. It a limitation is necessary, this permit shall be revised in accordance with the provisions of Part II, Section B, Paragraph 4c of this permit.

a. The pH shall not be less than 6.0 nor greater than 9.5. The pH shall be monitored as follows: 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. Effluent Limitations -cooling water and storm water

During the period beginning upon the issuance of this Permit and lasting until the expiration of this permit, the permittee is authorized to discharge non contact cooling water and storm water from outfall (s) 006. 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
Flow M^3/day (MGD)	-	-	-	-	Weekly	-
Total suspended solids	-	-	-	-	Weekly	grab
Oil & grease	-	-	-	-	Daily	Visual observation
Temperature	-	-	-	-	Weekly	Reading

The discharge shall not increase the temperature of the Kalamazoo River at the edge of a mixing zone located within the right 1/4 of the river a distance of 400 feet downstream of the discharge more than 5° Fahrenheit above the existing natural temperature nor above the following maximum monthly temperature:

J	F	M	A	M	J	J	A	S	O	N	D
41	40	50	63	76	84	85	85	79	68	55	43

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: 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.

4. Final Effluent Limitations Process Wastes

During the period beginning October 1, 1976 and lasting until the expiration of this permit, the permittee is authorized to discharge treated process wastes from outfall (s) 001 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
Outfall 001						
Flow M^3/day (mgd)	-	-	-	-	continuous	Report tota daily flow
Settleable solids	-	-	-	-	Daily	Grab
Phenols*						
Pholychlorobiphenyls*						
May 15 to Oct. 15						
BOD_5	295 (650)	455 (1000)	-	-	Daily	24-hr. Comp
Total Suspended solids	295 (650)	455 (1000)	-	-	Daily	24-hr. Comp
Oct. 15 to May 15						
BOD_5	295 (650)	591 (1300)	-	-	Daily	""
Total Suspended solids	295 (650)	591 (1300)	-	-	Daily	""

* In the event it is found necessary during the initial effluent limitation period to limit and monitor these parameters, the permit shall be revised in accordance with the provisions of Part II, Section B of this permit.

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

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.

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) 001, _____ in accordance with the following schedule:

a. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before September 30, 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 November 30, 1974.

c. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before N/A.

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 March 31, 1975

e. Commence construction of said facilities on or before May 31, 1975.

f. Submit progress report to the Chief Engineer of the Michigan Water Resources Commission on or before November 30, 1975.

g. Complete construction of said facilities on or before May 31, 1976.

h. Attain operational level necessary to meet the limitations specified herein on or before October 1, 1976.

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 September 30, 1974.

b. The permittee shall comply with the requirements of items 9a or 9b contained in Part II on or before September 30, 1975. 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. 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, U.S. E.P.A., 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

RTMY 016693

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-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 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.

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

June 8, 1979

CERTIFIED MAIL

Mead Paperboard Products
Otsego Mill
P. O. Box 187
Otsego, Michigan 49078

Re: MI 0000787

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. Courchaine
Data Center
Files
T. K. Wu
C. Odin
A. Howard
F. Baldwin
C. Harvey
West Michigan Regional Planning Commission

MICHIGAN
THE GREAT LAKES STATE
R1026 10/76

Permit No. MI 0000787

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"),

Mead Corporation - Paperboard Products Division

is authorized to discharge from a facility located at

431 Helen St.
Otsego, Michigan 49078

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 _____, dated August 24, 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 7th day of June, 1979 for the Michigan Water Resources Commission, superseding NPDES Permit No. MI 0000787 expiring February 28, 1979.

Robert J. Courchaine

Robert J. Courchaine
Executive Secretary

RTMY 017499

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations - During a period beginning with the issuance of this permit & lasting until expiration of this permit, the permittee is authorized to discharge an average of six hundred fifty six thousand (656,000) gallons per day of process wastewaters thru outfall 001 to the Kalamazoo River, such discharge shall be limited & 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	report to daily fl
Solids, Settleable (mg/l)	-	-	-	-	daily	grab
June 1 to October 31						
Solids, Total Suspended (lb/day)	295(650)	455(1000)	-	-	daily	24 hr. co
BOD-5 (lb/day)	295(650)	455(1000)	-	-	daily	24 hr. co
November 1 to May 31						
Solids, Total Suspended (lb/day)	295(650)	591(1300)	-	-	daily	24 hr. co
BOD-5 (lb/day)	295(650)	591(1300)	-	-	daily	24 hr. co

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: 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 with the issuance of this permit and lasting until expiration of this permit, the permittee is authorized to discharge an average of six hundred thousand (600,000) gallons per day of non contact cooling waters from outfall 002 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)	-	-	-	-	Weekly	Total Daily Flow
Oil & Grease	-	-	No visible film		Daily	Visual Observation
Temperature	-	-	-	-	Weekly	Reading

The discharge shall not increase the temperature of the Kalamazoo River at the edge of a mixing zone located within the right 1/4 of the river a distance of 400 feet downstream of the discharge more than 5° Farenheit above the existing natural temperature nor above the following maximum monthly temperature:

J	F	M	A	M	J	J	A	S	O	N	D
41	40	50	63	76	84	85	85	79	68	55	43

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 6.0 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.

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.

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."

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.

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 continue to operate the installed facilities to achieve the effluent limitations specified for outfall(s) 001, 002.

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 N/A.

b. The permittee shall comply with the requirements of items 10a or 10b contained in Part II on or before N/A. 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.

Mead Corp.
Otsego, MI.
MI 0000787

To determine compliance with Michigan Water Quality Standards at the edge of the mixing zone, the mixing zone shall be described as follows:

Outfall 001: The area defined as the right 1/4 of the Kalamazoo River downstream 400 feet from the discharge (001).

Outfall 002: The area defined as the right 1/4 of the Kalamazoo River downstream 400 feet from the discharge (002).

Permit No. MI 0000787 (4)

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"),

The Mead Corporation
Paperboard Products Division

is authorized to discharge from a facility located at

431 Helen Street
Otsego, Michigan 49078

to receiving water named Kalamazoo River

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

This permit takes effect immediately on the date of issuance. Any person who feels aggrieved by this permit must file a sworn petition with the Commission,setting forth the grounds for the complaint, and specifying the conditions of the permit which are being challenged. The Commission may reject any petition filed more than 60 days after issuance for being untimely. Upon granting of a contested case hearing by the Commission, the Commission shall review the permit to determine which contested terms, if any, shall be stayed until the Commission takes its final action. If a stayed condition is a modification of a previous permit condition, then such previous condition is in full force and effect until the Commission takes its final action.

This permit and the authorization to discharge shall expire at midnight March 31, 1989. 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 an application dated December 16, 1980 and updated June 26, 1981, and January 17, 1984, and shall supersede any and all Orders of Determination, Stipulation, Final Orders of Determination, or NPDES Permits previously adopted by the Michigan Water Resources Commission.

Issued this 24th day of May 1984, by the Michigan Water Resources Commission, superseding NPDES Permit No. MI 0000787 issued June 6, 1979 with an expiration date of March 31, 1981.

Paul D. Zugger

Reissuance

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Initial Effluent Limitations

During the period beginning upon issuance of this permit and lasting until September 30, 1985, the permittee is authorized to discharge up to one million seventy thousand (1,070,000) gallons per day of treated process wastewater from outfall 001 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) Monthly Average	Discharge Limitations kg/day (lbs/day) Daily Maximum	Other Limitations Monthly Average	Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow, M^3/Day (MGD)					Daily	Report total daily flow
Biochemical Oxygen Demand (BOD_5)						
(May 1-October 31)		454(999)			Daily	24-Hr. Composite
(November 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Total Suspended Solids (TSS)						
(May 1-October 31)		454(999)			Daily	24-Hr. Composite
(November 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Settleable Solids (ml/l)					Daily	Grab
Total Phosphorus (as P)					Weekly	24-Hr. Composite
Outfall Observation*					Daily	Visual

*Any unusual characteristics of the discharge which would not be expected from the above authorized discharge (e.g., turbidity, discoloration, oil film, suspended matter, etc.) shall be reported immediately to the District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: 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, measurements and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

e. In the event the permittee shall require the discharge of water treatment additives, the permittee shall notify the Chief of the Surface Water Quality Division. The permittee shall obtain written approval from the Chief of the Surface Water Quality Division to discharge such additives at a specified level. The permit may be modified in accordance with the requirements of Part II, Section B-4 if a constituent of the additive or additives requires limiting.

2. Final Effluent Limitations

During the period beginning October 1, 1985, and lasting until expiration of this permit, the permittee is authorized to discharge up to one million seventy thousand (1,070,000) gallons per day of treated process wastewater from outfall 001 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) Monthly Average	Daily Maximum	Other Limitations Monthly Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow, M^3/Day (MGD)					Daily	Report total daily flow
Biochemical Oxygen Demand (BOD_5)						
(May 1-Sept. 30)		454(999)			Daily	24-Hr. Composite
(Oct. 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Total Suspended Solids (TSS)						
(May 1-Sept 30)		454(999)			Daily	24-Hr. Composite
(Oct. 1-April 30)	295(650)	591(1300)			Daily	24-Hr. Composite
Settleable Solids (ml/l)					Daily	Grab
Total Phosphorus (as P)					Weekly	24-Hr. Composite
Outfall Observation*					Daily	Visual

*Any unusual characteristics of the discharge which would not be expected from the above authorized discharge (e.g., turbidity, discoloration, oil film, suspended matter, etc.) shall be reported immediately to the District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

a. The pH shall not be less than 6.0 nor greater than 9.0. The pH shall be monitored as follows: 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, measurements and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

e. In the event the permittee shall require the discharge of water treatment additives, the permittee shall notify the Chief of the Surface Water Quality Division. The permittee shall obtain written approval from the Chief of the Surface Water Quality Division to discharge such additives at a specified level. The permit may be modified in accordance with the requirements of Part II, Section B-4 if a constituent of the additive or additives requires limiting.

3. Final Effluent Limitations

During the period beginning upon issuance of this permit and lasting until expiration of this permit, the permittee is authorized to discharge up to five hundred eighty thousand (580,000) gallons per day of noncontact cooling water from outfall 002 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) Monthly Average	Daily Maximum	Other Limitations Monthly Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow, M^3/Day (MGD)					Weekly	Report total daily flow
Temperature (^oF)					Weekly	Direct reading
Outfall Observation*					Daily	Visual

*Any unusual characteristics of the discharge which would not be expected from the above authorized discharge (e.g., turbidity, discoloration, oil film, suspended matter, etc.) shall be reported immediately to the District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

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 6.0 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, measurements and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

e. In the event the permittee shall require the discharge of water treatment additives, the permittee shall notify the Chief of the Surface Water Quality Division. The permittee shall obtain written approval from the Chief of the Surface Water Quality Division to discharge such additives at a specified level. The permit may be modified in accordance with the requirements of Part II, Section B-4 if a constituent of the additive or additives requires limiting.

4. Special Condition - Phosphorus Study

The permittee shall conduct a study to identify and quantify the source of phosphorus contributing to the total phosphorus loading in the mill's process wastewater discharge from outfall 001.

The permittee shall comply with this special condition in accordance with Part I, C-2, Schedule of Compliance.

If, upon review of the results of the study, it is determined that the phosphorus loading from outfall 001 discharge to the Kalamazoo River requires limiting to protect the receiving waters in accordance with applicable water quality standards, the permittee will be so informed. The permit will then be modified in accordance with Part II, B-4.

5. Special Condition - Dissolved Oxygen Monitoring Study

As a condition of this permit, beginning upon issuance of this permit and before October 31, 1985, the permittee shall monitor* outfall(s) 001 & 002 for dissolved oxygen at a frequency and duration specified below. This monitoring is required to demonstrate that the water quality based effluent limit of 3.0 mg/l minimum for dissolved oxygen is consistently being met. The results of the monitoring program shall be submitted by December 31, 1985, to the Chief of the Surface Water Quality Division. If, upon review of the data, it is determined that dissolved oxygen needs to be monitored and/or limited any further to protect the receiving waters in accordance with applicable Water Quality Standards, the permittee will be so informed. The permit will then be modified in accordance with Part II, B-4.

CONSTITUENT	SAMPLE TYPE	SAMPLE FREQUENCY	SAMPLE DURATION
Dissolved Oxygen (mg/l)	Grab	Twice Monthly	12 Months

*The permittee shall submit a monitoring, sampling, and analysis plan to the Chief of the Surface Water Quality Division and receive approval thereof in accordance with Part I, C-3 Schedule of Compliance.

6. Special Condition - Program for Effective Residuals Management (PERM)

In addition to the requirements in Part II, Section A-11 herein, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or groundwaters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee. The program shall include but is not limited to the following:

1.) a management plan (treatment, transportation, storage, disposal, contingency plans);

2.) an inventory of residuals production, storage, and disposal for a period of at least one year;

3.) an analysis of the residuals;

4.) a monitoring program;

5.) if land application is proposed, site maps, soil analyses, application rates, proposed vegetation, and other pertinent information; and,

6.) if groundwater degradation potential exists, a hydrogeologic study.

The program shall be submitted to and receive the approval of the Plainwell District Supervisor of the Surface Water Quality Division in accordance with the Schedule of Compliance Part I, C-4 of this permit. Subsequent to approval, disposal of residuals resulting from treatment of wastewater shall be in accordance with the program. If the permittee desires to make any substantial changes in the program, such proposed changes shall be submitted to and be approved by the Plainwell District Supervisor of the Surface Water Quality Division prior to implementation. Substantial changes shall include but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

7. Special Condition - Notification Requirement

The discharger shall notify the Chief of the Surface Water Quality Division in writing, within 10 days of knowing, or having reason to believe, that any activity has occurred or will occur which would result in the net* discharge of:

1. Detectable levels** of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in CFR 40, Vol. 45, No. 98, Part 122.53, Appendix D, pp. 33454-33455 which were not listed in the application*** or listed in the application at less than detectable levels.

2. Detectable levels** of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information.

3. Any chemical at levels greater than five times the average level reported in the application***.

Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the schedule of compliance.

*The term net shall be defined as the difference between the intake and discharge levels.

**Detectable levels.

For Organic Chemicals:

The analytical level of detection (L.O.D.) shall be defined as three times the peak to peak noise measured on the baseline in an area close to the actual or suspected analyte peak as described in "Guidelines for Data Quality Evaluation in Environmental Chemistry", Analytical Chemistry, Vol. 52, No. 14, December, 1980.

The permittee may substitute the Method Detection Limit (M.D.L.) as described in "Trace Analyses for Wastewaters", Environmental Sciences and Technology, Vol. 15, No. 12, December, 1981, pp. 1426-1435, for the L.O.D.

For Inorganic Chemicals:

Detection levels are established in approved analytical procedures pursuant to Section 304(h) of the Clean Water Act, as amended.

***The application dated December 16, 1980 and updated June 26, 1981 and January 17, 1984.

8. Special Condition

This permit may be modified, or, alternatively revoked and reissued to comply with any applicable standard(s) or limitation(s) promulgated under Section 301(b)(2)(c)(d), 304(b)(2) and 307(a)(2) of the Act, if the effluent standard(s) or limitation(s) so promulgated:

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

(b) control(s) any pollutant not limited in the permit.

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: [A] = applicable to your facility; [NA] = not applicable to your facility

[A] a. MOR Submittal Requirements - The permittee shall submit Monthly Operating Report (MOR) forms to the Data Center of the Michigan Department of Natural Resources for each calendar month of the authorized discharge period(s). The MOR's shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

[NA] b. Retained Self-Monitoring Requirements - The permittee shall maintain a year-to-date log of retained self-monitoring results and provide such log for inspection to the staff of the

- ☐ (1.) Surface Water Quality Division/Groundwater Quality Division of the Michigan Department of Natural Resources.
- ☐ (2.) Environmental Health Services Division, Michigan Department of Public Health
- ☐ (3.) Northern Peninsula Division, Michigan Department of Public Health
- ☐ (4.) Division of Health Facility Licensing & Certification, Michigan Department of Public Health

upon request.

The permittee shall certify in writing to the Chief of the Surface Water Quality Division/Groundwater Quality Division of the Department of Natural Resources, in accordance with the Schedule of Compliance Part I, C- N/A, that:

(1.) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained.
(2.) the flow rate(s) (if part of retained self-monitoring results) from all outfalls have been substantially the same as the flow rate(s) authorized by this permit or if
(3.) the flow rate(s) (if part of retained self-monitoring results) is (are) substantially different from the flow rate(s) authorized by this permit and the permittee shall provide reasons for the difference in flow rates.

[NA] c. Groundwater Monitoring - The permittee shall submit Monthly Operating Report (MOR) forms to the Data Center of the Michigan Department of Natural Resources in accordance with the monitoring requirements set forth in Part I, A- N/A The MOR's shall be postmarked no later than the 10th day of the month following each completed report period.

[NA] d. First Permit - Existing or Proposed Facility - Upon issuance of the first permit for an existing or proposed facility the permittee is exempt from submitting MOR's for a period of ninety (90) days from the date the permit is issued.

[A] e. Permit Reissuance or Modification - For any parameter added to the monitoring requirements as a result of permit reissuance or modification of the current permit, the permittee will be exempt from submitting MOR data for that parameter for a period of ninety (90) days from the date the permit is issued.

3. Definitions

a. The monthly average discharge is defined as the total discharge by weight, or concentration if specified, during the reporting month divided by the number of days in the reporting month that the discharge from the production or commercial facility occurred. When less than daily sampling occurs, the monthly average discharge shall be determined by the summation of the measured daily discharges by weight, or concentration if specified, divided by the number of days during the reporting month when the samples were collected, analyzed and reported.

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 60606.

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 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 continue to operate the installed facilities to achieve the effluent limitations specified for outfalls 001 and 002.

2. The permittee shall achieve compliance with the Phosphorus Study special condition of Part I, A-4 in accordance with the following schedule. All submittals shall be to the Chief of the Surface Water Quality Division.

a. On or before August 31, 1984, submit and receive approval of a study plan detailing the monitoring, sampling, analysis, and quantification plans.

b. On or before February 28, 1985, the permittee shall submit a progress report.

c. On or before April 30, 1985, the final results of the phosphorus study shall be submitted.

3. The permittee shall achieve compliance with the Dissolved Oxygen Monitoring Study special condition of Part I, A-5 in accordance with the following schedule. All submittals shall be to the Chief of the Surface Water Quality Division.

a. On or before October 31, 1984, submit and receive approval of a monitoring, sampling, and analysis plan.

b. On or before December 31, 1985, the permittee shall have completed all monitoring as required.

c. On or before February 28, 1986, the results of the analysis of such monitoring shall be submitted.

4. The permittee shall achieve compliance with the PERM requirements of Part I, A-6 of this permit in accordance with the following schedule. All submittals shall be to the Plainwell District Supervisor of the Surface Water Quality Division.

a. On or before October 31, 1984, submit and receive approval of a "PERM".

b. On or before April 30, 1985, certify in writing that the approved "PERM" has been implemented.

5. 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 statement of compliance or noncompliance. In the latter case, the statement shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next schedule requirement. Failure to submit the written statement is just cause to pursue enforcement action pursuant to the Commission Act and the Part 21 Rules.

JAN 1, 1994

SEP 1 1989 (6)

NATURAL RESOURCES COMMISSION
THOMAS J ANDERSON
MARLENE J FLUHARTY
GORDON E GUYER
KERRY KAMMER
ELLWOOD A MATTSON
O STEWART MYERS
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J BLANCHARD Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING
P O BOX 30028
LANSING MI 48909

DAVID F HALES Director

September 1, 1989

CERTIFIED MAIL

Rock-Tenn Company
P.O. Box 4098
Norcross, Georgia 30091

Gentlemen:

SUBJECT: NPDES Permit No. MI0000787
Otsego, Michigan Facility

Your National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the Michigan Department of Natural Resources and the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, Discharge Monitoring Report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, or questions regarding the attached permit or NPDES program should be directed to the following address:

Fred Morley, District Supervisor
621 North Tenth Street
P.O. Box 355
Plainwell, Michigan 49080
Telephone: (616) 685-9886

R1026
3/89

NOTE: All references within this permit made to the Water Quality Division or Chief of the Water Quality Division are to refer to the Surface Water Quality Division or Chief of the Surface Water Quality Division, respectively.

Sincerely,

William E. McCracken

William E. McCracken, P.E.
Chief, Permits Section
Surface Water Quality Division
517-373-8088

Enclosure: Permit

cc: EPA-Region V (2)
208 Agency - West Michigan Regional Planning Commission
Planning and Special Programs Section
Mr. Fred Morley - Plainwell District (2)
Mr. Paul Blakeslee, Regional Supervisor, Region III
Compliance and Enforcement, SWQD
Data Entry, SWQD
Point Source Studies (Grand Rapids District Office)
Files

PERMIT NO. MI0000787

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"),

Rock-Tenn Company
P.O. Box 4098
Nocross, Georgia 30091

is authorized to discharge from a facility located at

431 Helen Street
Otsego, Michigan 49078

designated as Rock-Tenn Co

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit takes effect on November 1, 1989. Any person who feels aggrieved by this permit may file a sworn petition with the Commission, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Commission may reject any petition filed more than 60 days after issuance as being untimely. Upon granting of a contested case to the applicant, the Commission shall review the permit to determine which contested term shall be stayed until the Commission takes its final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Commission determines the contested condition shall be stayed, then such previous condition remains in effect until the Commission takes final action. During the course of any administrative proceeding brought by a person other than the applicant, the conditions of this permit will remain in effect, unless the Commission determines otherwise.

This permit and the authorization to discharge shall expire at midnight June 30, 1994. 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 an application submitted on December 21, 1988. On its effective date this permit shall supersede NPDES Permit No. MI0000787, expiring March 31, 1989.

Issued this 17th day of August, 19 89, by the Michigan Water Resources Commission.

Paul D. Zugger
Executive Secretary

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations, Outfall 001

During the period beginning on the effective date of this permit and lasting until the date of expiration, the permittee is authorized to discharge a maximum of two million (2,000,000) gallons per day of treated process wastewater and stormwater from outfall 001 to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations lbs/day Monthly Average	Discharge Limitations lbs/day Daily Maximum	Discharge Limitations Other Limitations Monthly Average	Discharge Limitations Other Limitations Daily Maximum	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Flow (MGD)	Monitor				Daily	Report Total Daily Flow
Biochemical Oxygen Demand (BOD_5)						
May 1-Sep 30	—	999	—	—	Daily	24-Hr Composite
Oct 1-Apr 30	650	1300	—	—	Daily	24-Hr Composite
Total Suspended Solids						
May 1-Sep 30	—	999	—	—	Daily	24-Hr Composite
Oct 1-Apr 30	650	1300	—	—	Daily	24-Hr Composite
Total Phosphorus (as P)	16.7	—	—	—	Weekly	24-Hr Composite
Outfall Observation	Monitor				Daily	Visual
			Daily Minimum	Daily Maximum		
pH (Standard Units)			6.5	9.0	Daily	Grab

a. The receiving stream shall contain no unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits as a result of this discharge.

b. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

PART I

Section A.

c. Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids or deposits) shall be reported immediately to the Plainwell District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

d. In the event the permittee shall require the discharge of water treatment additives in addition to any previously approved by the Chief of the Surface Water Quality Division, the permittee shall notify the Division Chief. Written approval from the Chief of the Surface Water Quality Division to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. The permit will be modified in accordance with the requirements of Part II.B.4 if a constituent of the additive or additives requires limiting.

PART I

Section A.

2. Final Effluent Limitations, Outfall 002

During the period beginning on the effective date of this permit and lasting until the date of expiration, the permittee is authorized to discharge a maximum of one million (1,000,000) gallons per day of noncontact cooling water from outfall 002 to the Kalamazoo River. Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations				Monitoring Requirements	
	lbs/day		Other Limitations			
Effluent Characteristic	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Monitor				Daily	Report Total Daily Flow
Total Phosphorus (as P)			1.0 mg/l		Weekly	Grab
Outfall Observation	Monitor				Daily	Visual

a. The receiving stream shall contain no unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits as a result of this discharge.

b. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to the Kalamazoo River.

c. Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids or deposits) shall be reported immediately to the Plainwell District Office of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

d. In the event the permittee shall require the discharge of water treatment additives in addition to any previously approved by the Chief of the Surface Water Quality Division, the permittee shall notify the Division Chief. Written approval from the Chief of the Surface Water Quality Division to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. The permit will be modified in accordance with the requirements of Part II.B.4 if a constituent of the additive or additives requires limiting.

e. 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.

PART I

Section A.

3. Special Condition - Program for Effective Residuals Management (PERM)

In addition to the requirements in Part II.A.11 herein, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or groundwaters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee. The program shall include but is not limited to the following:

1) a management plan (treatment, transportation, storage, disposal, contingency plans);

2) an inventory of residuals production, storage, and disposal for a period of at least one year;

3) an analysis of the residuals;

4) a monitoring program;

5) if land application is proposed, site maps, soil analyses, application rates, proposed vegetation, and other pertinent information; and,

6) if groundwater degradation potential exists, a hydrogeologic study.

The program shall be submitted to and receive the approval of the Plainwell District Supervisor of the Surface Water Quality Division in accordance with the Schedule of Compliance Part I.C.2 of this permit. Subsequent to approval, disposal of residuals resulting from treatment of wastewater shall be in accordance with the program. If the permittee desires to make any substantial changes in the program, such proposed changes shall be submitted to and be approved by the Plainwell District Supervisor of the Surface Water Quality Division prior to implementation. Substantial changes shall include but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

PART I

Section A.

4. Special Condition - Reopener Clause

This permit may be modified or, alternatively, revoked and reissued to comply with any applicable standard(s) or limitation(s) promulgated under Section 301(b)(2)(c)(d), 304(b)(2) and 307(a)(2) of the Act, if the effluent standard(s) or limitation(s) so promulgated:

a. is(are) either different in condition or more stringent than any effluent limitation in the permit; or

b. control(s) any pollutant not limited in the permit.

5. Special Condition - Notification Requirement

The discharger shall notify the Chief of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of:

a. Detectable levels* of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, which were not acknowledged in the application** or listed in the application at less than detectable levels.

b. Detectable levels* of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information.

c. Any chemical at levels greater than five times the average level reported in the application**.

Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the schedule of compliance.

*The detectable level shall be defined as the Method Detection Limit (MDL) as given in Appendix B to Part 136, Federal Register, Vol. 49, No. 209, October 26, 1984, pp. 43430-31.

**The application submitted on December 21, 1988.

6. Discharge to the Groundwaters

The reissuance of this permit does not authorize any discharge to the groundwaters. Such discharge must be authorized by a groundwater discharge permit issued pursuant to Act 245, Public Acts of 1929, 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:

a. DMR Submittal Requirements - The permittee shall submit Discharge Monitoring Report (DMR) forms to the Michigan Department of Natural Resources, Surface Water Quality Division, Data Entry Unit, P.O. Box 30028, Lansing, Michigan, 48909, for each calendar month of the authorized discharge period(s). The DMRs shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

3. Definitions

a. The monthly average discharge is defined as the total discharge by weight, or concentration if specified, during the reporting month divided by the number of days in the reporting month that the discharge from the production or commercial facility occurred. When less than daily sampling occurs, the monthly average discharge shall be determined by the summation of the measured daily discharges by weight, or concentration if specified, divided by the number of days during the reporting month when the samples were collected, analyzed and reported.

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 P.O. Box 30028, Lansing, Michigan, 48909.

e. The Chief of the Surface Water Quality Division's mailing address is P.O. 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.

PART I

Section B.

5. Recording 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 Discharge Monitoring 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.

PART I

C. SCHEDULE OF COMPLIANCE

1. The permittee shall continue to operate the installed facilities to achieve the effluent limitations specified for outfalls 001 and 002.

2. The permittee shall achieve compliance with the "Program for Effective Residuals Management" (PERM) requirements specified in Part I.A.3, in accordance with the following schedule. All submittals shall be to the Plainwell District Supervisor of the Surface Water Quality Division.

a. On or before January 31, 1990, submit and receive approval of a "PERM".

b. On or before April 30, 1990, certify in writing that the approved "PERM" has been implemented.

3. Reapplication

If the discharges authorized by this permit are expected to continue beyond the expiration date of this permit, the permittee is required to submit an application for reissuance to the Chief of the Surface Water Quality Division on or before January 1, 1994.

4. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit to the Chief of the Surface Water Quality Division either a report of progress or, in the case of specific actions being required by identified dates, a written statement of compliance or noncompliance. In the latter case, the statement shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement. Failure to submit the written statement is just cause to pursue enforcement action pursuant to the Commission Act and the Part 21 Rules.

PART II

A. MANAGEMENT REQUIREMENTS

1. Duty to Comply

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.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of Public Acts 245, of 1929, as amended, and/or PL 92-500, as amended, and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

2. Change of Conditions

Any anticipated facility expansion, production increases, or process modification which will result in new, different, or increased discharges of pollutants must be reported by submission of a new application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Chief of the Surface Water Quality Division. Following such notice, the permit may be modified to specify and limit any pollutant not previously limited.

3. Containment Facilities

The permittee shall provide 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. This requirement is included pursuant to Section 5 of the Michigan Water Resources Commission Act 245, P.A. of 1929, as amended, and the Part 5 Rules of the General Rules of the Commission.

4. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified by the Michigan Water Resources Commission, as required by Section 6a of the Michigan Act.

5. 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 Chief of the Surface Water Quality Division 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 the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

PART II

Section A.

6. 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 waters or groundwaters of the state by calling the Department of Natural Resources 24-hour Emergency Response telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-8166); 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. This requirement is included pursuant to Section 5 of the Michigan Water Resources Commission Act 245, P.A. of 1929, as amended.

7. Facility Operation

The permittee shall at all times properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

8. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

9. 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, personal injury, 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.

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".

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.

PART II

Section A.

11. 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.

12. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Chief of the Surface Water Quality Division by telephone within 24 hours of becoming aware of such conditions and within five (5) days, provide in writing, the following information:

a. That an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. That the permitted wastewater treatment facility was, at the time, being properly operated;

c. That the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

13. Any requirement of this permit which is included under the unique terms of the Water Resources Commission, Act 245, P.A. of 1929, as amended, and rules promulgated thereunder, is not enforceable under the Federal Clean Water Act regulations.

PART II

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 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 emanates, 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.

PART II

Section B.

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.9, pursuant to 40 CFR 122.41(m)) and "Upset" (Part II.A.12, pursuant to 40 GFR 122.41(n)), 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 except as are exempted by federal regulations.

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 violation of any 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, if 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 (Miss Dig)

The issuance of this permit does not exempt the permittee from giving notice to public utilities and complying with each of the requirements of Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws, when constructing facilities to meet the terms of this permit.

4-2-86

TO: PAUL STOFER
FROM PAT CHADDERDON

SUBJECT: WATER USAGE; MARCH, 1986

DURRING THE MONTH OF MARCH WE USED AN AVERAGE OF 0.796 MGD FRESH WATER AT THE WET END AND BEATER ROOM. WE SEWERED 1.183 MGD TO THE CITY'S WASTE WATER TREATMENT PLANT.

OUR PARSHALL FLUME WAS RE-CALIBRATED SOMETIME DURRING THE MIDDLE OF THE MONTH.* THE CITY OF BATTLE CREEK DOES NOT HAVE ANY DETAILS ON HOW LARGE OF A CORRECTION WAS MADE. THEY WILL FORWARD THIS INFORMATION TO US WHEN THEY RECIEVE THE REPORT FROM THE FIRM WHICH DID THE CALIBRATION. AT THAT TIME WE SHOULD CONSIDER REQUESTING A PARTIAL REFUND BASED ON HOW LARGE OF A CORRECTION WAS MADE.

Pat

C.C. J. ADRIANSON
C. HANSEN
M. MINGER
J ORNS
R ROBERTS
M SHALTON
L. SPURGEON
T. THOMAS

* flume calibrated 3/18/86

WALDORF
CORPORATION

To
C.J. Hansen

Date
April 10, 1986

From
Les Spurgeon

Subject
SEWER PLANT CHARGES FOR JANUARY 1986

copy: Dean Wetzel
Mark Shapton
Paul Stofer
Clayton Roberts

The City's waste water billing for January 1986 was a shocker, and totally unanticipated. An analysis of our situation during the January period points out several factual reasons for doubting the validity of the January sewer billing, and our consequent action to contest subject charges.

(1) Our mill experience during January was normal as pointed out in Paul Stofer's comments attached.

(2) The sewer sampler was malfunctioning during the period of January 6-9, and quit working on January 10th, - our back-up unit did not work properly and a new unit was purchased and installed 2/21/86, but not fully operative until 3/12/86.

(3) The Angell Mill was down during the Christmas period for 9 days, and started up January 2nd.

- our most difficult sewer problems can be expected during start-ups; however, January's experience was considered normal.

(4) The excessive high solids discharge rates started January 6 and reportedly continued until sampler failure on the 10th at which time the City penciled an <u>average</u> until January 20th (an extremely high average!).

- On the 8th, the City's record shows we discharged 73.4 ton, while our production for that day was 305.4 tons. This is an impossible situation in that our best operating days are 335-340 tons/day with an all time mill maximum of 360 tons/day; the recorded 378.8 tons/day is not within our present fiber preparation capability!

(5) We are very concerned with a normal operation of losing 2-3 tons/day at most to the sewer system; a loss of over 5 times this would impact our fiber balance very unfavorably and this was not the case -- in fact the mill had a favorable fiber balance for January (data sheet attached).

(6) Our discharge flume was calibrated March 18, 1986 and found to be reading high, adjustments were made in conjunction with the City sewage plant technicians, and now does appear to be more in line with our recorded fresh water usage and what is anticipated for effluent discharge to the City sewage system (attached report from Pat Chadderdon).

In summary, the City's sewer bill for the Angel Mill is not correct, and a review for adjustment with the proper authorities is planned. Would you please start with Mr. Stanley and see who we need to review this matter with. I have not seen the February charges yet, and with the auto-sampler problems experienced in January, this billing may also be incorrect.

Les Spurgeon

Les Spurgeon

LS:ih
attached

WALDORF
CORPORATION

To:
Les Spurgeon

Date:
April 4, 1986

From:
Paul Stofer

Subject:
Sewer Plant Charges

During the period of January 6-9, 1986, it seems that the sewer sampler may have been malfunctioning up until it quit working on January 10th. If the purge cycle was not working, this may account for the extremely high solids readings that the City obtained. I cannot find any other cause, since everything was running fairly normal during that period. Also, we had very high production tonnage on January 8, 9, 10 and so it would be almost impossible to have sewer loses as high as 73 tons/day.

Paul H. Stofer

PHS:ih

WALDORF
CORPORATION

To
Paul Stofer

Date
April 2, 1986

From:
Pat Chadderson

Subject
Water Usage - March, 1986

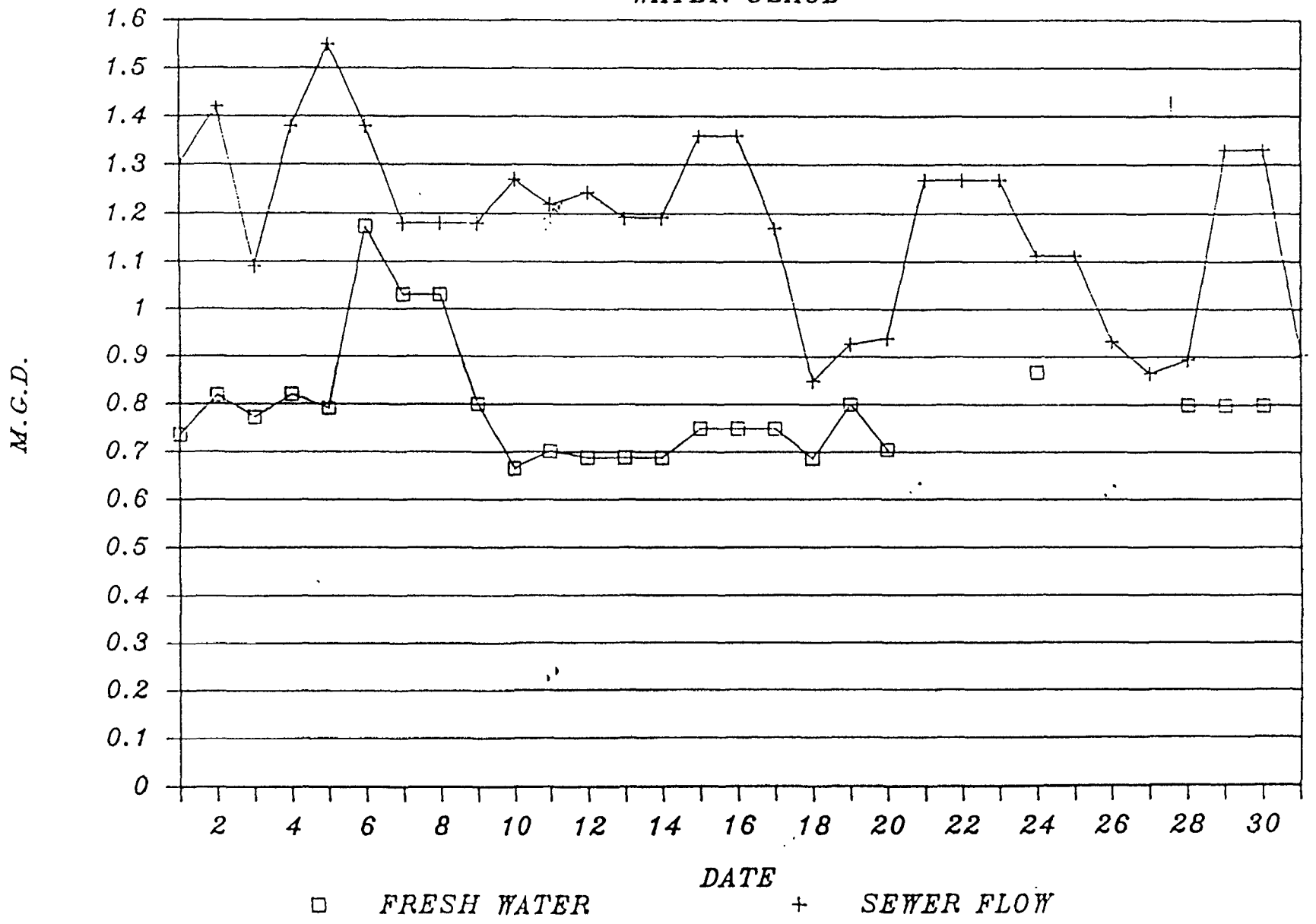
During the month of March we used an average of 0.796 MGD fresh water at the wet end and beater room. We sewered 1.183 MGD to the City's waste water treatment plant.

Our Parshall Flume was re-calibrated sometime during the middle of the month. (flume calibrated 3/18/86). The City of Battle Creek does not have any details on how large of a correction was made. They will forward this information to us when they receive the report from the firm which did the calibration. At that time, we should consider requesting a partial refund based on how large of a correction was made.

Pat Chadderdon

MARCH 1986

WATER USAGE



WALDORF CORP.
RAW MATERIAL
JANUARY - MTH

		CONSUMPTION ACTUAL		COST/TON	STANDARD ALLOWED		COST/TON	VARIANCE	USAGE LBS.	USAGE $	VARIC
		Lbs	$		Lbs	$		$			
01	Hard Whites	140.824	14,638	207.90	56,830	7.047	248.00	(7.592)	(83,994)	(10.415)	3.
03	Book Stock	8.722	305	0.00		0	85.00	(305)	(8.722)	(371)	
04	Soft Whites	0	0	0.00	79,223	10.061	254.00	10.061	79.223	10.061	
05	Coated Blanks	42.126	1.418	0.00	135,440	4.199	82.00	2.781	93.314	1.833	
06	News Blanks	305.553	11,371	74.43	373,697	16,443	88.00	5,072	68.144	2.938	2.
07	CPO	1,818,538	133,616	146.93	1.202,123	108,191	180.00	(25.425)	(616.415)	(55.477)	32.
09	Flyleaf	78,953	1,859	47.10		0	77.00	(1,859)	(78,953)	(3.040)	1.
11	Mix Shavings	0	0	0.00		0	0.00	0	0	0	
12	Prt. Bleach Kraft	0	0	0.00		0	0.00	0	0	0	
6	Old Corrugated	0	0	0.00		0	0.00	0	0	0	
7	Groundwood	0	0	0.00		0	81.00	0	0	0	
8	DLK	2,001,854	49.299	49.25	2.461,975	81,245	66.00	31,946	460.121	15.184	16.
9	News Regular	5,117,371	100.012	39.09	4.251,803	112,673	53.00	12,660	(865.568)	(22.938)	35.
0	Boxboard Cuttings	3,089,318	77.222	49.99	4.460,998	120.447	54.00	43,225	1,371,680	37,035	6.
1	Mix Paper	372.631	8,388	45.02	0	0	26.00	(8,388)	(372,631)	(4,844)	(3.
2	Sections	733.917	8.003	21.81		0	36.00	(8,003)	(733.917)	(13.311)	%.
4	Manifold Ledger	203.260	11,678	0.00	724,230	48,886	135.00	37,208	520.970	35.165	2.
5	Bleach Kraft Cutting	0	0	0.00		0	0.00	0	0	0	
0	O/I News	43.060	3,066.	142.41	664,479	20,931	63.00	17,865	621,419	19.575	(1.
0	Carrier Kraft	75.725	1,599	42.34			44.00	(1,599)	(75.725)	(1,865)	
5	Lt. Prt. Bleached	0	0	0.00	0	0	0.00	0	0	0	
6	Lt. Prt. White bags	0	0	0.00		0	236.00	0	0	0	
7	TMP Cuttings	0	0	0.00		0	77.00	0	0	0	
3	Special Ledger	1,620,140	83,279	102.80	1.233,498	70.926	115.00	(12,352)	(386,642)	(22,232)	1.
1	Pulp	0	0	0.00		0	255.00	0	0	0	
	Beater Rolls	(581,606)	(36,314)	124.87		0	125.00	36,314	581,606	30,350	
		0	0	0.00			0.00				
		0	0	0.00			0.00				
	TOTAL	15,070,386	469,440	62.30	15.644,296	601,048	76.84	131,609	573,910	35,259	100.

Jim - any feel balance!

WALLOFF--Battle Creek [illegible]

JANUARY [illegible]

DATE	FLOW MGD	EFFLUENT SOLIDS ppm	EFFLUENT SOLIDS #/D	EFFLUENT B.O.D. ppm	EFFLUENT B.O.D. #/D	[illegible] FLOW	[illegible] SOLIDS	[illegible] B.O.D.	TOTAL
JAN-1	0.4973	88	365	12	50	$511.86	[illegible]	[illegible]	$511.86
JAN-2	1.7258	284	4090	203	2924	$1,776.32	$0.00	[illegible]	$1,776.32
JAN-3	1.7787	208	3087	280	4156	$1,830.77	[illegible]	[illegible]	$1,830.77
JAN-4	1.5744	78	1025	105	1380	$1,620.49	[illegible]	[illegible]	$1,620.49
JAN-5	1.5185	725	9314	390	4942	$1,562.[illegible]	[illegible]	$56.99	$2,005.57
JAN-6	1.5581	1740	22624	290	3771	$1,60[illegible]	[illegible]	[illegible]	$2,913.56
JAN-7	1.4193	4600	54483	540	6396	$1,46[illegible]	[illegible]	$142.[illegible]	$5,165.82
JAN-8	1.5724	11190	146832	1200	15746	$1,618.4[illegible]	[illegible]	$59[illegible].12	$12,205.21
JAN-9	1.5718	9040	118575	780	10231	$1,617.81	[illegible]	$314.61	$9,552.40
JAN-10	1.4144	1238	14612	500	5920	$1,455.89	$774.5[illegible]	$117.96	$2,348.30
JAN-11	1.5190	1238	15693	500	6338	$1,56[illegible].47	[illegible]	$126.68	$2,521.96
JAN-12	1.5289	1238	15795	500	6379	$1,573.56	$837.[illegible]	$127.51	$2,538.4[illegible]
JAN-13	1.6043	1238	16574	500	6694	$1,651.26	$878.[illegible]	$133.80	$2,663.5[illegible]
JAN-14	1.4865	1238	15357	500	6202	$1,53[illegible]	$814.[illegible]	[illegible]	$2,468.90
JAN-15	1.4022	1238	14486	500	5851	$1,443.[illegible]	[illegible]	$116.94	$2,325.[illegible]
JAN-16	1.4421	1238	14898	500	6017	$1,48[illegible]	[illegible]	[illegible]	$2,394.[illegible]
JAN-17	1.3465	1238	13911	500	5618	$1,385.[illegible]	[illegible]	$112.[illegible]	$2,235.[illegible]
JAN-18	1.4177	1238	14642	500	5914	$1,458.[illegible]	[illegible]	[illegible]	$2,[illegible]
JAN-19	1.4341	1238	14816	500	5984	$1,47[illegible]	[illegible]	[illegible]	$2,381.[illegible]
JAN-20	1.5205	1238	15708	500	6344	$1,565.[illegible]	$832.[illegible]	$126.81	$2,524.45
JAN-21	1.7164	1210	17331	190	2721	$1,766.65	[illegible]	[illegible]	$2,678.[illegible]
JAN-22	1.4079	540	6344	450	5287	$1,449.[illegible]	[illegible]	[illegible]	$1,734.44
JAN-23	1.4345	700	8380	460	5746	$1,47[illegible]	[illegible]	[illegible]	$1,919.2[illegible]
JAN-24	1.4919	1084	13436	500	6235	$1,535.57	[illegible]	[illegible]	$2,342.34
JAN-25	1.5897	1420	18828	430	5704	$1,63[illegible]	[illegible]	[illegible]	$2,761.85
JAN-26	1.4579	830	10098	380	4623	$1,500.58	[illegible]	[illegible]	$2,00[illegible].31
JAN-27	1.3745	775	8859	390	4473	$1,414.74	[illegible]	$51.58	$1,847.48
JAN-28	1.3917	1050	12194	430	4994	$1,432.44	[illegible]	$75.44	$2,117.24
JAN-29	1.7105	1830	26122	510	7280	$1,760.57	[illegible]	[illegible]	$2,438.2[illegible]
JAN-30	1.411[illegible]	1049	12353	446	5252	$1,452.[illegible]	[illegible]	$55.91	$2,155.75
JAN-31	1.4974	1[illegible]49	[illegible]	446	5573	$1,5[illegible]	[illegible]	[illegible]	[illegible]
TOTAL	45.8[illegible]57	[illegible]	[illegible]	13952	174745	[illegible]	[illegible]	[illegible]	[illegible]
AVG	1.47792	1713[illegible]	21743	450	5637	[illegible]	[illegible]	[illegible]	[illegible]

WALDORF CORPORATION
BATTLE CREEK MILLS
PRODUCTION SUMMARY
MACHINE # 3
DATE: 1/31/86 RUN 2/01/86 9.53.07

MSC043

DATE	PRIMARY	RIB/S.R.	P-1	ODD LOT	TOTAL	
1/02/86	108.7		108.7		108.7	
1/03/86	205.6		205.6		205.6	
1/04/86	230.9		230.9		230.9	
1/05/86	178.6	8.1	186.7		186.7	
1/06/86	157.6	3.0	160.6	29.7	190.3	— 11.3 T/D
1/07/86	191.6	9.4	201.0	39.4	240.4	— 27.35 T/D
1/08/86	295.5		295.5	9.9	305.4	— 73.4 T/D
1/09/86	304.8	12.1	316.9	8.4	325.3	— 59.5 T/D
1/10/86	222.9	.6	223.5	60.7	284.2	— 7.3 T/D
1/11/86	285.0	5.2	290.2	2.0	292.2	— 7.9 T/D
1/12/86	269.2	15.7	284.9	9.4	294.3	"
1/13/86	280.9	12.8	293.7	20.5	314.2	"
1/14/86	189.9	16.4	206.3	90.0	296.3	"
1/15/86	259.3	42.2	301.5	5.7	307.2	"
1/16/86	313.5	5.8	319.3	10.0	329.3	"
1/17/86	241.8	3.7	245.5	2.2	247.7	"
1/18/86	271.0	10.9	281.9	36.7	318.6	"
1/19/86	207.7	25.7	233.4	39.5	272.9	"
1/20/86	198.0	3.6	201.6	43.7	245.3	"
1/21/86	229.5	17.5	247.0	5.5	252.5	8.65 T/D
1/22/86	328.3		328.3	10.1	338.4	3.2 T/D
1/23/86	255.6	77.9	333.5	25.1	358.6	
1/24/86	268.9	67.3	336.2	6.5	342.7	
1/25/86	235.1	20.9	256.0	4.0	260.0	— 9.4 T/D
1/26/86	279.7	.6	280.3	27.3	307.6	— 5.0 T/D
1/27/86	307.1		307.1	23.1	330.2	
1/28/86	258.0	2.6	260.6	21.4	282.0	
1/29/86	247.6	28.0	275.6	7.5	283.1	— 13.06 T/D
1/30/86	141.1		141.1		141.1	— 6.2 T/D
1/31/86	95.5		95.5		95.5	— 6.5 T/D
PRODUCTIONS TONS	7,058.9	390.0	7,448.9	538.3	7,987.2	
= TOTAL	88.4	4.9	93.3	6.7	100.0	
GE PER DAY	235.3	13.0	248.3	17.9	266.2	

674,040 #/D
337 ton/mo

WALDORF
CORPORATION

To:
Chris Hansen

Date:
December 3, 1985

From:
L.M. Spurgeon

Subject:
SEWER BILL FOR AUGUST/SEPTEMBER 1985

Chris, the attached data sheets confirm that our August/September flows were considerably higher than normal. This is in view of the fact we have changed no equipment or procedure in the mill regarding effluent flows.

As you know, our technical manager, Paul Stofer, did find a piece of pipe lodged in the flume where volume measurements are taken. This problem, plus the loss of flush water on the float measure mechanism, resulted in higher than actual volume readings.

I do not believe we should pay for these higher than normal flows, and ask you to contact City officials to gain relief for these two months.

L.M. Spurgeon

LMS:ih
attached

11/22/85

MONTH	AVE FLOW (MGD)	HIGH FLOW (MGD)	
January 1985	1.00871	1.60140	
February	1.06323	1.55160	
March	.97130	1.27300	
April	1.02196	1.35280	
May	1.03940	1.64920	
June	1.22085	1.62130	
July	1.11036	1.44130	21 DAYS OF AVERAGING FLOW AT 1.41465
August	1.41650	1.66450	11 DAYS OF AVERAGING FLOW AT 1.41465
September	1.74460	2.21960	
October	1.16239	1.53270	
November (partial)	1.00567	1.40020	

CITY OF BATTLE CREEK
WASTEWATER TREATMENT PLANT

LOCATION: Angell

CODE: A2

MONTH: October 19 85

DATE	BOD (mg/l)	SS (mg/l)	FLOW (MGD)	FLOW READING	REMARKS
PREVIOUS				8363538	
1	278	524	1.53270	8378865	Float well Chang
2	260	276	1.45870	8393452	"
3	390	332	1.37780	8407230	"
4	380	496	1.36840	8420914	"
5	355	252	1.41340	8435053	"
6	320	540	1.38500	8448903	"
7	380	564	1.06720	8459575	"
8	318	392	1.41250	8473700	"
9	380	775	1.41280	8487828	"
10	510	1085	1.42150	8502043	"
11	333	650	1.37180	8515761	"
12	440	580	1.34430	8529204	"
13	340	440	1.15810	8540785	"
14	310	320	1.23940	8553179	"
15	313	280	1.00080	8563187	"
16	370	348	0.94030	8572590	"
17	410	684	1.01550	8582745	"
18	370	944	1.14560	8594201	"
19	420	560	1.00270	8604228	"
20	340	208	1.00000	8614228	"
21	353	344	1.15060	8625734	"
22	490	760	1.12340	8636968	"
23	430	634	1.12980	8648266	"
24	400	820	0.90120	8657278	"
25	550	1260	0.94240	8666702	"
26	640	1030	0.95040	8676206	"
27	510	740	0.95370	8685743	"
28	500	770	1.02800	8696023	"
29	430	344	0.91250	8705148	"
30	410	490	0.99170	8715065	"
31	480	520	0.87900	8723855	"
TOTAL			1.16239		
AVERAGE					

7/81

*=12 day average **=1 year average NS=No Sample

CITY OF BATTLE CREEK
WASTEWATER TREATMENT PLANT

LOCATION: Angell

CODE: A2

MONTH: November 19 85

DATE	BOD (mg/l)	SS (mg/l)	FLOW (MGD)	FLOW READING	REMARKS
PREVIOUS				8723855	
1	460	572	1.04060	8734261	Float Well Cleaned
2	570	1320	0.90290	8743290	"
3	240	2660	0.83530	8751643	"
4	590	1560	0.86450	8760288	"
5	420	675	0.88340	8769122	"
6	320	660	1.27850	8781907	"
7	160	1075	1.40020	8795909	"
8	260	710	1.01540	8806063	"
9	368	236	0.94850	8815548	"
10	380	312	0.89710	8824519	"
11	460	1150	0.92650	8833784	"
12	355	480	1.00980	8843882	"
13	290	252	0.99200	8853802	"
14	328	1210	1.03420	8864144	"
15	368	536	1.01390	8874283	"
16	400	425	1.02580	8884541	"
17	460	364	0.99330	8894474	"
18	490	530	0.93690	8903843	"
19	380	400	0.99670	8913810	"
20	380	690	1.03110	8924121	"
21		355	1.02870	8934408	"
22		500	0.95130	8943921	"
23		540	1.01640	8954085	"
24		475	1.11220	8965207	"
25					"
26			1.00567		
27					
28					
29					
30					
31					
TOTAL					
AVERAGE					

7/81

*=12 day average **=1 year average NS=No Sample

RECEIVED
FEB 19 1985
LEGAL AFFAIRS

SULLIVAN, HAMILTON & SCHULZ
ATTORNEYS AT LAW
200 GREAT LAKES FEDERAL SAVINGS & LOAN BLDG.
BATTLE CREEK, MICHIGAN 49017
AREA CODE 616
TELEPHONE 968-3216

JAMES M. SULLIVAN
ROBERT P. HAMILTON
BERT W. SCHULZ
MARK E. KRETER

RONALD M. RYAN
OF COUNSEL

February 13, 1985

Benjamin Bilus
Sr. Assoc. Counsel
Champion International Corporation
One Champion Plaza
Stamford, CT 06921

Re: Wastewater Treatment Contract - City of Battle Creek

Dear Mr. Bilus:

I have now received and enclose herewith in duplicate copies of the Wastewater Treatment Contract which were negotiated in the name of St. Regis Corporation, but will now be executed in the name of Champion International. I would suggest that you return two copies to me, and I can then forward them to the city for execution and thereafter return fully executed copy or copies to you for your company file.

You will recall that the agreements enclosed are identical to those previously forwarded except for the designation of Champion in place of St. Regis.

Yours very truly,

Robert P. Hamilton

RPH/ckr

Encl.

FEB 1 9 1985
. AL AFFAIRS

WASTEWATER TREATMENT CONTRACT - 1984

THIS AGREEMENT, effective the first day of September, 1983, between the CITY OF BATTLE CREEK, MICHIGAN, a Municipal Corporation ("City"), and CHAMPION INTERNATIONAL CORPORATION, a New York Corporation, having an office at 177 Angell Street, Battle Creek, Michigan ("Company"),

W I T N E S S E T H:

WHEREAS the Company operates facilities in the City of Battle Creek that discharge industrial and sanitary waste into the City's existing wastewater treatment plant ("Treatment Plant"); and

WHEREAS the Company and the City have had contractual relationships for the treatment of Company's wastewater since 1959; and

WHEREAS the City has during this contractual period reserved for the Company certain capacity in its wastewater treatment plant and the Company has made certain annual payments toward the local cost of constructing the improvements necessary to treat Company's discharges; and

WHEREAS the City was recently required to expand and upgrade its wastewater treatment facilities; and

WHEREAS certain federal and state regulations require that the user charges be spread among all users of the Wastewater Treatment Plant on the basis of the use of said facility;

NOW, THEREFORE, in consideration of the mutual promises made herein the City and the Company agree as follows:

1. Treatment. The City shall treat the wastewater discharges from the Company during the term of this Contract at its Wastewater Treatment Plant in the amounts set forth below. City has made and will keep available to the Company, so long as it desires to utilize them and on the terms and conditions hereinafter set forth facilities for the collection and treatment to the extent required by law of the Company's waste in the following average monthly amounts:

Flow	5,000,000 gallons per day
Suspended Solids	10,000 pounds per day
Biochemical Oxygen Demand	6,500 pounds per day

The parties hereto recognize and agree that they are signatories to an Agreement dated the 30th day of March, 1984, between Champion International Corporation, a New York Corporation, a sucessor to St. Regis Corporation, a New York Corporation, Michigan Holding Corporation, a Delaware Corporation, and the City of Battle Creek. The parties hereto recognize and intend to continue the validity of the Agreement dated the 30th of March, 1984, and recognize that

portions of the aforesaid limits have been assigned by said Agreement for a period of two (2) years, and agree to be bound by the terms of said Agreement.

The parties further agree beginning with the fiscal year April 1, 1986 - March 31, 1987, and each such fiscal year thereafter the Company shall be relieved of responsibility for capital charges upon the aforesaid limits to the extent that such limits are used by the industrial facility of Michigan Holding Corporation (MHC), which facilities and properties were sold by the Company to Michigan Holding Corporation in March, 1984, and including any use of such limits by the expansion of such facilities. To determine the estimated amount of the limits to be paid by the Company for the fiscal year 4/1/86 to 3/31/87, the amount of use of limits by MHC during the period 4/1/85 to 3/31/86 shall be deducted from the gross capital obligations of the Company. At the end of that fiscal year an audit shall be made of the actual use of limits by MHC for that fiscal year and the Company shall pay to the City any excess capital charges over the estimated amount paid or the City shall remit to Company any overpayments of capital charges paid by the Company. Such audit shall also include adjustment, either up or down,

of penalty charges imposed on the Company, or penalty charges which should have been imposed, based upon the actual appropriate allocation of limit use between the Company's use and the limit use of MHC. The audit shall be completed within ninety (90) days following the close of the fiscal year, as herein defined, and the Company shall, or the City shall, within thirty (30) days thereafter, remit to the other any monies owed. In subsequent fiscal years the same format of estimated capital charges, audit and adjustment will be made and carried out. Provided, further, however, that Company, regardless of the limits used by MHC, may retain in any fiscal year for its use and benefit one-half of the limits of purchased capacity.

2. Treatment Plant. The City shall maintain and operate its Treatment Plant as enlarged and its sanitary sewer system serving the Company's plant in good repair and working order and will make or cause to be made all necessary renewals and replacements.

3. Flow Meters, Sampling, Testing and Monitoring Devices.

a) During the term of this Contract, wastewater discharged by Company shall be measured at Company's locations so as to determine flow, suspended solids and BOD and such other measurements required by the appropriate state or federal agency, actually delivered to the collection system of City. Said measurements shall be made by flow meters, sampling and testing devices which shall be installed by Company at its expense. The City shall calibrate, maintain and replace said devices at City's expense. The City will have access to the flow meters at all times. Testing of samples shall be performed in accordance with procedures set forth in the latest edition of Standard Methods For The Examination Of Water and Wastewater or such other standards as may from time to time be mutually agreeable. The City will report in writing to the Company by the fifteenth day of each month the result of its measurements, tests, and most recent calibration reports of the quantities and characteristics of the waste discharged by the Company into the City's sewer system during the preceding month. Sampling and testing shall be conducted with such frequency and on such

operating and non-operating days of the Company as will fairly reflect the representative amounts and characteristics of the Company's waste discharge into the City's sewer system. The City shall check and calibrate the waste flow meter on site in accordance with manufacturer's instructions at a minimum frequency of once every three months. The City shall notify Company prior to calibration so industry may have a representative present during calibration.

b) In the event that the City and the Company jointly determine that the volume of wastewater transmitted to the point of recording has not been recorded accurately for any period of time, the City and Company shall estimate the volume and characteristics of wastewater transmitted to the point of recording during such period of time by use of the present and prior meter readings, production operation experience, records, and such other data as may be available to assist in making such estimate.

c) The Company may, at its own expense, make such measurements and tests as it shall desire of the

quantities and characteristics discharged by the Company into the City's sewer system. If Company and City tests do not substantially show the same quantities and characteristics of such waste discharged by the Company into the City's sewer system, competent independent engineers acceptable to the City and the Company shall make such measurements and tests and their determination of the quantities and characteristics of the waste discharged by the Company into the City's system shall be final and binding on the parties. The cost of such independent review shall be borne by the Company unless the independent review demonstrates that the results of the City's sampling and testing have resulted in billing cost errors of ten (10%) percent or greater within one billing period, in which case the cost of such review shall be borne by the City.

4. Capital Charges.

a) Company agrees to compensate the City for that portion of the Wastewater Treatment Plant constructed since 1959 for the purpose of treating waste discharged by Company and upgrading facilities necessary to treat

Company's waste to the degree required by law. As long as Company does not exceed its purchased capacity on an annual basis, the Company is not responsible for and will not be charged for capital cost of the Wastewater Treatment Plant associated with expansion of the Plant. The capital charges heretofore incurred by Company in the 1959 contract and the 1967 supplement as shown in Exhibit A are continued and Company further agrees to undertake to pay capital charges for upgrading required to provide a greater degree of treatment and/or greater reliability of treatment required by law. The total annual capital charges will be as shown in Exhibit A as written or as hereafter modified by increase or reduction of capacity set forth in Paragraph 1.

b) Company obligates itself to pay the charges for capital set forth above and for the times set forth in Exhibit A throughout the term of this Contract whether Company continues discharging wastewater into City's system or not, except as Company's liability may be modified under Paragraphs 8 or 9 of this Agreement. Company's operating and maintenance rate set forth in Paragraph 5 of this Contract shall take into account

that capital charges are separately paid for and are not included in the operation and maintenance rate, including contribution to the replacement fund set forth in Paragraph 21. Even after capital obligations as set forth in Exhibit A are fully paid by Company, Company shall not be charged capital charges for those improvements added in 1959, 1967 and 1978 through 1985 in its operation and maintenance charges for capacity reserved under this Contract.

c) Any future upgrading of facilities maintained to serve Company, under this Contract, necessitated by state or federal law will, at the Company's option, be paid for in additional capital charges in an amount negotiated and agreed upon by the parties or as part of the monthly rate for sewer service. Company shall elect either the additional capital cost charge or monthly rate method for payment of improvements necessary for upgrading within one hundred eighty (180) days of notification by City that such additional construction will be undertaken to meet State or Federal regulations.

d) City shall use its best efforts to notify Company within ninety (90) days of any event which could possibly cause any change in the capital charges set forth in Exhibit A, including without limitation the retention of an engineering or construction firm by the City concerning additions or modifications to the Battle Creek wastewater facility, any proposed construction, expansion or upgrading plans concerning said facility, any order issued by the Water Resources Commission, Department of Natural Resources or any other state or governmental order which could require a change in the capital investment of the facility and City agrees to discuss such events with Company.

e) In order for any increase in capital charges to be effective, City shall notify Company at least one hundred eighty (180) days prior to the effective date of any proposed increase in the capital charges set forth in Exhibit A and shall discuss such proposed increases with Company prior to implementation.

f) The 1980 estimated costs will be updated to reflect actual costs within ninety (90) days of the final audit

of the construction costs accepted by EPA. Updated Exhibits A, B and C will be prepared to reflect any changes. Adjustments to charges will be made from the effective date of this Contract.

5. Operation, Maintenance and Replacement Charges. Company also agrees to pay City for the collection and treatment of the Company's wastewater discharges. The rates to be charged for said discharges shall be developed and established from time to time in accordance with applicable federal and state regulations for use charge systems. City agrees that the rates established shall be supported by rate studies according to accepted practices. The City will notify industry when City intends to undertake a rate study. Changes in the operation, maintenance and replacement rate will be imposed only after a sixty (60) day notice by City to Company that the rate study is complete.

6. Penalty Charges. In addition to capital charges and operation and maintenance charges set forth above, Company will pay the City a penalty as determined and provided in Exhibit B attached hereto and made a part hereof, on all quantities of the Company's daily waste averaged over each

calendar month that are in excess of the total treatment capacity reserved for the Company and set forth in Paragraph 1 above. The penalty shall remain in effect as long as the Company's waste is discharged to the Treatment Plant. Notwithstanding this paragraph, Company shall have no right to discharge amounts in excess of the amounts set forth in Paragraph 1 and City may prohibit discharges in excess of those amounts.

7. Billing. The Company shall be billed by the City on a monthly basis and the billing shall contain three separate items: a) **Capital Charges:** a charge of 1/12th of the total annual capital charge applicable to the Company as calculated from Exhibit A for each of the improvements so long as a portion of that improvement remains unpaid. b) **Operation and Maintenance Charges:** a charge at the unit rates for the treatment of the waste delivered by the Company to the City during the billing period; c) **Penalty Charges:** the penalty as set forth in Exhibit B; and d) **Monitoring Charges:** the pro-rata share of actual costs per the latest rate study for monitoring the Company's effluent.

8. Decrease of Capacity.

a) Prior to the termination under Paragraph 13 of the Company's obligation to pay capital charges, the Company may obtain a reduction or termination of the charges as provided in this paragraph. At any time that the Company signifies in writing to the City Manager its offer to surrender a part or all of the waste treatment capacity reserved for the Company as specified in Paragraph 1, the City will promptly cause a survey to be made by competent independent engineers of the current use of its Treatment Plant and notify other companies with contracts substantially the same as this one of that request.

b) If such survey shows that the capacity proposed to be surrendered by the Company is capacity that has been allocated to Company's capital charge and is being used to treat the sewage or waste of other customers, or that there is a current demand for such use by other customers, then the cost of such engineering survey will be borne by the City and the Company equally and this Contract will be and stand amended to reduce the annual waste disposal charge in proportion to the amount of its total reserve treatment capacity that the Company has

offered to surrender and thereafter the obligation of the City to provide waste treatment capacity for the Company shall be reduced accordingly.

If more than one company which has an industrial wastewater contract with the City of Battle Creek substantially the same as this Contract, desires to decrease its purchased capacity within the same thirty-day period and the survey shows that the total requested reduction in capacity of all requesting companies is greater than the offset capacity to be used by other customers, the capacity of each requesting company will be reduced in proportion to the requested amounts of decrease.

In the event the survey permits the Company to surrender all of the capacity reserved for it, and Company so elects, then this Contract shall automatically terminate upon payment by the Company of all charges then due and owing by it hereunder.

c) In the event that such engineering survey fails to show that the plant capacity proposed to be surrendered by the Company is then being used to treat the sewage or

waste of other customers or that there is a current demand for such use by other customers then the Company shall pay the entire cost of such survey and may either give up as much of its capacity as the survey would permit with the appropriate reductions as set forth in Paragraph 8a or shall continue to pay the capital charges as set forth in Paragraph 4 with full rights under this Contract. The Company may from time to time request a resurvey of the plant under the same terms and conditions as set forth above, if in its judgment circumstances now indicate that the capacity reserved for Company is now being used to treat the sewage or wastes of other customers, or that there is a current demand for such use by other customers.

d) City agrees to provide Company with an annual report containing data regarding the use of the Wastewater Treatment Plant including data about the flow and loadings experience over the past year and a projection of the flow and loadings for the on-coming year within thirty days after the close of the fiscal year.

9. Increase of Capacity. The Company may at any time give notice to the City that it desires that the quantities of waste treatment capacity set forth in Paragraph 1 of this Contract reserved for the Company at the City's sewage Treatment Plant be increased by the amount set forth in said notice. The City shall notify the Company within ninety (90) days from the date of such notice the total plant capacity available. The cost of additional capacity will be as set forth in Exhibit C, using the date of Company's notice to determine the year. Payments will continue at that amount until September 30, 2003. Company may purchase up to one-half the capacity stated by City to be available and may not purchase additional capacity for twenty-four (24) months.

If Company disagrees with the City as to the availability or amount of unused capacity, the City and Company shall meet to agree upon retaining an independent engineering consultant who shall make a survey of the available capacity. At the conclusion of such study Company may elect to purchase such additional capacity as set forth in its notice up to one-half the amount the consultants agree are available at the cost set forth above. Company shall have a period of ninety (90) days after its receipt of the

consultants' report to inform the City of its decision to purchase additional capacity. The cost of the consultants shall be shared equally if the Company buys the capacity it stated it desired in its notice to the City or all of the capacity permitted, whichever is less. In all other cases the Company shall pay the entire cost of the consultants retained for the purposes set forth in this paragraph.

If Company elects to purchase the additional capacity, the sewage treatment capacity set forth for the Company in Paragraph 1 shall be deemed increased by the amounts agreed upon and the annual capital waste charge set forth in Exhibit A shall be increased accordingly and the penalty charges to be paid by the Company under Paragraph 6 and set forth in Exhibit B shall be determined after such date on the basis of such increased capacity reserved for Company.

10. Most Favored Rate Clause. If at any time before the termination of the Company's obligation under this Contract the City enters into a contract agreement rate structure or other arrangement which provides wastewater disposal to any industrial user on terms more favorable than the terms set forth in this Contract, the Company may at its

option elect to have its wastewater treated under the same terms, if said terms can be granted to Company under state and federal regulations, and this Contract shall be construed to have been amended to provide for such terms. Company must elect a course within ninety (90) days of being informed by the City that such more favorable rates are being granted to another user or within ninety (90) days of actual notice by the Company of such favorable rates, whichever shall first occur. Failure by Company to elect such more favorable rates within the time specified shall constitute a waiver by Company of its right to amend this Contract to contain the more favorable rates.

11. Discharge Characteristics and Contaminants. The Company agrees that it will not substantially alter the characteristics or chemical content of the waste it is discharging into the City's sewage system from those being discharged from the date hereof which would result in damage to the City sewer system or create a health hazard to persons or property. City agrees to give Company ninety (90) days advance notice before changing its ordinance of restricted or prohibited substances except in an emergency.

12. Future Sewer Plant Enlargements. The City shall have the right to expand or upgrade the Treatment Plant at any time in the future.

13. Termination. This Contract will remain in effect until September 30, 2003.

14. Non-Interference With Company Wastewater Treatment. The City will not accept wastewater from other customers or users for processing in the Treatment Plant so long as this Contract is operative that have characteristics that will entail additional treatment cost to the Company, or that will interfere with the proper treatment of the Company's waste or the proper and efficient operation of the Treatment Plant.

15. No Obligation To Discharge. Anything in this Contract to the contrary notwithstanding, the Company shall not be obligated to discharge into the City's sewer system any waste whatsoever.

16. Records. The City shall keep and preserve complete and accurate records and accounts of its costs of operating the Treatment Plant, such records to be available for examination and copying by the Company during all usual

business hours at any time and to be sufficiently detailed to enable the Company to ascertain operating costs.

17. Efficient Operation. The City will use its best efforts to operate its Treatment Plant and Sanitary Sewer Facilities efficiently in order that the effluent discharged therefrom into the Kalamazoo River will comply with the requirements of the Michigan Water Resources Commission and other governmental authorities that may now or hereafter have jurisdiction over said river.

18. Contract. This Contract sets forth the entire understanding and agreement between the parties respecting the subject matter hereof and is intended by the parties to replace the contracts on this subject between City and Company entered into in 1959 and 1967.

19. Assignment. The rights and obligations of the parties hereunder shall inure to and be binding upon their respective successors and assigns and may be freely assigned by either party without consent of the other party. However, Company agrees that in the event Company assigns its rights and obligations under this Contract and said assignee fails to pay the remaining capital charges set forth in Exhibit A,

in such cases only, Company shall remain secondarily liable to City for such capital charges and City, upon exhausting reasonable best efforts fails to obtain said charges from assignee, shall be able to require Company to pay such capital charges. City shall cooperate with Company to recover such capital charges from said assignee.

20. Sewer Fund. Monies paid to the City by the Company or other persons, firms or corporations, public or private, for the treatment of sewage, wastewater or other waste treated by the City's sewage Treatment Plant shall be used by the City exclusively for sewer purposes in accordance with generally accepted accounting principles.

21. Replacement Fund. City agrees to provide and fund a wastewater replacement fund from wastewater revenues in the amount of One Hundred Forty-Five Thousand ($145,000.00) Dollars annually.

22. Force Majeure. Either party shall be excused from liability for failure to perform its obligations hereunder when such failure is due to an act of God or the elements, fire, war, the public enemy, strikes, labor difficulties, civil commotion, transportation or other embargoes, act of

civil or military authority, governmental priority, allocation, or order, except that the City shall not be excused for failure to perform its obligations if such failure is due to an act by the City.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed by their respective duly authorized officers the _____ day of_____ , 1984.

WITNESS: CITY OF BATTLE CREEK

_____ BY _____

_____

WITNESS: CHAMPION INTERNATIONAL CORPORATION

_____ BY _____

_____

EXHIBIT "A"

CAPITAL COSTS

	Total	Flow	B.O.D.	S.S.
1980 Construction				
Cost	$13,650,000			
Interest	16,603,506			
Total	$30,253,506			
Upgrading (43%)	$13,009,008			
Distribution	100%	16.94%	45.82%	37.24%
Annual Amortization (Sept., 2003)	$ 650,450	$110,186	$298,036	$242,228
Design Capacity		27 mgd	64.08M#/d	61.81M#/d
Per Unit Per Year		$ 4,080.96/mg	$ 4,651.00/Mlb	$3,918.91/Mlb
Per Unit Per Day		$ 11.18/mg	$ 12.42/Mlb	$ 10.94/Mlb

	Total	Kelloggs	General Foods	St. Regis
Contract Capacities				
Flow	6.95mgd	1.4 mgd	.55mgd	5.0mgd
B.O.D.	35,550#/d	21,000#/d	8,050#/d	6,500#/d
S.S.	16,500#/d	4,000#/d	2,500#/d	10,000#/d
Annual Contract Capital Charge for 1980 Construction				
Flow	$ 28,362	$ 5,713	$ 2,244	$20,405
B.O.D.	165,345	97,671	37,442	30,232
S.S.	64,662	15,676	9,797	39,189
(A) Total	$258,369	$119,060	$49,483	$89,826
Annual Contract Capital Charge Per 1967 Contract				
1960 Construction (Nov., 1992)	$ 97,096	$ 25,033	[illegible]	[illegible]
(B) 1966 Construction (Oct., 1997)	50,753	40,702	[illegible]	2,528
Sub Total	$147,849	$ 65,735	[illegible]	$57,276
(B) 1971 Capacity Increase (Oct. 1997)	4,513		[illegible]	
(C) Total)	$153,362	$ 65,735	$29,331	$57,276
Total Contract Capital Charge				
Annual Charge:				
Oct. 1983-Nov. 1992 (A + C)	$410,731	$184,795	[illegible]	$147,102
Dec. 1992-Oct. 1997 (A + B)	$313,[illegible]	[illegible]	[illegible]	$ 92,354
Nov. 1997-Sept. 2003 (A)	$258,369	[illegible]	[illegible]	$ 89,826

EXHIBIT "B"

PENALTY CHARGES FOR EXCEEDING PURCHASED CAPACITY ON A MONTHLY AVERAGE

	Total	Flow	B.O.D.	S.S.
1960 Construction				
Cost	$3,351,911			
Interest	2,136,360			
Hydroscience (64-65)	18,361			
Interest	5,851			
Total	$5,512,483			
Distribution	100%	24.8%	43.5%	31.7%
Annual Amortization (Nov., 1992)	$ 183,749	$ 45,570.00	$ 79,931.00	$ 58,248.00
Design Capacity Factor		22 mg/d	66 M#/d	66.595M#/d
Per Unit Per Day		$ 5.67/mg	$ 3.32/M#	$ 2.39/M#
1966 Construction				
Cost	$3,046,000			
Interest	2,206,000			
Total	$5,252,000			
Distribution	100%	19.0%	47.0%	34.0%
Annual Amortization (Oct., 1997)	$ 175,067	$ 33,263.00	$ 82,281.00	$ 59,523.00
Design Capacity		22 mg/d	66 M#/d	66.595M#/d
Per Unit Per Day		$ 4.14	$ 3.41	$ 2.45
Sub Total 1960 and 1966 Construction				
Per Unit Per Day		$ 9.81/mg	$ 6.73/M#	$ 4.84/M#
1980 Construction				
Cost	$13,650,000			
Interest	16,603,506			
Total	$30,253,506			
Distribution	100%	16.94%	45.32%	37.24%
Annual Amortization (Sept., 2003)	$ 1,512,675	$256,247.00	$693,108	$563,320.00
Design Capacity		27 mg/d	64.080 M#/d	61.81M#/d
Per Unit Per Day		$ 26.00	$ 29.63	$ 24.77
Grand Total - All Construction				
Per Unit Per Day		$ 35.81/mg	$ 36.36/M#	$ 29.81/M#

This penalty is not reduced at 1992, 1997 or 2003 bench marks when Exhibit A capital charges reflect bond issue payoffs and shall remain in effect until termination of this Contrac

MONTHLY PENALTY COMPUTATION

	Flow	B.O.D.	S.S.	Total
Actual Loadings (Daily Average)	_____mg	_____	_____M#	
Less: Purchased Capacity (Paragraph 1)	_____mg	_____	_____M#	
Excess Loadings	_____mg	_____	_____M#	
Total Daily Penalty Rate	X$35.81	X$36.36	X$29.81	
Days in Month	X_____	X_____	X_____	
Total Monthly Contract Penalty Charge	$_____	$_____	$_____	$_____

EXHIBIT "C"

CAPITAL COSTS FOR INCREASED CAPACITY PER CAPACITY UNIT FOR FLOW, B.O.D., AND S.S.

For Fiscal Year Ending June 30:	Flow (mgd)	B.O.D. ([illegible])	S.S. ([illegible])
1984	$35.31	[illegible]	[illegible]
1985	34.91	[illegible]	[illegible]
1986	34.02	[illegible]	[illegible]
1987	33.12	[illegible]	[illegible]
1988	32.23	[illegible]	[illegible]
1989	31.33	[illegible]	[illegible]
1990	30.44	30.31	[illegible]
1991	29.54	30.00	24.55
1992	28.65	29.09	23.85
1993	27.75	28.18	23.20
1994	26.86	27.27	[illegible]
1995	25.96	26.36	[illegible]
1996	25.07	25.45	[illegible]
1997	24.17	24.54	[illegible]
1998	23.23	[illegible]	[illegible]
1999	[illegible]	[illegible]	[illegible]
2000	[illegible]	[illegible]	[illegible]
2001	[illegible]	[illegible]	[illegible]
2002	[illegible]	[illegible]	[illegible]
2003	[illegible]	[illegible]	[illegible]

Assumes 20 year useful life and salvage value of 50%.

WALDORF CORPORATION

To
R.H. VanDierendonck

Date
August 30, 1985

From
Les Spurgeon

Subject
CONTRACTS

Dick, the attached Waste Water Contract with the City of Battle Creek was believed to have been signed during the Champion ownership period. However, the City of Battle Creek still does not have a signed copy of this contract.

All pertinent agreements between the City and St. Regis were agreed to as noted in a copy of W.T. Myers, Jr. letter of 12/14/84. Tom Myers was manager here in Battle Creek for St. Regis.

After Champion took over, legal counsel for Champion on the local scene believed the contract was signed, but also it has apparently not been done.

The City Manager, Gordon Jaeger, is rather anxious to obtain a signed agreement from our Battle Creek Mill. I agreed to try and get one signed for him.

At the present time, we are operating within the discharge parameters of this agreement and I can see no reason this contract can't be signed and submitted to the City as originally planned. I would suggest we change the corporation name from Champion to Waldorf, and the third time has a ring of success tied to it also.

Les Spurgeon

Les Spurgeon

LMS:ih

copy: Dean Wetzel

	MGD	ppm
1	NA	—
2	NA	—
3	NA	—
4	NA	460
5	.7965	—
6	.7965	1610
7	.7690	1050
8	.8955	—
9	.8955	1060
10	.7727	—
11	.7727	800
12	.7727	2010
13	.7727	—
14	.9650	1290
15	.9521	920
16	.9521	830
17	.9521	—
18	.9521	980
19	.8396	1040
20	.8704	760
21	.9063	—
22	.9063	—
23	.8364	—
24	.8364	610
25	.6121	2110
26	.6121	1420
27	.6710	1570
28	.6900	avg. .66
29	.6371	
30	.6900	
31	.6900	

NELSON

THESE ARE THE EFFLUENT FLOWS AND SOLIDS FOR THE MONTH OF JANUARY 1988.

PJC
2-1-88

Reduction ≈ .20 MGD
≈ 140 GPM

TO: PAUL STOFER

10-12-86

FROM: P. CHADDERDON

RE: SEPTEMBER, 1987 EFFLUENT

PAUL,

ATTACHED IS THE DATA SHOWING THE CITY'S AND THE MILL'S EFFLUENT FLOWS AND POUNDS PER DAY.

THE CITY MEASURED 3% LESS FLOW AND 1% LESS SOLIDS THAN THE MILL'S DATA SHOWS.

OUR FLOW METER WAS CHECKED BY FISHER + PORTER ON SEPT 14, 1987 AND FOUND TO BE READING CORRECT.

P.L.C.
10-12-87

COPY: JIM A.
LES S.
RED R.
MIKE M.
MARK S.
NELSON G.
JOHN M.

SEPTEMBER 1987

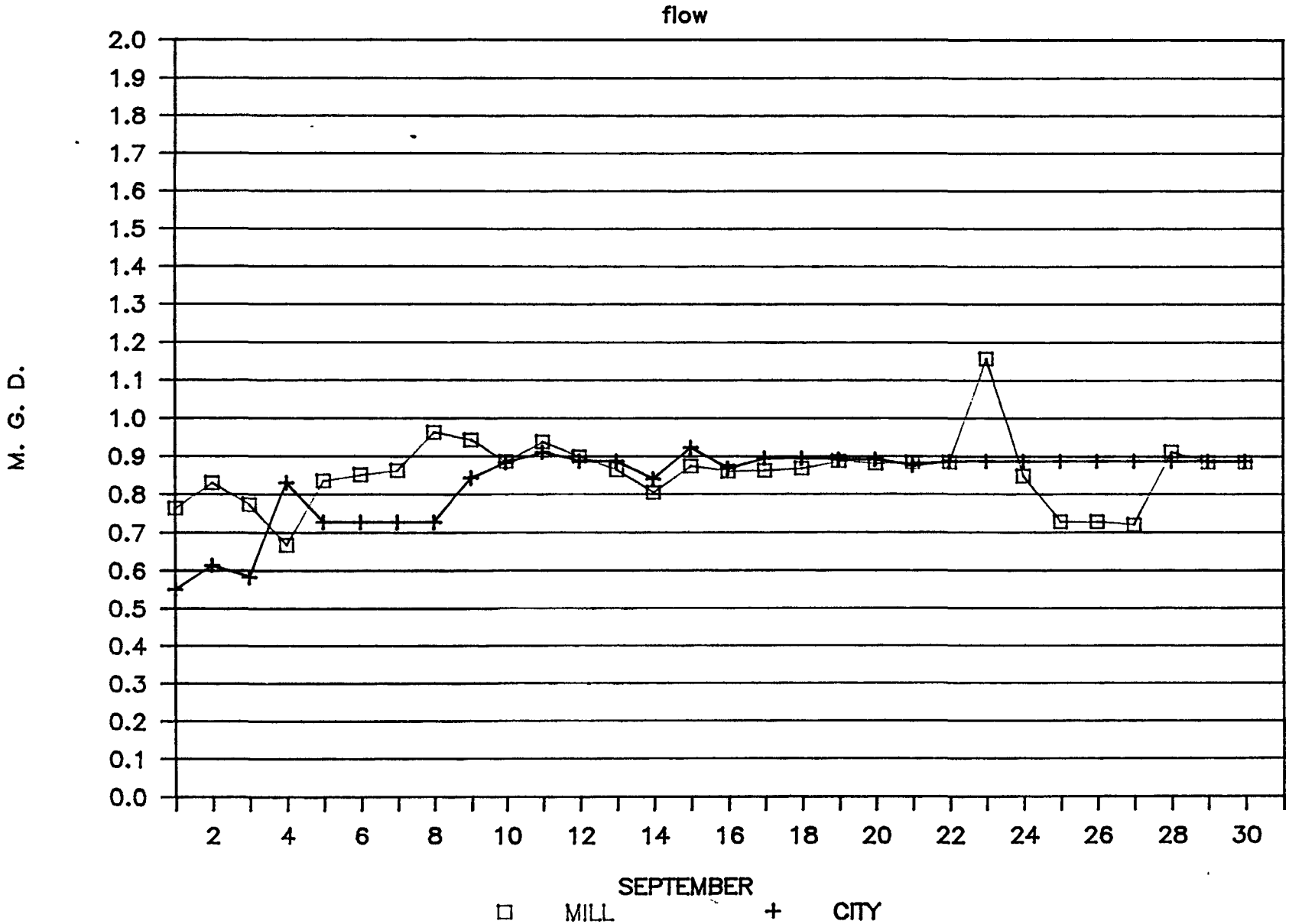
WALDORF TESTS

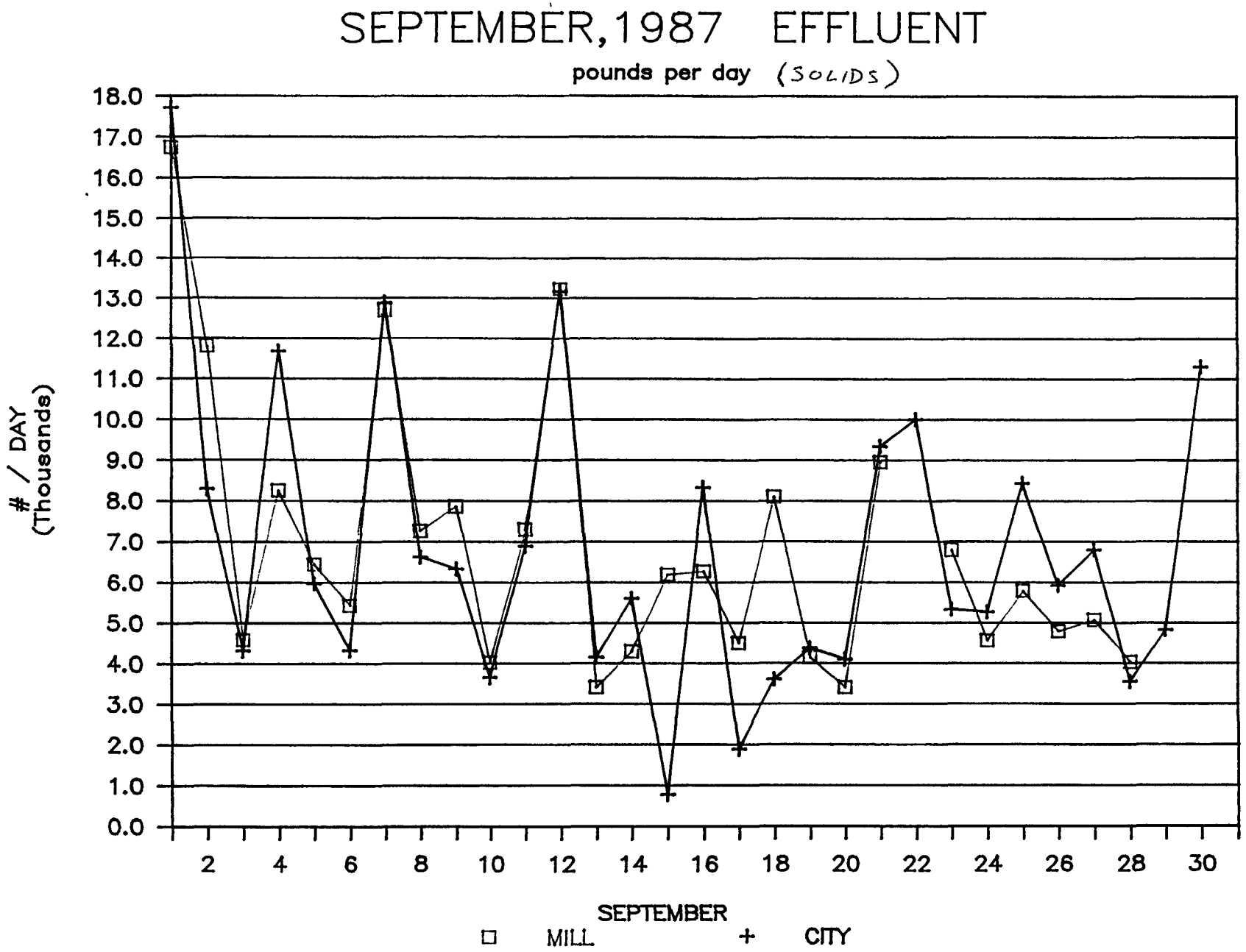
DATE	M G D	SOLIDS ppm	SOLIDS #/D	% ASH	# ASH	MF TONS	GAL / TON
SEPT-01:	0.7639	2630	16756			104.0	7345
SEPT-02:	0.8304	1705	11808	57.0	6731	171.9	4831
SEPT-03:	0.7729	710	4577	21.8	998	246.0	3142
SEPT-04:	0.6670	1485	8261	40.2	3321	228.4	2920
SEPT-05:	0.8360	925	6449	31.8	2051	293.9	2845
SEPT-06:	0.8512	765	5431	39.1	2123	365.3	2330
SEPT-07:	0.8631	1765	12705	48.8	6200	401.1	2152
SEPT-08:	0.9627	905	7266	60.5	4396	386.5	2491
SEPT-09:	0.9429	1000	7864	59.9	4710	367.8	2564
SEPT-10:	0.8860	545	4027	45.2	1820	380.5	2329
SEPT-11:	0.9379	935	7314	51.7	3781	281.9	3327
SEPT-12:	0.8991	1765	13235	64.6	8550	281.4	3195
SEPT-13:	0.8640	475	3423	67.3	2304	343.2	2517
SEPT-14:	0.8050	640	4297	72.0	3094	408.0	1973
SEPT-15:	0.8743	850	6198	65.5	4060	414.1	2111
SEPT-16:	0.8608	875	6282	72.4	4548	444.6	1936
SEPT-17:	0.8629	625	4498	52.8	2375	318.0	2714
SEPT-18:	0.8687	1120	8114	48.7	3952	387.6	2241
SEPT-19:	0.8873	560	4144	62.0	2569	358.0	2478
SEPT-20:	0.8814	465	3418	59.0	2017	366.1	2408
SEPT-21:	0.8843	1215	8961	51.5	4615	410.3	2155
SEPT-22:	0.8843					384.9	2297
SEPT-23:	1.1573	705	6805	49.2	3348	295.8	3912
SEPT-24:	0.8484	645	4564	51.3	2341	299.9	2829
SEPT-25:	0.7280	955	5798	69.2	4012	418.2	1741
SEPT-26:	0.7281	790	4797	53.6	2571	406.5	1791
SEPT-27:	0.7204	845	5077	63.3	3214	412.4	1747
SEPT-28:	0.9118	530	4030	43.8	1765	413.1	2207
SEPT-29:	0.8847					418.5	2114
SEPT-30:	0.8847					402.4	2199
AVG.	0.86	979	6892	54	3518	347	2408

SEPTEMBER
~~AUGUST~~ 1987

DATE	CITY M G D	CITY TESTS SOLIDS ppm	SOLIDS #/D	B. O. D. ppm	B. O. D. #/D
SEPT-01:	0.5503	3860	17715	348	1597
SEPT-02:	0.6138	1620	8293	380	1945
SEPT-03:	0.5820	888	4310	440	2136
SEPT-04:	0.8298	1688	11682	510	3529
SEPT-05:	0.7274	984	5969	530	3215
SEPT-06:	0.7274	712	4319	440	2669
SEPT-07:	0.7274	2124	12885	660	4004
SEPT-08:	0.7274	1092	6625	550	3337
SEPT-09:	0.8431	900	6328	540	3797
SEPT-10:	0.8827	496	3651	450	3313
SEPT-11:	0.9104	908	6894	340	2582
SEPT-12:	0.8867	1780	13163	390	2884
SEPT-13:	0.8867	560	4141	450	3328
SEPT-14:	0.8392	800	5599	510	3569
SEPT-15:	0.9223	100	769	630	4846
SEPT-16:	0.8669	1152	8329	670	4844
SEPT-17:	0.8946	252	1880	530	3954
SEPT-18:	0.8946	484	3611	560	4178
SEPT-19:	0.8906	588	4367	420	3120
SEPT-20:	0.8906	552	4100	480	3565
SEPT-21:	0.8748	1280	9339	630	4596
SEPT-22:	0.8867	1352	9998	608	4496
SEPT-23:	0.8867	720	5324	430	3180
SEPT-24:	0.8867	712	5265	433	3202
SEPT-25:	0.8867	1140	8430	508	3757
SEPT-26:	0.8867	800	5916	530	3919
SEPT-27:	0.8867	920	6803	510	3771
SEPT-28:	0.8867	480	3550	514	3801
SEPT-29:	0.8867	652	4822	501	3705
SEPT-30:	0.8867	1528	11300	584	4319
AVG.	0.83	1037	6846	503	3505

SEPTEMBER ,1987 EFFLUENT




SEPTEMBER,1987 EFFLUENT
pounds per day (SOLIDS)
/ DAY
(Thousands)
18.0
17.0
16.0
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
2
4
6
8
10
12
14
16
18
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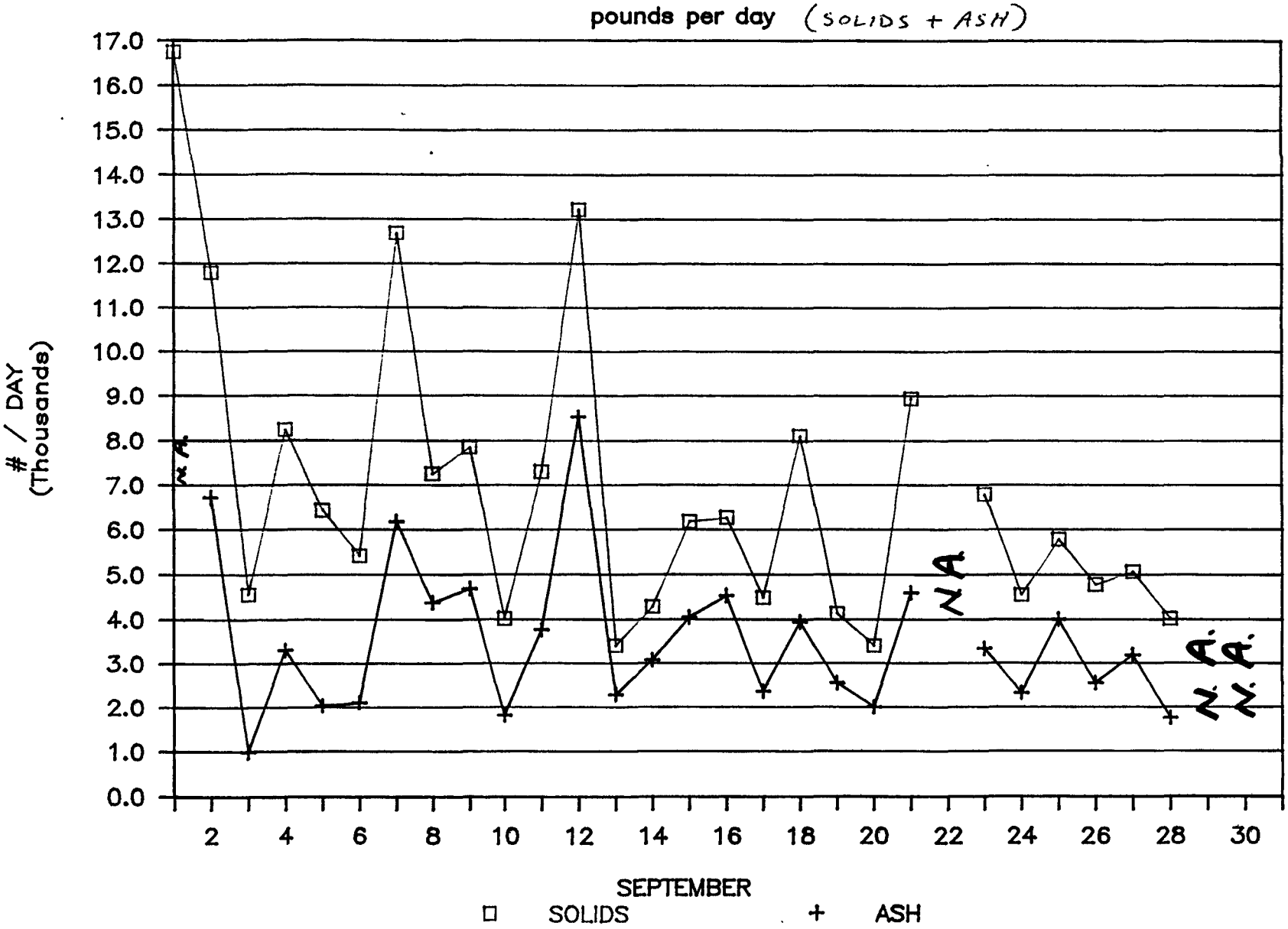
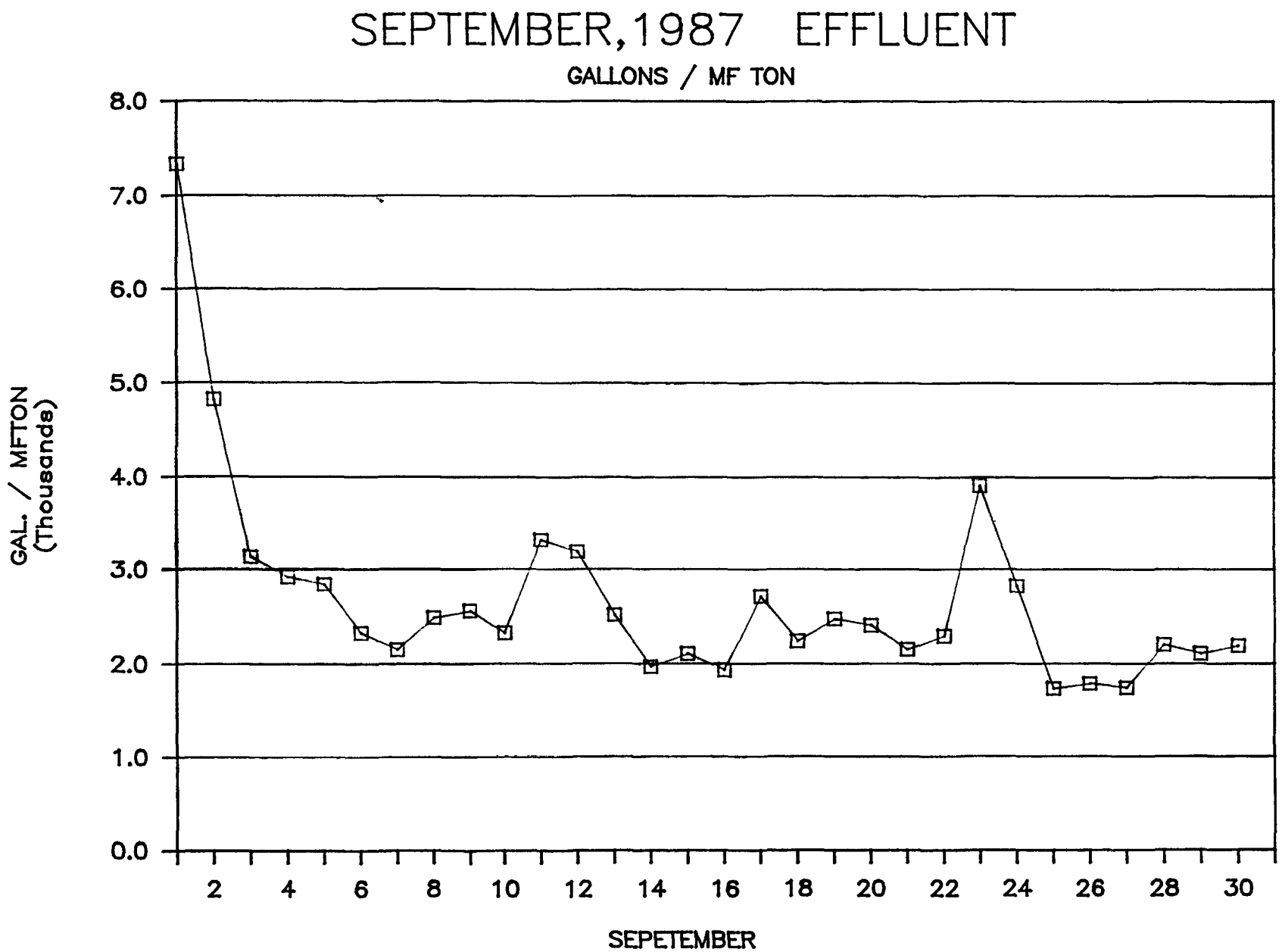
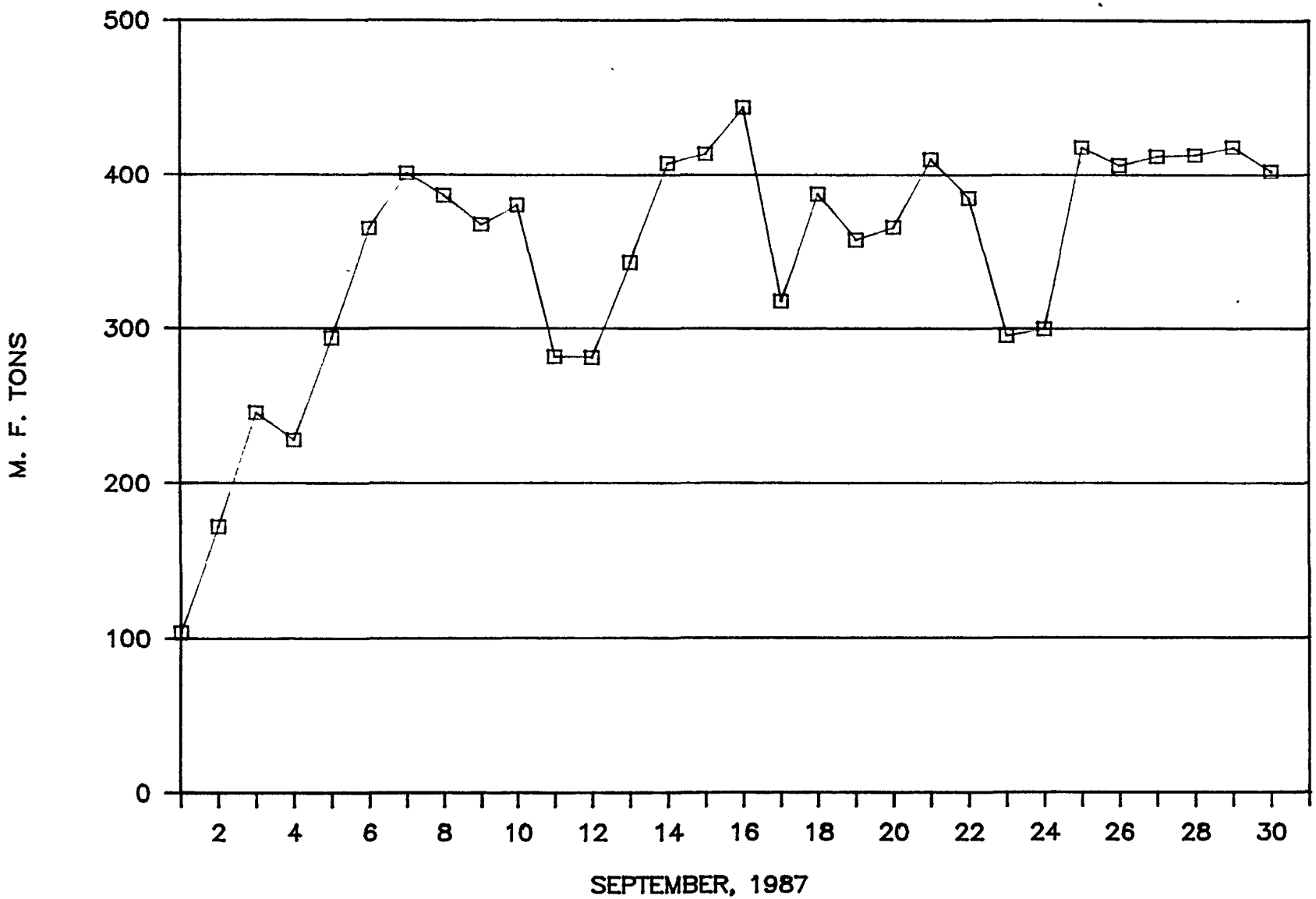
24
26
28
30
SEPTEMBER
MILL
CITY

SEPTEMBER, 1987 EFFLUENT




SEPTEMBER,1987 EFFLUENT
GALLONS / MF TON
GAL. / MFTON
(Thousands)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
SEPETEMBER

SEPTEMBER ,1987 M.F. TONS



PROPOSED WATER RECOVERY PROJECTS

2-20-86
PHS

1. Install a water collection tank and pump at the dry end which discharges to the storm sewer system.

   Water sources:

   a. Rice Barton hydraulic cooling water.
   b. Zinc tank cooling water.
   c. Air Knife blower cooling water.
   d. Air Knife blow-off pan cooling water.

2. Divert 4th press roll cooling water to the felt shower water tank. (proposed by R. Roberts)

3. Convert chlorine eductor system to AES water (complete).

4. Run a separate water line for the refiner seal water so that the basement wash-up hoses can be converted to AES water. (seal water line complete).

5. Revise the sewer system that collects and discharges cooling water to the storm drain system. The existing system has a partial overflow of water into our city's wastewater system.

6. Convert the polymer diluting water at the rotometers to a fairly clean used water source if one can be found.

NALCO

PERSONAL SERVICE REPORT

Plant of: Champion International — Date: 4-10-85
Address: 177 Angell St., Battle Creek, MI 49016 — Plant No.: Angell St.
Attention: Jim Orns
Copy to: Mark Shupton
Paul Stoter
Nalco Copies to: K.M. Davis, G.G. Spitnale, OBGF

Subject: Lamella Operation

The operation of the lamella was reviewed today. Observation of the water quality out of the unit showed excellent water quality during the first part of a run (approximately ½ the total backwash water of the sand filter being backwashed), but water during the final ½ of the run was much higher in turbidity (suspended solids). This is due to the changing solids level in the incoming water to the lamella. At first, the suspended solids level is very high. The alum and polymer are set to handle these high solids. There are large floc particles formed during this period and they settle out rapidly.

During the latter half of a run, the incoming water to the lamella has much lower solids level. There are fewer solid-to-solid contacts and the floc size is much smaller. The floc does not settle as completely, so more solids are present in the lamella effluent.

I checked the alum and Nalco 7763 dosages and they appear to be approximately 100ppm and 10ppm respectively based on the pump settings. These dosages should be appropriate for the majority of waters to be treated.

Improving water quality through the entire lamella run could only be achieved by making the incoming water more consistent in its solids content. Adjusting the level controls on the backwash water holding tank might be one method to achieve this.

The Nalco 7763 solution ~~pump and~~ tank is oversized resulting in the polymer setting too long before it is used. I recommend making up only ½ of a tank at a time. Use 2 gallons of Nalco 7763

Copy left with Jim — Signed Greg Spitnale — Title Acct. Mgr. — District W09

NALCO CHEMICAL COMPANY

NALCO

PERSONAL SERVICE REPORT

Plant of Champion International Date 4-10-85
Address (See Page One) Plant No. Angell St
Attention:
Copy to:

Nalco Copies to:

per 200 gallons of water which is one-half of tank capacity. Mix this for ½ hour after adding the polymer to the tank. The date and time when the tank is ~~filled~~ made up should be noted on a log sheet.

Copy left with Signed Title District

NALCO CHEMICAL COMPANY

FORM 99-10-01

ST REGIS

Harry

INTER-OFFICE CORRESPONDENCE

FROM

ROLAND A. JOHNSON

LOCATION BATTLE CREEK, MICH.

DATE OCTOBER 6, 1983

TO

ANGEL SUPERVISION

cc: WTM
TAT
JGMc
MSS
CRR
JDH
DWD

SUBJECT: EFFLUENT COSTS

You should be aware that our effluent rates were increased last Saturday, October 1st. The new rate ($1.80/1000G) applied to our typical daily effluent flow (1,500,000 GPD) pegs our daily costs at $2700/day. Water usage in the mill must be watched closely. Fresh water entering our mill system results in effluent discharged from the west saveall. As a result, hoses must not be left running, fresh water make-up valves must be checked periodically, and fresh water use at pulpers must be minimized.

There are three capital projects planned that will reduce daily effluent to about 700,000 GPD by this time next year. In the mean time, everyone must be made aware of the need to restrict water use in the mill.

Please discuss this topic with your crews. I will welcome any ideas or suggestions that may result.

Ro

Roland A. Johnson

RAJ/jef

STATUS OF ENVIRONMENTAL COMPLIANCE

AIR

The boilers at Angell were converted from coal to gas and oil. As a result of this change, the Michigan DNR has given their tacit approval of the air quality. No tests have been run on the emissions from the boilers. Corporate Engineering has indicated that no permits are required to operate the boilers using the present fuels.

WATER

The Angell Mill discharges non-contact cooling water and the backwash from the sand filters to the Kalamazoo River through two outfalls. These outfalls are licensed under NPDES Permit M10029386 which expires February 28, 1988. The mill has been in compliance with the conditions of this permit as noted in the Technical Director's memo to the DNR dated May 3, 1984 with the exception of submitting some additional water analysis. This analysis is underway and the results will be submitted in the near future.

All process effluent is sent to the City of Battle Creek wastewater treatment plant. This plant is in the process of being upgraded and expanded and there is more than enough capacity for industrial expansion in the Battle Creek area. Until the end of March 1986, the Angell Mill has the contractual right to utilize the following capacities of the plant:

Flow	2.5 million gallons/day
Solids	5000 lbs/day
BOD	3250 lbs/day

After March 1986, the capacities reserved for the Angell Mill will be as follows:

Flow	5.0 million gallons/day
Solids	10,000 lbs/day
BOD	6,500 lbs/day

Because the mill does not require such capacities and their exclusive use costs about $144,000/year, negotiations are currently underway with the city to reduce the 1986 capacities by the amounts required by the Fountain street mill formerly owned by St. Regis.

Considerable efforts and capital have been expended by the mill personnel to reduce the effluent discharges and recycle process water. The progress achieved to date is shown in the attached figures. Average loadings achieved by the mill at this time are:

Flow	1.2 million gallons/day
Solids	8,000 lbs/day
BOD	3,200 lbs/day

The industrial contract rates for use of the City's treatment plant were implemented in September 1983 and are summarized below:

Fixed Capital Charge	$ 2,336.50/mo.
New Capital Charge	3,363.50/mo.
Monitoring	250/mo
Loading charges:	
Flows	$ .77/ccf
BOD greater than 300 ppm	.05/lb.
Solids " " "	.07/lb.
Penalty Charges for exceeding	
Capital allocations:	
Flow	$35.81
BOD	36.36/1000 lbs/day
Solids	29.81/1000 lbs/day

Additional reductions in effluent will require considerable capital expenditures. Some kind of holding system must be installed to provide for storage during upsets in the operation.

PERMIT TRANSFER

As with the Fountain Mill of St. Regis sold to Field Container, no problems are expected in transferring the permit to a new owner.

SOLID WASTE

The sludge from the fiber cleaning systems and other wastes from the mill are hauled to landfill by a local company by the name of Waste Management. The mill generates about 3840 cubic yards of material annually and the present disposal costs are $30,000/year. The installation of a sludge dewatering system will reduce the solid waste costs considerably.

PAPER COMPANY

79 E Fountain Street
Battle Creek, Mich 49016 963-5511

May 3, 1984

Jeff Braunscheidel
Michigan DNR
301 East Glick Highway
Jackson State Office
Jackson, Michigan 49201

Dear Jeff:

We talked by phone of several items concerning the NPDES permit (no. 0029386), for the St. Regis Angel Mill. This is a follow up of that conversation.

1) There are two persons currently certified by the Water Resource Commission for operation of a waste treatment facility at Angel Mill. The certification is in the classification of A-2f and B-2a. Persons with this certification are:

Duane Dohse, no. 2587

Jon Hamelink, no. 2604

Both of these were issued earlier this year. At this time there is one additional person to take the State test for similiar certification.

2) Special Condition #4: This concerns the concentration of additives in the discharge stream and the limits. These are:

ADDITIVES	DAILY MAXIMUM mg/l
Nalco 19	2.6
Nalco 353	.26
Nalco 356	26.0
Nalco 7220	26.0

Actual water analysis have shown the concentration of the materials to be under the limits for products 19, 353 and 356. Results were reported as less then 2.5, less then 0.1, and less then 1.0 ppm respectively. Mass balance calculation may be questionable due to product transformation. Therefore, additional water analysis is underway on the effluent stream. This can be reported, Jeff, when we receive it.

The information on Transport-Plus, or Nalco 7200 can be passed on as it is made available to us. The attached information from the supplier is the extent of what is readily available, with the exception of toxicity data that was sent in February. The actual product formulation is proprietory. If additional information is required, you should contact Nalco directly.

3) Special Condition #6: A short term waste characterization study on TRC. The study will soon be redone with use of the spectrophotometer method. Thanks for the reference names which can be used if we need some additional input.

4) Section 10, Part 11-A, provisions at the plant dealing with power loss. In the event of a power outage, flows will stop. Water cannot be pumped from the river for clarification, sand filters cannot be backflushed, and the backflush cannot be pumped to the lamella. Gravity discharge would take the route of the sanitary sewer.

It is hoped that the above will meet the requirements that we have discussed.

Jon D Hamelink

JDH/jef

Attached: Information on 7200

cc: T. Myers
R. Cashen

Power Generation Chemicals | **Product Bulletin**

B-7200

NALCO

TRANSPORT-PLUS™ 7200

BOILER FEEDWATER TREATMENT

Product Benefits.

- Essentially noncorrosive to boiler internals
- Helps inhibit scale formation and resultant tube failures
- Can reduce deposits, resulting in more efficient heat transfer, energy savings, and fewer acid cleanings
- Effective antifoam can reduce foaming in the boiler to ensure excellent steam quality
- Available in bulk quantities for easy application

Principal Uses

TRANSPORT-PLUS 7200 is a liquid all-organic noncorrosive boiler feedwater treatment used for maximum scale inhibition and internal metal passivation. Suggested maximum use pressure is 1500 psi.

General Description

TRANSPORT-PLUS 7200 is a specially formulated blend of synthetic organic polymers and antifoam in liquid form.

Color	Light yellow
Odor	Slightly ammoniacal
Density (@ 77°F)	9.7 lb/gal
Viscosity (@ 77°F)	55 cp
pH (Neat)	10.2
pH (1% Solution)	8.8
Freeze Point	26°F
Freeze-Thaw Recovery	Complete
Flash Point (PMCC)	None

Handling

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes, and clothing. Avoid prolonged or repeated breathing of vapors. Do not take internally. In case of contact, wash skin with soap and water; for eyes, immediately flush with large amounts of water for at least 15 minutes and get medical attention. Remove contaminated clothing and wash before reuse. Keep out of reach of children.

Storage

TRANSPORT-PLUS 7200 should be stored in stainless steel, mild steel, polyethylene, or fiberglass tanks. The recommended maximum storage temperature is 120°F; recommended in-plant storage limit is six months.

Shipping

TRANSPORT-PLUS 7200 is shipped from manufacturing locations and regional distribution centers in 55-gallon, nonreturnable steel drums. It is also shipped in bulk quantities from selected manufacturing locations.

(Continued on Reverse Side)

NALCO CHEMICAL COMPANY
WATER TREATMENT CHEMICALS
2901 BUTTERFIELD ROAD • OAK BROOK, ILLINOIS 60521

SUBSIDIARIES IN ARGENTINA AUSTRIA BRAZIL CHILE COLOMBIA ECUADOR FINLAND FRANCE HOLLAND HONG KONG ITALY PHILIPPINES SAUDI ARABIA SPAIN SWEDEN VENEZUELA AND WEST GERMANY • AFFILIATES IN AUSTRALIA CANADA JAPAN MEXICO SINGAPORE SOUTH AFRICA TAIWAN UNITED KINGDOM AND THE UNITED STATES

Registered Trademarks of Nalco Chemical Company

NALCO

Dosage

TRANSPORT-PLUS 7200 dosage will vary as a function of feedwater total acid hardness. Your Nalco representative will recommend the proper dosage needed to help ensure maximum program performance.

Feeding

TRANSPORT-PLUS 7200 should be fed continuously into the feedwater line. Any interruptions in feed will result in scale formation in the boiler and possible tube failure.

TRANSPORT-PLUS 7200 may be fed neat or in any convenient dilution. If diluted, cooled condensate or softened make-up is recommended as a diluent. If feedwater is used for attemperation, TRANSPORT-PLUS 7200 should be fed downstream of the attemperation water take-off. TRANSPORT-PLUS 7200 cannot be mixed with catalyzed sulfite or filming inhibitors.

Dissolved oxygen should be less than 100 ppb at the point of chemical injection for maximum performance. Deaerated feedwater containing an oxygen scavenger residual is preferred. A stainless steel quill (available from Nalco) that extends beyond the internal surface of the feedwater line should be used.

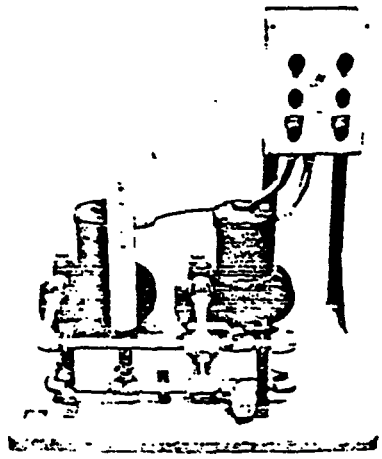
The FEEDPAC® Series B, Model FB1-110 or FB1-210, is recommended for feeding TRANSPORT-PLUS 7200. See Figure 1.

Materials of Construction

Compatible materials of construction include 304 SS, 316 SS, mild steel, nickel, fiberglass (DK 411), Teflon, natural rubber, polyethylene, neoprene, polyvinyl chloride, Viton, Buna-N, polypropylene, and polyurethane.

Materials that *must not* be used are aluminum, copper, brass, copper alloys, and Hypalon.

Figure 1 — *Nalco FEEDPAC Series B bulk chemical feed system*



Remarks

TRANSPORT-PLUS 7200 *cannot* be used in FDA or USDA regulated plants.

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

RONALD O SKOOG, Director

Reply To:

4th Floor
State Office Building
301 E. Louis Glick Hwy.
Jackson, MI 49201

April 24, 1984

To Hamelink

Mr. Tom Myers, Resident Manager
St. Regis Corporation
177 Angell Street
Battle Creek, MI 49016

Dear Mr. Myers:

Re: NPDES Permit MI0029386 (Angel Mill)

In my phone conversation of March 1, 1984 with Mr. Hamelink, I mentioned several items that were to be cleared up concerning operations at the Angel Mill. We have not yet received the information I requested.

Listed below are our concerns:

1. The wastewater treatment facilities at this plant are currently classified as A2F-discharge measuring and monitoring, and B2A-chemical clarification. You are legally required to provide an operator certified in each of these classifications. Verify that your operator is properly certified.

2. In Mr. Hamelink's letter of February 20, 1984, he refers to Special Condition 4 of the permit and mentions that he used mass balance calculations to determine compliance with additive discharge limits. We need to see the data used and how the calculations were performed to verify this.

   The replacing of Nalco 7220 and 7213 by Nalco 7200 was also mentioned. It is the permittee's responsibility to supply product information before changes occur. The required information includes all active ingredients, inert materials and cross-reaction products of the constituents, mammalian or aquatic toxicological data or references which are available, and information on the rate of degradation of the product. The bulletin on Nalco 7200 that we were sent did not contain this information.

3. Special Condition 6, referred to in the same letter, deals with a short-term waste characterization study for total residual chlorine (TRC). Since the colorimetric procedure that was used is not currently acceptable, this study will have to be repeated when you begin using the spectrophotometric method that Mr. Hamelink indicated will be in operation soon. If Mr. Hamelink would like some guidance on the procedure for this type of chlorine analysis, he may contact Mr. Howard Selover or Mr. Dan Holmquist of our Community Assistance Division at (517) 373-0397.

4. Section 10, Part II-A of your NPDES permit refers to provisions at the plant dealing with power loss. If there is a power outage, what effect will this have on the wastewater treatment facilities? What steps will be taken to prevent untreated wastewater from being discharged in violation of the permit effluent limits?

Provide us with a written response to these four concerns by May 18, 1984. Feel free to contact me if you have any questions or comments.

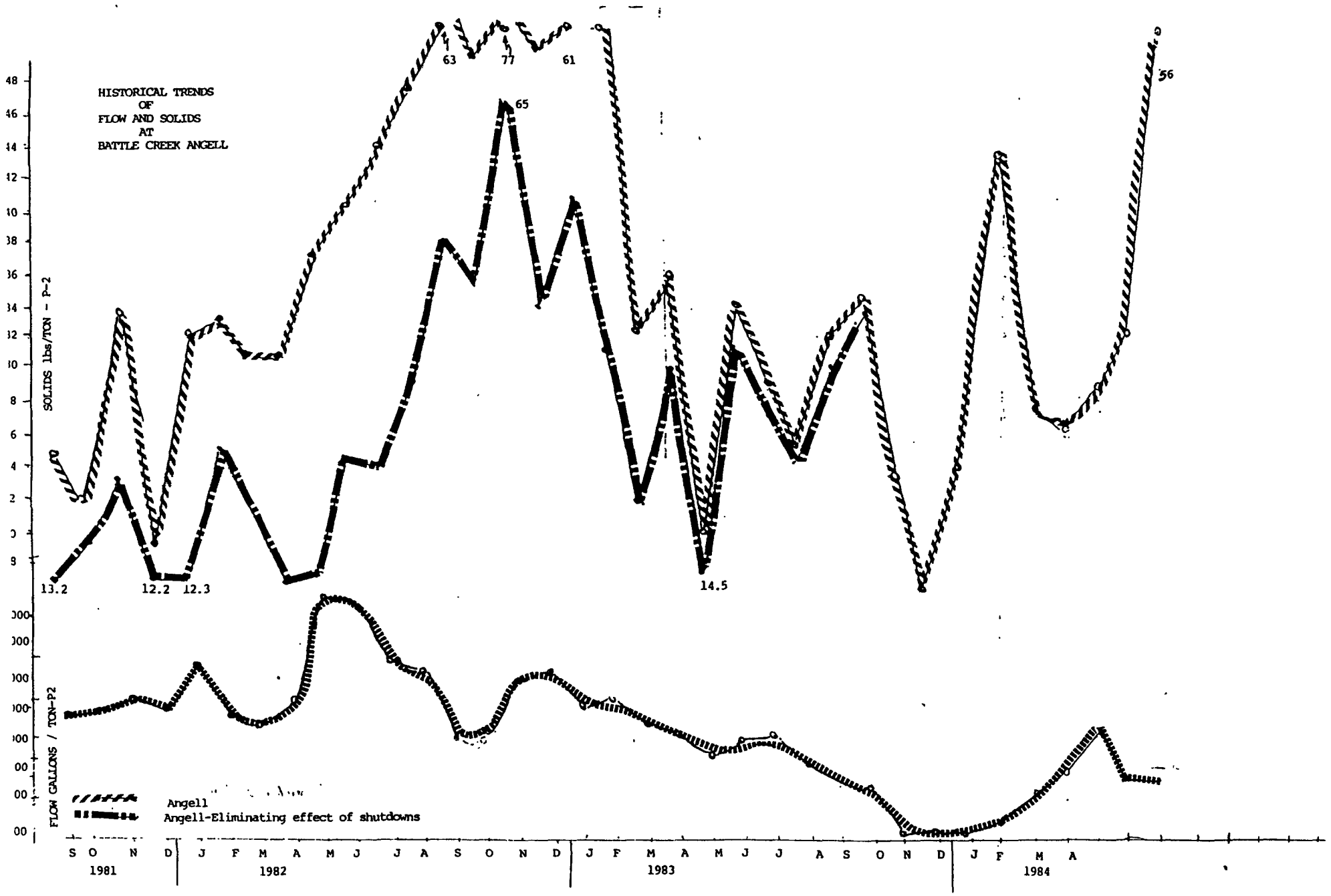
Sincerely,

Jeffrey J. Braunscheidel

Jeffrey J. Braunscheidel
Compliance Section #2
Surface Water Quality Division
(517) 788-9598

JJB:lc

cc: J. D. Hamelink, Technical Supt.


HISTORICAL TRENDS
OF
FLOW AND SOLIDS
AT
BATTLE CREEK ANGELL
SOLIDS lbs/TON - P-2
FLOW GALLONS / TON-P2
13.2
12.2
12.3
63
77
61
65
14.5
56
Angell
Angell-Eliminating effect of shutdowns
S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A
1981
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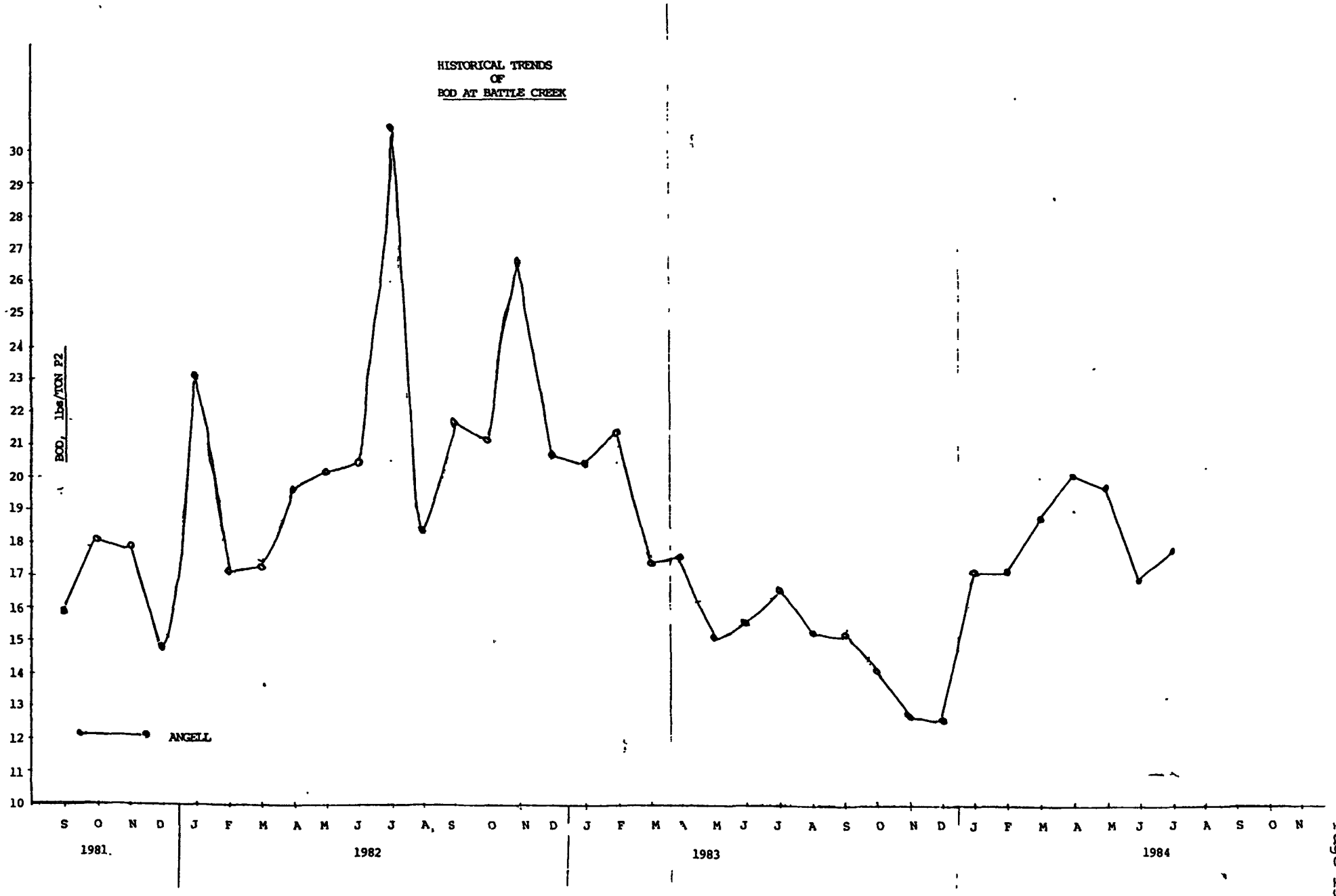
1983
1984


HISTORICAL TRENDS
OF
BOD AT BATTLE CREEK
BOD, lbs/TON P2
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29
28
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26
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11
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ANGELL
S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N
1981
1982
1983
1984

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: [illegible]

[illegible]

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	[illegible]	01	01	TO	88	01	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

[illegible]

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
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	PERMIT REQUIREMENT	******	******	**** ****	******	[illegible]	[illegible]			[illegible]	[illegible]
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[illegible]	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]		******	******	******	**** ****		DAILY	
[illegible]	SAMPLE MEASUREMENT	1	1		******	******	******		0		
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	SAMPLE MEASUREMENT										
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	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 *Penalties under these statutes may include fines up to $10000 and or maximum imprisonment of between 6 months and 3 years*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY
			616	963-5571	88	08	09

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
[illegible]	001

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	07	01	TO	88	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

[illegible]

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
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	SAMPLE MEASUREMENT										
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	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SHURGEON GENERAL MANAGER TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE 616	NUMBER 963-5571	YEAR 88	MO 08	DAY 09

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2-16) PERMIT NUMBER: [illegible]

(17-19) DISCHARGE NUMBER: [illegible]

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	[illegible]	07	01	TO	88	07	31
	(20 21)	(22-23)	(24-25)		(26 27)	(28 29)	(30 31)

NOTE: Read instructions before completing this form.

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

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 3 years*)		616	763-5571	88	08	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER: MI 0029386

DISCHARGE NUMBER: 001 A

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	07	01	TO	88	07	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: Les Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED): LES SPURGEON, GENERAL MANAGER

DAY	PAR #	50050	00400	00011	91110					
	PARA MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	7.9	90	1					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11										
12										
13										
14		DOWN								
15										
16										
17		0.12								
18		0.12								
19		0.12								
20		0.12	7.9	89	1					
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12	8.0	91	1					
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		90	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	07	01	TO	88	07	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON, GENERAL MANAGER (TYPED OR PRINTED)

	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.012606	8	0.8						
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20		0.012852	4	0.4						
21										
22										
23										
24										
25										
26										
27										
28		0.008034	7	0.5						
29										
30										
31										
	TOTAL									

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	07	01	TO	88	07	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	22	14.7						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11										
12										
13										
14										
15		DOWN								
16										
17		0.08								
18		0.08								
19		0.08								
20		0.08	15	10.0						
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08								
28		0.08	21	14.0						
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	[illegible]	[illegible]						

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: [illegible]

[illegible]

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	06	01	TO	88	06	30
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

[illegible]

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	*****	*****		*****	88	90		0		
	PERMIT REQUIREMENT	*****	*****	***	*****	[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	*****	*****		7.9	*****	8.0		0		
	PERMIT REQUIREMENT	*****	*****	***	[illegible]	*****	[illegible]			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	0.12	0.12		*****	*****	*****		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]		*****	*****	*****	***		[illegible]	
[illegible]	SAMPLE MEASUREMENT	1	1		*****	*****	*****		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	*****	*****	*****	***		[illegible]	[illegible]
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	416 (AREA CODE)	943-5511 (NUMBER)	88 (YEAR)	07 (MO)	07 (DAY)
TYPED OR PRINTED							

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2-16) PERMIT NUMBER: [illegible]

(17-19) DISCHARGE NUMBER: 001 [illegible]

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	06	01	TO	88	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible]	SAMPLE MEASUREMENT	0.7	1.0		******	5	7		0		
[illegible]	PERMIT REQUIREMENT	2.0	7.0		******	30	100			REQUIRED	
[illegible]	SAMPLE MEASUREMENT	0.016019	0.017401		******	******	******		0		
[illegible]	PERMIT REQUIREMENT	REPORT	REPORT		******	******	******	****		REQUIRED	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
STAFFING MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
AREA CODE	NUMBER	YEAR	MO	DAY
616	963-5511	88	07	07

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDFS*)

DISCHARGE MONITORING REPORT (*DMR*)

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

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

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

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	10.0	12.7		******	15	19		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	******	******	**** ****		[illegible]	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LFS SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	963-5571 NUMBER	88 YEAR	07 MO	07 DAY
TYPED OR PRINTED							

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386 — PERMIT NUMBER

001 A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	06	01	TO	88	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARA MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12								
07		0.12	7.9	86	1					
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12	8.0	88	1					
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12	8.0	87	1					
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12	8.0	90	1					
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		88	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	06	01	TO	88	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06										
07		0.013779	6	0.7						
08										
09										
10										
11										
12										
13										
14										
15		0.017401	3	0.4						
16										
17										
18										
19										
20										
21		0.015992	5	0.7						
22										
23										
24										
25										
26										
27										
28		0.016902	7	1.0						
29										
30										
31										
	TOTAL									
	AVERAGE	0.016019	5	0.7						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	06	01	TO	88	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF those individuals IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT MGD	00530 SOLIDS - SUSPENDED MG/L	85002 SOLIDS - SUSPENDED LBS./DAY						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX 49.5						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08								
07		0.08	12	8.0						
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08	16	10.7						
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08	13	8.7						
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08								
28		0.08	19	12.7						
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	15	10.0						

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: [illegible]

[illegible]

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	06	[illegible]	TO	[illegible]	[illegible]	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

[illegible]

NOTE. Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	******	******		******	82	85		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	******	******		7.8	******	7.9		0		
	PERMIT REQUIREMENT	******	******	**** ****	[illegible]	******	[illegible]			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]		******	******	******	**** ****		[illegible]	
[illegible]	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	******	******	**** ****		[illegible]	[illegible]
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON SERVICE MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 *Penalties under these statutes may include fines up to $10 [illegible] and/or maximum imprisonment of between 6 months and [illegible] years*	[illegible]	616	965-5371	88	06	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS [illegible]

[illegible]

[illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

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

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	02	01	TO	88	02	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

NOTE. Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	0.7	1.1		******	7	10		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]	SAMPLE MEASUREMENT	0.012210	0.012755		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	******	******	*****		[illegible]	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years*)		TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER		AREA CODE	NUMBER	YEAR	MO	DAY
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963-5571	88	06	10

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDFS*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: [illegible]

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	[illegible]	05	01	TO	[illegible]	[illegible]	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

NOTE Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	13.2	15.3		******	20	23		0		
	PERMIT REQUIREMENT	33.0	42.3		******	20	30			[illegible]	
[illegible]	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]		******	******	******	*****		[illegible]	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 3 years*)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 (AREA CODE)	963-5571 (NUMBER)	88 (YEAR)	06 (MO)	10 (DAY)
TYPED OR PRINTED							

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	05	01	TO	88	05	31

THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARA MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12	7.9	79	1					
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12	7.8	82	1					
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12			1					
17		0.12	7.9	83						
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12	7.9	85	1					
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		82						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386	001 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	05	01	TO	88	05	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	NAME/TITLE PRINCIPAL EXECUTIVE OFFICER TYPED OR PRINTED
[signature]	LES SPURGEON GENERAL MANAGER

DAY	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05		0.011340	4	0.4						
06										
07										
08										
09										
10										
11		0.012701	10	1.1						
12										
13										
14										
15										
16										
17		0.012043	7	0.7						
18										
19										
20										
21										
22										
23										
24										
25										
26		0.012255	6	0.6						
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.012210	7	0.7						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	05	01	TO	88	05	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS – SUSPENDED	SOLIDS – SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	22	14.7						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08	15	10.0						
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08	19	12.7						
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08	23	15.3						
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL		79	52.7						
	AVERAGE	0.08	20	13.2						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	04	01	TO	88	04	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: L. Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED): LES SPURGEON, GENERAL MANAGER

DAY	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	8.1	68	1					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12	8.0	69	1					
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12	8.0	74	1					
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	7.9	76	1					
28		0.12								
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		72	1					

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016
FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001B — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	04	01	TO	88	04	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS-SUSPENDED	85002 SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.013086	7	0.8						
07										
08										
09										
10										
11										
12		0.010671	4	0.4						
13										
14										
15										
16										
17										
18										
19		0.013942	9	1.0						
20										
21										
22										
23										
24										
25										
26										
27		0.015513	10	1.3						
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.013303	8	0.9						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	04	01	TO	88	04	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	14	9.3						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08	25	16.7						
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08	21	14.0						
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	18	12.0						
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	20	13.0						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	03	01	TO	88	03	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HERE IN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARA MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12								
07		0.12								
08		0.12	7.7	62	1					
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12	7.8	66	1					
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12	7.8	67	1					
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12								
29		0.12	7.9	62	1					
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		64	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	03	01	TO	88	03	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties include these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06										
07										
08		0.014807	3	0.4						
09										
10										
11										
12										
13										
14										
15										
16		0.008847	7	0.5						
17										
18										
19										
20										
21										
22										
23		0.009894	6	0.5						
24										
25										
26										
27										
28										
29		0.014472	10	1.2						
30										
31										
	TOTAL									

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	03	01	TO	88	03	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08								
07		0.08								
08		0.08	26	17.3						
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08	19	12.7						
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08	17	11.3						
24		0.08								
25		0.08								
26		0.08								
27		0.08								
28		0.08								
29		0.08	22	14.7						
30		0.08								
31		0.08								
	TOTAL									

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

NAME [illegible]

ADDRESS [illegible]

FACILITY [illegible]

LOCATION [illegible]

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: 001 A

[illegible]

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	02	01	TO	88	02	29
	(20 21)	(22 23)	(24-25)		(26 27)	(28 29)	(30 31)

[illegible]

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	******	******		******	61	64		0		
[illegible]	PERMIT REQUIREMENT	******	******	****	******	REPORT	REPORT			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	******	******		7.8	******	7.9		0		
[illegible]	PERMIT REQUIREMENT	******	******	****	6.0	******	9.0			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	0.12	0.12		******	******	******				
[illegible]	PERMIT REQUIREMENT	REPORT	REPORT		******	******	******	****		DAILY	
[illegible]	SAMPLE MEASUREMENT	1	1		******	******	******				
[illegible]	PERMIT REQUIREMENT	REPORT	REPORT	[illegible]	******	******	******	****		DAILY	[illegible]
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SHURGEON -ENVIRONMENTAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION NCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up t $10 000 and r maximum imprisonment of between 6 months and 5 years*)	[illegible]	616	963-5511	88	03	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: 001

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	02	01	TO	88	02	29
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	0.7	1.1		******	5	7		0		
[illegible]	PERMIT REQUIREMENT	5.0 30DA AVG	10.7 DAILY MX	MGD	******	30 30DA AVG	100 DAILY MX	mg/L		MONTHLY	GRAB
[illegible]	SAMPLE MEASUREMENT	0.016747	0.019036		******	******	******		0		
[illegible]	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		MONTHLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION NCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment (between 6 months and 5 years)*)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 616, NUMBER 963-5571

DATE: YEAR 88, MO 03, DAY 09

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

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

NAME [illegible]

ADDRESS [illegible]

[illegible]

[illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

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

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

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	14.7	18.7		******	22	28		1		
[illegible]	PERMIT REQUIREMENT	33.0 [illegible]	49.5 [illegible]	[illegible]	******	20 [illegible]	30 [illegible]	[illegible]		[illegible]	
[illegible]	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
[illegible]	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	******	******	**** ****		[illegible]	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HERFIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)		616	963-5511	88	03	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	02	01	TO	88	02	29

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12	7.9	58	1					
04		0.12								
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12	7.8	59	1					
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12	7.8	63	1					
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12	7.9	64	1					
25		0.12								
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30										
31										
	TOTAL									
	AVERAGE	0.12		61						

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

NAME WALDORF CORP.

ADDRESS 172 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	02	01	TO	88	02	29

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT MGD	00530 SOLIDS-SUSPENDED AVE. <30/MAX 100 MG/L	85002 SOLIDS-SUSPENDED AVE. <5.0/MAX 16.7 LBS./DAY						
01										
02										
03		0.015123	3	0.4						
04										
05										
06										
07										
08										
09										
10		0.016101	5	0.7						
11										
12										
13										
14										
15										
16		0.016676	5	0.7						
17										
18										
19										
20										
21										
22										
23										
24		0.019036	7	1.1						
25										
26										
27										
28										
29										
30										
31										
	TOTAL									

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	02	01	TO	88	02	29

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08	21	14.0						
04		0.08								
05		0.08								
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08	16	10.7						
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08	23	15.3						
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08	28	18.7						
25		0.08								
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30										
31										
	TOTAL									

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: 001 A

[illegible]

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	[illegible]	01	01	TO	88	01	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

[illegible]

NOTE Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	******	******		******	54	56		0		
	PERMIT REQUIREMENT	******	******	****	******	[illegible]	[illegible]			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	******	******		7.8	******	8.1		0		
	PERMIT REQUIREMENT	******	******	****	0.0 [illegible]	******	9.0 [illegible]			[illegible]	[illegible]
[illegible]	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]		******	******	******	****		DAILY	
[illegible]	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	******	******	****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fine up to $10000 and/or maximum imprisonment of between 6 months and 5 years*)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963-5511	88	01	10
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

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

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

(2-16) PERMIT NUMBER: [illegible]

(17-19) DISCHARGE NUMBER: 001

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	01	01	TO	88	01	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible]	SAMPLE MEASUREMENT	1.3	1.9		******	8	11		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	******	30 30DA AVG	100 DAILY MX	MG/L		REQUIRED	
[illegible]	SAMPLE MEASUREMENT	0.018944	0.022331		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		REQUIRED	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 616, NUMBER 963-5571

DATE: YEAR 88, MO 01, DAY 10

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: 001 C

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	01	01	TO	88	01	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	13.5	17.3		******	20	26		0		
	PERMIT REQUIREMENT	33.0	49.0		******	26	33			[illegible]	
[illegible]	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT	REPORT		******	******	******	****		[illegible]	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

ELS SPURGEON

PLANT MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
616	963-5571	88	01	10
AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	01	01	TO	88	01	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 a day and maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00400 pH	00011 TEMP. WATER	91110 OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	8.1	52	1					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12	8.0	53	1					
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12	8.0	56	1					
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	7.8	55	1					
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		54						

FR 1 1 86

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	01	01	TO	88	01	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and a maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. < 5.0/MAX 16.7						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.021189	11	1.9						
07										
08										
09										
10										
11										
12		0.022331	8	1.5						
13										
14										
15										
16										
17										
18										
19		0.019722	7	1.2						
20										
21										
22										
23										
24										
25										
26										
27		0.012532	5	0.5						
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.018944	8	1.3						

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

NAME WALDORF CORP

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	01	01	TO	88	01	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 13 (Penalties under these statutes may include fines up to $10,000 and a maximum imprisonment between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/max 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	26	17.3						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08	19	12.7						
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08	14	9.3						
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	22	14.7						
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	20	13.5						

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

NAME: FALCON CORP

ADDRESS: 177 ARCHER STREET
ATTEN PAUL STORLI
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

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

(2-16) 610029380 — PERMIT NUMBER

(17-19) 001 A — DISCHARGE NUMBER

F - FINAL
COOLGDUIL.BLDWN TO KALFRZOO

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

MINOR (SUBR JN)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	5	52		0		
	PERMIT REQUIREMENT	******	******	***** *****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.9	******	8.0		0		
	PERMIT REQUIREMENT	******	******	***** *****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	***** *****		DAILY	
OUTFALL OBSERVATION, VISUAL,Y/N RESPONSE 84130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	***** *****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (*Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.*)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 616 — NUMBER 963-5571

DATE: YEAR 88 — MO 01 — DAY 11

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

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

NAME WALDORF CORP

ADDRESS 177 ANGELL STREET

ATTNR PAUL STOPPA

BATTLE CREEK MI 49016

FACILITY

LOCATION

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

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

(2-16) MI0029386 PERMIT NUMBER

(17-19) 001 B DISCHARGE NUMBER

F - FINAL

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

MINOR (SUBR JW)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	(54-61) AVERAGE	MAXIMUM	UNITS	NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1.0	1.2		******	7	10		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	10.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.018315	0.021248		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 616 NUMBER 963-5511

DATE: YEAR 88 MO 01 DAY 11

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

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

NAME WALDORF CORP

ADDRESS 111 ANGOLA STREET

HIGH LAKE SHORE

CADILLAC LAKE MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2-16) PERMIT NUMBER: MI0029306

(17-19) DISCHARGE NUMBER: 001 C

MONITORING PERIOD

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

MINOR (SUBR 00)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TOTAL SUSPENDED SOLIDS 00530 1 0 0	SAMPLE MEASUREMENT	11.3	14.0		******	17	21		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		NEVER REPORTED	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	******		NEVER	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years*)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 616 NUMBER 963-5511

DATE: YEAR 88 MO 01 DAY 11

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER

001 A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	12	01	TO	87	12	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 a day, maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12	7.9	49	1					
03		0.12								
04		0.12								
05		0.12								
06		0.12								
07		0.12								
08		0.12	7.9	51	1					
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12	7.9	50	1					
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12	8.0	52	1					
23		0.12								
24		DOWN								
25		DOWN								
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		51	1					

PRAF 21 86

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	12	01	TO	87	12	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. (See 18 U.S.C. 1001 AND 33 U.S.C. 1319)
(Penalties for these violations may include fines up to $10,000 a day for maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS-SUSPENDED	85002 SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02		0.020971	3	0.5						
03										
04										
05										
06										
07										
08		0.014053	10	1.2						
09										
10										
11										
12										
13										
14										
15										
16		0.021248	6	1.1						
17										
18										
19										
20										
21										
22		0.016988	7	1.0						
23										
24										
25										
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.018315	7	1.0						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	12	01	TO	87	12	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08	21	14.0						
03		0.08								
04		0.08								
05		0.08								
06		0.08								
07		0.08								
08		0.08	14	9.3						
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08	20	13.3						
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08	13	8.7						
23		0.08								
24		DOWN								
25		DOWN								
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	17	11.3						

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

NAME [illegible]

ADDRESS [illegible]

[illegible] MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (*NPDES*)

DISCHARGE MONITORING REPORT (*DMR*)

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

(2-16)	(17-19)
[illegible]	001 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COOLSECTL.ELDWN TO KALAMAZOO

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

MINOR (SUBR 30)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX. (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible], WATER DIG. FAHRENHEIT 00011 1 0 0 [illegible]	SAMPLE MEASUREMENT	******	******		******	56	60		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY INSTAN	
[illegible] 00400 1 0 0 [illegible]	SAMPLE MEASUREMENT	******	******		7.8	******	8.0		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY GRAB	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 [illegible]	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		DAILY	
OIL FALL OBSERVATION, VISUAL, Y/N RESPONSE 04150 1 0 0 [illegible]	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY VISUAL	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON MILL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)	[illegible]	616	963-5571	87	12	11
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

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

(2-16) [illegible] PERMIT NUMBER

(17-19) 001 D DISCHARGE NUMBER

1 - FINAL

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

BINGA (SUBE JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.9	1.5		******	6	9		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	10.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 00050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.016632	0.020649		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		REQRD	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
MILL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
AREA CODE	NUMBER	YEAR	MO	DAY
616	963-5571	87	12	11

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

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

NAME BALDWIN CORP.

ADDRESS 17[illegible] [illegible]
[illegible] PAUL STREET
[illegible] CITY, [illegible] 49016

FACILITY

LOCATION

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

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

(2-16) PERMIT NUMBER: 1100,9300

(17-19) DISCHARGE NUMBER: 007 L

I - FINAL

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

SINGLE (SUBM JU)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0	SAMPLE MEASUREMENT	11.3	14.0		******	17	21		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	45.5 DAILY MX	LB./DY	******	30 30DA AVG	50 DAILY MX	MG/L		EXCLUDED	
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	******		EXCLD	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES STURGEON MILL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (*Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years*)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	963-5571 NUMBER	87 YEAR	12 MO	11 DAY
TYPED OR PRINTED							

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	11	01	TO	87	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12	8.0	60	1					
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12	7.9	58	1					
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12	7.8	54	1					
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12	7.8	53	1					
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		56						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER: MI 0029386

DISCHARGE NUMBER: 001 B

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	11	01	TO	87	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties include fines up to [illegible] and imprisonment between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED): LES SPURGEON, GENERAL MANAGER

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE <5.0/MAX 16.7						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05		0.011820	6	0.6						
06										
07										
08										
09										
10										
11		0.017004	4	0.6						
12										
13										
14										
15										
16										
17										
18		0.017055	6	0.9						
19										
20										
21										
22										
23										
24										
25										
26		0.020649	9	1.5						
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.016632	6	0.9						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	11	01	TO	87	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalty provisions of statutes may include fines up to $10,000 and/or maximum imprisonment of 5 years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	21	14.0						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08	12	8.0						
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08	18	12.0						
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08	17	11.3						
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	17	11.3						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	10	1	TO	87	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: LES SPURGEON

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON, GENERAL MANAGER (TYPED OR PRINTED)

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	7.8	70	1					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12	7.8	67	1					
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12	8.0	66	1					
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	7.9	63	1					
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		67						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386	001 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	10	1	TO	87	10	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.012787	7	0.7						
07										
08										
09										
10										
11										
12		0.015128	5	0.6						
13										
14										
15										
16										
17										
18										
19										
20										
21										
22		0.014621	8	1.0						
23										
24										
25										
26										
27		0.017754	3	0.4						
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.015073	6	0.7						

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

NAME WALDORF CORP

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	10	1	TO	87	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED	85002 SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/MAX 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	11	7.3						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08	17	11.3						
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08	15	10.0						
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	24	16.0						
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	17	11.3						

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

NAME WALDORF CORP

ADDRESS 177 ANGELL STREET

ATT: MR PAUL STOPER

BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

DISCHARGE MONITORING REPORT (DMR)

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

(2 16) PERMIT NUMBER: MI0029386

(17 19) DISCHARGE NUMBER: 001 C

F - FINAL

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	09	01	TO	87	09	30
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(10 31)

MINOR (SUBR JJ)

NOTE Read instructions before completing this form

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	13.3	18.0		******	20	27		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 [illegible]

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
616	963-5571	87	10	28
AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	09	01	TO	87	09	30

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and or max. not. impr. sonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12								
07		0.12	7.8	76	1					
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12	7.8	76	1					
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12	7.8	72	1					
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12								
29		0.12	7.9	71	1					
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		74						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	09	01	TO	87	09	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON GENERAL MANAGER (TYPED OR PRINTED)

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06										
07		0.018367	4	0.6						
08										
09										
10										
11										
12										
13										
14										
15		0.015622	11	1.4						
16										
17										
18										
19										
20										
21		0.022482	8	1.5						
22										
23										
24										
25										
26										
27										
28										
29		0.012191	7	0.7						
30										
31										
	TOTAL									
	AVERAGE	0.017166	9	1.1						

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

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

NAME WALDORF CORP

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	09	01	TO	87	09	30

I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ON THE BASIS OF INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 3
(Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between one month and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/MAX 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08								
07		0.08	27	18.0						
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08	21	14.0						
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08	15	10.0						
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08								
28		0.08								
29		0.08	17	11.3						
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	20	12.3						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI0029386	001

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	08	01	TO	87	08	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	PH	TEMP. -WATER	OUTFALL OBSERV.					
	LIMIT		MAX. 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	8.0	79	1					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12	8.0	81	1					
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12	7.9	79	1					
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12	8.0	77	1					
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		79						

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

NAME WALDORF CORP.

ADDRESS 172 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	000 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	08	01	TO	87	08	31

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX 425						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	25	16.7						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08	14	9.3						
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08	20	13.3						
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08	17	11.3						
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	19	12.7						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	000 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	08	01	TO	87	08	31

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER/OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LEE SPURGEON

GENERAL MANAGER

TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. < 30/MAX. 100	AVE. < 5.0/MAX. 16.7						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.014770	6	0.7						
07										
08										
09										
10										
11		0.013062	11	1.2						
12										
13										
14										
15										
16										
17										
18		0.012562	13	1.4						
19										
20										
21										
22										
23										
24										
25										
26		0.018993	5	0.8						
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.014847	9	1.0						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI0029386	001
PERMIT NUMBER	DISCHARGE NUMBER

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FROM	87	07	01	TO	87	07	31

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED)
	LES SPURGEON GENERAL MANAGER

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT MGD	00400 pH MAX. 9.0/MIN. 6.0 0 TO 14	00011 TEMP.-WATER °F	91110 OUTFALL OBSERV. ASSESS.
01		0.12			
02		0.12			
03		0.12			
04		0.12			
05		0.12			
06		0.12	8.1	78	/
07		0.12			
08		0.12			
09		0.12			
10		0.12			
11		0.12			
12		0.12			/
13		0.12	7.9	80	
14		0.12			
15		0.12			
16		0.12			
17		0.12			
18		0.12			
19		0.12			
20		0.12			
21		0.12	7.9	82	/
22		0.12			
23		0.12			
24		0.12			
25		SHUT DOWN			
26					
27					
28					
29					
30					
31					
	TOTAL				
	AVERAGE	0.12		80	

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
000 B — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	07	01	TO	87	07	31

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED	85002 SOLIDS - SUSPENDED						
	LIMIT		AVE. < 20 / MAX. 30	AVE. < 33.0 / MAX 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	19	12.7						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08	21	14.0						
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08	16	10.7						
22		0.08								
23		0.08								
24		0.08								
25		SHUT DOWN								
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.08	19	12.5						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386	000 A
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FROM	87	07	01	TO	87	07	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES STURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT MGD.	00530 SOLIDS - SUSPENDED AVE. < 30/MAX. 100 MG/L	85002 SOLIDS - SUSPENDED AVE. < 5.0/MAX. 16.7 LBS./DAY						
01										
02										
03										
04										
05										
06		0.017853	4	0.6						
07										
08										
09										
10										
11										
12										
13		0.012201	7	0.7						
14										
15										
16										
17										
18										
19										
20										
21		0.014115	8	0.9						
22										
23										
24										
25										
26										
27		SHUT	DOWN							
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.014723	6	0.7						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI0029386	001

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	06	01	TO	87	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	NAME/TITLE PRINCIPAL EXECUTIVE OFFICER TYPED OR PRINTED
	LES SPURGEON GENERAL MANAGER

	PAR #	50050	00400	00011	91110					
	PARA MATER	FLOW CONDUIT	pH	TEMP. -WATER	OUTFALL OBSERV.					
	LIMIT		MAX. 9.0/MIN. 6.0							
DAY	UNITS	MGD	O TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12	8.0	74	/					
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12	8.0	76	/					
13		0.12								
14		0.12								
15		0.12								
16		0.12	7.9	77	/					
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12	8.0	80	/					
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31										
*	TOTAL									
*	AVERAGE	0.12		77						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	000 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	06	01	TO	87	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. < 20 / MAX. 30	AVE < 33.0 / MAX 425						
DAY	UNITS	MGD	MG/L	LBS/DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08	14	9.3						
05		0.08								
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08	21	14.0						
13		0.08								
14		0.08								
15		0.08								
16		0.08	23	15.3						
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08	17	11.3						
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	19	12.5						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	000 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	04	01	TO	87	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. < 30/MAX. 100	AVE. < 5.0/MAX 16.7						
	UNITS	M.G.D.	MG/L	LBS./DAY						
01										
02										
03										
04		0.009271	8	0.6						
05										
06										
07										
08										
09										
10										
11										
12		0.013966	5	0.6						
13										
14										
15										
16		0.014294	9	1.1						
17										
18										
19										
20										
21										
22										
23										
24										
25		0.014086	8	0.9						
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.012904	8.0	0.8						

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

(2 16)	(17-19)
MI0020386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

1 - FINAL
[illegible] TO [illegible]

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	99	12	03	TO	[illegible]	[illegible]	31
	(20-21)	(22-23)	(24 25)		(26-27)	(28 29)	(30-31)

[illegible] (SUBT II)

NOTE: Read instructions before completing this form

PARAMETER (32-37)		QUANTITY OR LOADING (3 Card Only) (46-53) AVERAGE	MAXIMUM	UNITS	QUALITY OR CONCENTRATION (4 Card Only) (38-45) MINIMUM	(46-53) AVERAGE	(54 61) MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64 68)	SAMPLE TYPE (69 70)
TEMPERATURE, WATER DEG. FAHRENHEIT 0 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	39	42		0		
	PERMIT REQUIREMENT	******	******	*****	******	REPORT 30DA AVG	REPORT DAILY MX	D.G.F		WEEKLY	INSTAN
[illegible] 0 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.8	******	8.0		0		
	PERMIT REQUIREMENT	******	******	*****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 0 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	*****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 4130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	*****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
[illegible] S SPURGEON [illegible] PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 *(Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963-5571	96	01	05
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
172 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

F - FINAL

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
MI0022386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	12	01	TO	89	12	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	1.1		******	5	7		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	15.7 DAILY MX	LBS/DAY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.016796	0.019108		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	********		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES STURGEON VICE PRESIDENT TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	963-5571 NUMBER	90 YEAR	01 MO	05 DAY

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

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

NAME [illegible]

ADDRESS ATT: [illegible] PAUL [illegible]
1/7 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

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

MONITORING PERIOD

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

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54 61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46 53) MINIMUM	AVERAGE	(54 61) MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64 68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	12.2	15.3		[illegible]	18	23		0		
[illegible]	PERMIT REQUIREMENT	[illegible] 30DA AVG	[illegible] DAILY MX	[illegible]	[illegible]	[illegible] 30DA AVG	[illegible] DAILY MX	[illegible]		WEEKLY	GRAB
[illegible]	SAMPLE MEASUREMENT	0.08	0.08		[illegible]	[illegible]	[illegible]		0		
[illegible]	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 *(Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963 5511	90	01	05
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	12	01	TO	89	12	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12	7.9	42	/					
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12	7.8	39	/					
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20										
21										
22										
23		DOWN								
24										
25										
26		0.12								
27		0.12								
28		0.12	8.0	36	/					
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		39	/					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	12	01	TO	89	12	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 131. Please see reverse side for names and addresses of responsible officials and additional information.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

DAY	PARA MATER / LIMIT / UNITS	PAR # 50050 FLOW CONDUIT MGD	00530 SOLIDS-SUSPENDED AVE. <30/MAX 100 MG/L	85002 SOLIDS-SUSPENDED AVE. <5.0/MAX 16.7 LBS./DAY						
01										
02										
03										
04										
05		0.012790	3	0.3						
06										
07										
08										
09										
10										
11										
12										
13										
14		0.018491	6	0.9						
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28		0.019108	7	1.1						
29										
30										
31										
	TOTAL									
	AVERAGE	0.016796	5	0.8						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	12	01	TO	89	12	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or max mum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON

GENERAL MANAGER

TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS – SUSPENDED	SOLIDS – SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	17	11.3						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08								
14		0.08	15	10.0						
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20										
21		DOWN								
22										
23										
24										
25										
26		0.08								
27		0.08								
28		0.08	23	15.3						
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	18	12.2						

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

(2-16)	(17-19)
MI0029306	001 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COOL&HOIL.BLOWN TO KALAMAZOO

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	11	01	TO	89	11	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	51	54		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	**** ****	[illegible]	[illegible]	[illegible] DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.9	******	8.0		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	**** ****	[illegible]	[illegible]	[illegible] MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible] DAILY MX	MGD	[illegible]	[illegible]	[illegible]	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible] DAILY MX	YES=1 NO=0	[illegible]	[illegible]	[illegible]	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	[signature]	616	963-5571	89	12	[illegible]
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

F - FINAL

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
MI0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	11	01	TO	89	11	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR NJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.6	1.0		******	4	7		0		
	PERMIT REQUIREMENT	30DA AVG	DAILY MX	LBS/D		30DA AVG	DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.015784	0.019817		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD				******		DAILY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPIRGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	962-5511 NUMBER	89 YEAR	12 MO	08 DAY
TYPED OR PRINTED							

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

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

P - FINAL

PERMIT NUMBER *(2-16)*	DISCHARGE NUMBER *(17-19)*
MI0029306	001 2

MONITORING PERIOD

FROM YEAR *(20-21)*	MO *(22-23)*	DAY *(24-25)*	TO YEAR *(26-27)*	MO *(28-29)*	DAY *(30-31)*
89	11	01	89	11	30

MINOR (SUBR J3)

NOTE: Read instructions before completing this form.

PARAMETER *(32-37)*		QUANTITY OR LOADING *(3 Card Only)* AVERAGE *(46-53)*	MAXIMUM *(54-61)*	UNITS	QUALITY OR CONCENTRATION *(4 Card Only)* MINIMUM *(38-45)*	AVERAGE *(46-53)*	MAXIMUM *(54-61)*	UNITS	NO. EX *(62-63)*	FREQUENCY OF ANALYSIS *(64-68)*	SAMPLE TYPE *(69-70)*
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	10.3	13.3		******	16	20		0		
	PERMIT REQUIREMENT	33.0 30DAY AVG	49.5 DAILY MX	LBS/DY		30 30DAY AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DAY AVG	REPORT DAILY MX	MGD				**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	963-5521 NUMBER	89 YEAR	12 MO	08 DAY
TYPED OR PRINTED							

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	11	01	TO	89	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARA MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12								
07		0.12	7.9	54	1					
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12	7.9	53	1					
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12	8.0	50	1					
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12	7.9	47	1					
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		51	1					

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 B — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	11	01	TO	89	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06										
07		0.015455	2	0.3						
08										
09										
10										
11										
12										
13		0.010030	4	0.3						
14										
15										
16										
17										
18										
19										
20										
21										
22		0.017835	7.	1.0						
23										
24										
25										
26										
27										
28		0.019817	4	0.7						
29										
30										
31										
	TOTAL									
	AVERAGE	0.015784	4	0.6						

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

NAME WALDORF CORP

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	11	01	TO	89	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment between 6 months and [illegible] years.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/MAX 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08								
07		0.08	13	8.7						
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08	11	7.3						
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08	20	13.3						
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08								
28		0.08	18	12.0						
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	16	10.3						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER

001 A — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10	1	TO	89	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 a day or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon / [illegible] — SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12	7.9	65	I					
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12	7.9	60	I					
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12	8.0	58	I					
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12	7.9	55	I					
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		60	I					

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 B — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10	1	TO	89	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon/JWW
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04		0.010392	3	0.3						
05										
06										
07										
08										
09										
10		0.020184	5	0.8						
11										
12										
13										
14										
15										
16										
17		0.021757	3	0.5						
18										
19										
20										
21										
22										
23										
24										
25		0.016222	7	1.0						
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.017264	5	0.7						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 C — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10		TO	89	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon — SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARAMETER	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED	85002 SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/MAX 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08	25	16.7						
05		0.08								
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08	19	12.7						
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08	17	11.3						
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08	22	14.7						
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	21	13.9						

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

NAME [illegible]

ADDRESS [illegible]

177 ANGELL STREET

[illegible] MI 49013

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

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

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

NOTE Read instructions before completing this form

PARAMETER (32 37)		(3 Card Only) (46 53) QUANTITY OR LOADING (54 61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54 61) MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64 68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	[illegible]	[illegible]		[illegible]	60	65		0		
[illegible]	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	[illegible]	REPORT 30DA AVG	REPORT DAILY MX	DEG.F	[illegible]	WEEKLY	INSTAN
[illegible]	SAMPLE MEASUREMENT	[illegible]	[illegible]		7,9	[illegible]	8 0		0		
[illegible]	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	6.0 MINIMUM	[illegible]	9.0 MAXIMUM	SU	[illegible]	WEEKLY	GRAB
[illegible]	SAMPLE MEASUREMENT	0,12	0,12		[illegible]	[illegible]	[illegible]		0		
[illegible]	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DAILY	[illegible]
[illegible]	SAMPLE MEASUREMENT	1	1		[illegible]	[illegible]	[illegible]		0		
[illegible]	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
TIM OSWALD OPERATIONS MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 *(Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)*	[signature]	616	963-5511	89	11	1
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOPPA
177 ANGELL STREET
BATTLE CREEK MI 49015

FACILITY

LOCATION

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

F - FINAL

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
MI0029386	001

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10	01	TO	89	10	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JO)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.7	1.0		******	5	7		0		
	PERMIT REQUIREMENT	30DA AVG	DAILY MX	LBS/D	******	30DA AVG	DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.017264	0.021757		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	REPORT	REPORT	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
JIM OSWALD OPERATIONS MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	11/10	616	963-5571	89	11	9
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

F - FINAL

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
MI0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10	01	TO	89	10	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	13.9	16.7		******	21	25		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	******		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
JIM OSWALD OPERATIONS MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963-5571	89	11	9
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10	1	TO	89	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: Les Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON GENERAL MANAGER (TYPED OR PRINTED)

DAY	PARAMETER	50050 FLOW CONDUIT	00400 pH	00011 TEMP. WATER	91110 OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12	7.9	65	1					
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12	7.9	60	1					
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12	8.0	58	1					
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12	7.9	55	1					
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		60	1					

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 172 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10	1	TO	89	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties since these statutes may include fines up to $10,000 and or maximum imprisonment between 6 months and 5 years)

Les Spurgeon/jaw
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT	00530 SOLIDS-SUSPENDED	85002 SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04		0.010392	3	0.3						
05										
06										
07										
08										
09										
10		0.020184	5	0.8						
11										
12										
13										
14										
15										
16										
17		0.021757	3	0.5						
18										
19										
20										
21										
22										
23										
24										
25		0.016722	7	1.0						
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.017264	5	0.7						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	10		TO	89	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED	85002 SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08	25	16.7						
05		0.08								
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08	19	12.7						
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08	17	11.3						
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08	22	14.7						
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	21	13.9						

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

(2-16)	(17-19)
MI0029386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COOLEBOIL.BLOWN TO KALAMAZOO

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	09	01	TO	89	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		QUANTITY OR LOADING (3 Card Only) (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	QUALITY OR CONCENTRATION (4 Card Only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	70	73		0		
	PERMIT REQUIREMENT			**** ****		REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.9	******	8.0		0		
	PERMIT REQUIREMENT			**** ****	MINIMUM		MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD				**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0				**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	[signature]	616	963-5511	89	10	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

(2-16)	(17-19)
MI0029386	001 9
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	09	01	TO	89	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		QUANTITY OR LOADING (3 Card Only) (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	QUALITY OR CONCENTRATION (4 Card Only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.5	0.7		******	6	9		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	LBS/DY	[illegible]	[illegible]	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.011291	0.016101		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	REPORT DAILY MX	MGD	[illegible]	[illegible]	[illegible]	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	[signature]	616	963 5511	89	10	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFER

177 ANGELL STREET

BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

P - FINAL

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
MI0029386	001 C

MONITORING PERIOD

FROM YEAR (20-21)	MO (22-23)	DAY (24-25)	TO YEAR (26-27)	MO (28-29)	DAY (30-31)
89	09	01	89	09	30

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		QUANTITY OR LOADING (3 Card Only) (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	QUALITY OR CONCENTRATION (4 Card Only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	14.0	17.3		******	21	26		0		
	PERMIT REQUIREMENT	30.0 30DA AVG	45.0 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	****** 30DA AVG	****** DAILY MX	MGD	******	******	******	******		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	963-5571 NUMBER	89 YEAR	10 MO	10 DAY
TYPED OR PRINTED							

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER

001 A — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	09	01	TO	89	09	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	8.0	73	/					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12	8.0	71	/					
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12	7.9	70	/					
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	8.0	66	/					
28		0.12								
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		70	/					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	09	01	TO	89	09	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 131 (Penalties under these statutes may include fines up to $10,000 and a maximum imprisonment between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS-SUSPENDED	85002 SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE <50/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.004625	9	0.3						
07										
08										
09										
10										
11										
12		0.010869	8	0.7						
13										
14										
15										
16										
17										
18										
19										
20		0.016101	5	0.7						
21										
22										
23										
24										
25										
26										
27		0.013567	3	0.3						
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.011291	6	0.5						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 C — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	09	01	TO	89	09	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. 21 (Penalties under these statutes may include fines up to $10,000 a day or maximum prison sentences between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED	85002 SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/MAX 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	18	12.0						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08	16	10.7						
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08	24	16.0						
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	26	17.3						
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	21	14.0						

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOPER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
MI0029386	001 A

F - FINAL
COOLSOIL.BLOWN TO KALAMAZOO

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	08	01	TO	89	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

GENOR (SUPP JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	79	81		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT MONTHLY AVG	REPORT DAILY MAX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.9	******	8.1		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT MONTHLY AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT MONTHLY AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
LES SPARGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	616	963-5511	89	09	08
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS [illegible]

[illegible] ANGEL STREET

[illegible] MI 49[illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

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

MONITORING PERIOD

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

NOTE Read instructions before completing this form

PARAMETER (32 37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54 61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54 61) MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64 68)	SAMPLE TYPE (69 70)
[illegible] TOTAL [illegible]	SAMPLE MEASUREMENT	0.7	0.9		[illegible]	6	8		0		
[illegible]	PERMIT REQUIREMENT	[illegible]	16.7 DAILY MX	LB/DY	[illegible]	[illegible] 30 [illegible] AVG	100 DAILY MX	[illegible]/L		WEEKLY	GRAB
[illegible] IN CONDUIT OR [illegible]	SAMPLE MEASUREMENT	0.013677	0.016658		[illegible]	[illegible]	[illegible]		0		
[illegible]	PERMIT REQUIREMENT	[illegible]	[illegible] DAILY MX	MGD	[illegible]	[illegible]	[illegible]	[illegible]		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 *(Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)*		TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963 5511	89	09	08
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL SIDER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

P - FINAL

PERMIT NUMBER *(2-16)*	DISCHARGE NUMBER *(17-19)*
MI0020386	001

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	08	01	TO	89	09	31
	(20-21)	*(22-23)*	*(24-25)*		*(26-27)*	*(28-29)*	*(30-31)*

MINOR (SUBR JJ)

NOTE: Read Instructions before completing this form.

PARAMETER *(32-37)*		QUANTITY OR LOADING *(3 Card Only)* *(46-53)* AVERAGE	*(54-61)* MAXIMUM	UNITS	QUALITY OR CONCENTRATION *(4 Card Only)* *(38-45)* MINIMUM	*(46-53)* AVERAGE	*(54-61)* MAXIMUM	UNITS	NO. EX *(62-63)*	FREQUENCY OF ANALYSIS *(64-68)*	SAMPLE TYPE *(69-70)*
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	12.8	15.3		******	19	23		0		
	PERMIT REQUIREMENT	31.0 30DA AVG	93.0 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963-5571	89	09	08
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	08	01	TO	89	08	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12								
07		0.12	8.0	80	/					
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12	8.0	81	/					
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12	8.1	77	/					
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12	7.9	78	/					
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		79	/					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	08	01	TO	89	08	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and imprisonment between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED)

LES SPURGEON
GENERAL MANAGER

DAY	PARAMETER	PAR # 50050 FLOW CONDUIT	00530 SOLIDS-SUSPENDED	85002 SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE < 5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06										
07		0.016658	4	0.6						
08										
09										
10										
11										
12										
13										
14										
15		0.013438	8	0.9						
16										
17										
18										
19										
20										
21										
22										
23		0.013429	4	0.5						
24										
25										
26										
27										
28		0.011183	7	0.7						
29										
30										
31										
	TOTAL									
	AVERAGE	0.013677	6	0.7						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	08	01	TO	89	08	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and up to 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARAMETER	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED	85002 SOLIDS - SUSPENDED
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/max 49.5
	UNITS	MGD	MG/L	LBS./DAY
01		0.08		
02		0.08		
03		0.08		
04		0.08		
05		0.08		
06		0.08		
07		0.08	23	15.3
08		0.08		
09		0.08		
10		0.08		
11		0.08		
12		0.08		
13		0.08		
14		0.08		
15		0.08	20	13.3
16		0.08		
17		0.08		
18		0.08		
19		0.08		
20		0.08		
21		0.08		
22		0.08		
23		0.08	15	10.0
24		0.08		
25		0.08		
26		0.08		
27		0.08		
28		0.08	19	12.7
29		0.08		
30		0.08		
31		0.08		
	TOTAL			
	AVERAGE	0.08	19	12.8

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

NAME [illegible]

ADDRESS [illegible]

[illegible]

[illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

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

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

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) (46 53) QUANTITY OR LOADING (54 61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	(54 61) AVERAGE	MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64 68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	[illegible]	[illegible]		[illegible]	86	88		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	[illegible]	REPORT MODA AVG	REPORT DAILY MX	[illegible]		WEEKLY	INSTAN
[illegible]	SAMPLE MEASUREMENT	[illegible]	[illegible]		7.9	[illegible]	8.0		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] MAXIMUM	[illegible]		WEEKLY	GRAB
[illegible]	SAMPLE MEASUREMENT	0.12	0.12		[illegible]	[illegible]	[illegible]		0		
	PERMIT REQUIREMENT	[illegible]	[illegible] DAILY MX	MGD	[illegible]	[illegible]	[illegible]	[illegible]		DAILY	
[illegible]	SAMPLE MEASUREMENT	1	1		[illegible]	[illegible]	[illegible]		0		
	PERMIT REQUIREMENT	[illegible]	[illegible] DAILY MX	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 *(Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)*	[signature]	TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963-5571	89	08	09
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS [illegible]

[illegible]

[illegible] MI 49015

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

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

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

NOTE Read instructions before completing this form

PARAMETER (32 37)		(3 Card Only) (46 53) QUANTITY OR LOADING (54 61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54 61) MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64 68)	SAMPLE TYPE (69 70)
[illegible]	SAMPLE MEASUREMENT	0.5	0.6		[illegible]	5	7		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	LBS/D	[illegible]	[illegible]	[illegible]	MG/L		WEEKLY	GRAB
[illegible]	SAMPLE MEASUREMENT	0.012300	0.018267		[illegible]	[illegible]	[illegible]		0		
	PERMIT REQUIREMENT	[illegible]	[illegible]	MGD	[illegible]	[illegible]	[illegible]	[illegible]		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
[illegible] SPURGEON [illegible] PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 *(Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)*	[signature]	616	963-5511	89	08	07
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

(2-16)	(17-19)
MI0029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

P - FINAL

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	07	01	TO	89	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	11.0	14.0		******	17	21		0		
	PERMIT REQUIREMENT	[illegible]	[illegible] DAILY MX	LBS/DY	[illegible]	[illegible]	[illegible] DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	[illegible]	[illegible] DAILY MX	MGD	[illegible]	[illegible]	[illegible]	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*		TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT		[signature]	616	963-5511	89	08	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	07	01	TO	89	07	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT (SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARA MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	7.9	88	/					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12	7.9	84	/					
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12	8.0	86	/					
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12	8.0	85	/					
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		86	/					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	07	01	TO	89	07	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: L. Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON GENERAL MANAGER (TYPED OR PRINTED)

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.007796	3	0.2						
07										
08										
09										
10										
11		0.012921	6	0.6						
12										
13										
14										
15										
16										
17										
18		0.018367	3	0.5						
19										
20										
21										
22										
23										
24										
25										
26		0.010115	7	0.6						
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.012300	5	0.5						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	07	01	TO	89	07	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED AVE. <20/MAX.30 MG/L	85002 SOLIDS - SUSPENDED AVE.<33.0/MAX 49.5 LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	14	9.3						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08	12	8.0						
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08	19	12.7						
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08	21	14.0						
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	17	11.0						

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

NAME [illegible]

ADDRESS ATT: MR. PAUL STOLER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2 16) PERMIT NUMBER: MI0023396

(17 19) DISCHARGE NUMBER: 001 A

5 - FINAL
COOLERCIL.HLDN TO MAA P.C

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
86	06	01	87	06	30
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MIA09 (SUBA JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	*****	*****		*****	86	89		0		
	PERMIT REQUIREMENT	*****	*****	*****	*****	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	*****	*****		7.8	*****	8.0		0		
	PERMIT REQUIREMENT	*****	*****	*****	6.0 MINIMUM	*****	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		*****	*****	*****				
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	*****	*****	*****	*****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84139 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		*****	*****	*****		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YE =1 NO=0	*****	*****	*****	*****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
VICE PRESIDENT

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 616, NUMBER 963-5511

DATE: YEAR 89, MO 07, DAY 07

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49015

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No 2040-0004
Expires 3-31-88

F - FINAL

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
MI0029386	001 0

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	06	01	TO	88	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBF 1)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		QUANTITY OR LOADING (3 Card Only) (46-53) AVERAGE	QUANTITY OR LOADING (54-61) MAXIMUM	UNITS	QUALITY OR CONCENTRATION (4 Card Only) (38-45) MINIMUM	QUALITY OR CONCENTRATION (46-53) AVERAGE	QUALITY OR CONCENTRATION (54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 1 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1.0	1.2		******	8	11		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	16.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.015097	0.016703		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	******		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)	Les Spurgeon SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	963-5511 NUMBER	89 YEAR	07 MO	07 DAY

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

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

NAME: WALDORF CORP

ADDRESS: ATT: MR. PAUL STOFFE
177 ANSELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2 16) PERMIT NUMBER	(17 19) DISCHARGE NUMBER
MI0029386	001

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	06	01	TO	89	06	30
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	13.7	18.7		******	21	28		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPARGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)	Les Sargeon	616	963-5311	89	07	07
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 A — DISCHARGE NUMBER

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
89	06	01	89	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT S E 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00400 pH	00011 TEMP. WATER	91110 OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12	8.0	83	1					
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12	7.9	84	1					
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12	7.8	86	1					
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	7.9	89	1					
28		0.12								
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		86	1					

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 B — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	06	01	TO	89	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05		0.012393	11	1.1						
06										
07										
08										
09										
10										
11										
12										
13		0.014915	7	0.9						
14										
15										
16										
17										
18										
19		0.016375	9	1.2						
20										
21										
22										
23										
24										
25										
26										
27		0.016703	6	0.8						
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.015197	9	1.0						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	06	01	TO	89	06	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 31 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	NAME/TITLE PRINCIPAL EXECUTIVE OFFICER TYPED OR PRINTED
Les Spurgeon	LES SPURGEON GENERAL MANAGER

	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.6/MAX. 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	22	14.7						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08	17	11.3						
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08	15	10.0						
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	28	18.7						
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	21	13.7						

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL SIOPLR
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 8-31-88

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
MI0021380	001 A

F - FINAL
COOLERCOLD.ELDAN CO FAC

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	06	01	TO	89	06	11
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SCHR J1)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	75	79		0		
	PERMIT REQUIREMENT	******	******	********	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.9	******	8.0		0		
	PERMIT REQUIREMENT	******	******	********	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	********		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84139 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	********		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5511	89	06	08
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME: WALDORF CORP

ADDRESS: ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

Form Approved
OMB No. 2040-0004
Expires 3-31-88

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
MI0022366	001

MONITORING PERIOD	YEAR	MO.	DAY		YEAR	MO.	DAY
FROM	89	05	01	TO	89	05	31
	(20 21)	(22 23)	(24-25)		(26 27)	(28 29)	(30 31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.6	0.6		******	5	8		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	16.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.016197	0.022213		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	965-5511	89	06	08
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALLORE CORP

ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49015

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

(2 16)	(17 19)
MIOC.7396	0[illegible]
PERMIT NUMBER	DISCHARGE NUMBER

Form Approved
OMB No 2040-0004
Expires 3-31-88

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
89	05	01	89	05	31
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MINOR (SUBF JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	12.0	14.7		******	18	22		0		
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	[illegible]	******	20 30DA AVG	36 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5511	89	06	08
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	05	01	TO	89	05	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00400	00011	91110					
	PARA-METER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12	7.9	72	1					
04		0.12								
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12	7.9	75	1					
12		0.12								
13		0.12								
14		0.12								
15		DOWN								
16		DOWN								
17		DOWN								
18		DOWN								
19		DOWN								
20		DOWN								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12	8.0	79	1					
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		75	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	05	01	TO	89	05	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED): LES SPURGEON GENERAL MANAGER

DAY	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03		0.007683	8	0.5						
04										
05										
06										
07										
08										
09										
10										
11		0.018696	4	0.6						
12										
13										
14										
15		DOWN								
16		DOWN								
17		DOWN								
18		DOWN								
19		DOWN								
20		DOWN								
21										
22										
23										
24										
25		0.022213	3	0.6						
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.016197	5	0.6						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	05	01	TO	89	05	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08	22	14.7						
04		0.08								
05		0.08								
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08	13	8.7						
12		0.08								
13		0.08								
14		0.08								
15		DOWN								
16		DOWN								
17		DOWN								
18		DOWN								
19		DOWN								
20		DOWN								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08	19	12.7						
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	18	12.0						

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOLER
177 ANGELL STREET
BATTLE CREEK MI 49017

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No 2040 0004
Expires 3-31-88

(2 16)	(17 19)
MI0029386	001 1
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COOLSPOIL.PLUMN TO [illegible]

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
89	04	01	89	04	30
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MINOR (SUBR 33)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	66	69		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.8	******	8.0		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 00050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 00170 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE	DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616 963-5511	89	05	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE NUMBER	YEAR	MO	DAY

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

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

NAME WALPORT CORP

ADDRESS ATT: MR. PAUL STORER

177 ANGELL STREET

BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
MI0022386	001 M

MONITORING PERIOD

FROM YEAR (20-21)	MO (22-23)	DAY (24-25)	TO YEAR (26-27)	MO (28-29)	DAY (30-31)
89	04	01	89	04	30

MINOR (SUPR JD)

Form Approved
OMB No 2040-0004
Expires 3-31-88

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED (00530) 1 0 / EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.8	1.0		******	7	10		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	15.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT (50050) 1 0 / EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.014694	0.019281		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE 616	NUMBER 963-5571	YEAR 89	MO 05	DAY 09

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

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

NAME WALDORF CORP

ADDRESS ATT: DR. PAUL SCOFIER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2 16)	(17 19)
M10029386	001 C
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	04	01	TO	89	04	30
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

MI 003 (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE 69 70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	11.8	15.3		******	18	23		0		
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5511	89	05	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	04	01	TO	89	04	30

FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of [illegible] months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12	7.9	63	1					
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12	7.8	66	1					
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12	8.0	67	1					
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	8.0	69	1					
28		0.12								
29		0.12								
30		0.12								
31										
	TOTAL									
		0.12		66	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	04	01	TO	89	04	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME, TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT	00530 SOLIDS-SUSPENDED ave. <30/max 100 mg/L	85002 SOLIDS-SUSPENDED ave. <5.0/max 16.7 LBS./DAY						
01										
02										
03										
04										
05		0.010971	10	0.9						
06										
07										
08										
09										
10										
11		0.019281	3	0.5						
12										
13										
14										
15										
16										
17										
18		0.014201	5	0.6						
19										
20										
21										
22										
23										
24										
25										
26										
27		0.014322	8	1.0						
28										
29										
30										
31										

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	04	01	TO	89	04	30

THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	12	8.0						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08	16	10.7						
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08	23	15.3						
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	20	13.3						
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	18	11.8						

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

NAME WELDARE CORP

ADDRESS ATT: MR. PAUL STOPLE
177 ARGELL STREET
SEATTLE CEEN 9 ...

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 8-31-88

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
WI0029386	001 A

P - FINAL
COMMERCIAL/INDUSTRIAL WASTE

MONITORING PERIOD

FROM YEAR (20-21)	MO (22-23)	DAY (24-25)	TO YEAR (26-27)	MO (28-29)	DAY (30-31)
89	03	01	89	03	31

MINOR (SUBP JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	59	64		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		NEFFIV	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.9	******	8.0		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		NEFFIV	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	Y/N=1	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
VICE PRESIDENT

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	89	04	07

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

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

Form Approved
OMB No. 2040-0004
Expires 3-31-88

PERMIT NUMBER (2-16)	DISCHARGE NUMBER (17-19)
MI0029384	061 1

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	07	01	TO	89	03	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBP IJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 2 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.8	1.1		******	6	8		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	16.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 2 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.016907	0.018959		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON VICE PRESIDENT	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	Les Spurgeon	616	963-5571	89	04	07
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL SCOTT
177 ANGELL STREET
BATTLE CREEK MI 49017

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

Form Approved
OMB No 2040-0004
Expires 3-31-88

PERMIT NUMBER (2 16)	DISCHARGE NUMBER (17 19)
MI0029181	001

MONITORING PERIOD	YEAR	MO.	DAY	TO	YEAR	MO.	DAY
FROM	89	03	1		89	03	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

MTOP (SUPR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE 69 70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	15.9	18.7		*****	20	28		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	45.5 DAILY MX	LBS/DAY	*****	30 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 1 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		*****	*****	*****		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	*****	*****	*****	****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
VICE PRESIDENT

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
616	963-5511	89	04	07
AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME: WALDORF CORP.

ADDRESS: 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER

001A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	03	01	TO	89	03	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: Les Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED): LES SPURGEON, GENERAL MANAGER

DAY	PAR #	50050	00400	00011	91110					
	PARA-MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12								
07		0.12	7.9	55	1					
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12	7.9	57	1					
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12	7.9	61	1					
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12	8.0	64	1					
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		59	1					

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	03	01	TO	89	03	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

Les Spurgeon
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06										
07		0.018959	4	0.6						
08										
09										
10										
11										
12										
13										
14										
15		0.016184	8	1.1						
16										
17										
18										
19										
20		0.016135	7	0.9						
21										
22										
23										
24										
25										
26										
27										
28		0.016351	4	0.5						
29										
30										
31										
	TOTAL									
	AVERAGE	0.016907	6	0.08						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	03	01	TO	89	03	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

Les Spurgeon
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX. 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08								
07		0.08	28	18.7						
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08	16	10.7						
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08	21	14.0						
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08								
28		0.08	15	10.0						
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	20	13.4						

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

NAME [illegible]

ADDRESS ATT: MR. PAUL STOF [illegible]
177 ANGELL STREET
BATTLE CREEK MI 49014

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2 16)	(17 19)
MI0029396	C01 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COOLER OIL BLDWN TO [illegible]

MONITORING PERIOD

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

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	50	53		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.8	******	7.9		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YE =1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

[signature]

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	89	03	10

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2-16)	(17-19)
MI0029386	001 9
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	03	01	TO	89	03	28
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBB JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.9	1.0		******	7	10		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	16.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.017511	0.021810		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5571	89	03	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME: KELLOGG CORP

ADDRESS: ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

Form Approved
OMB No 2040-0004
Expires 3-31-88

PERMIT NUMBER (2 16)	DISCHARGE NUMBER (17 19)
MI0029386	001 C

MONITORING PERIOD

FROM YEAR (20 21)	MO (22 23)	DAY (24 25)	TO YEAR (26 27)	MO (28 29)	DAY (30 31)
89	02	01	89	02	28

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	13.5	16.7		*****	20	25		0		
CODE 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	33.8 30DA AVG	49.5 DAILY MX	LBS/DY	*****	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.08	0.08		*****	*****	*****		0		
CODE 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	*****	*****	*****	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER TYPED OR PRINTED	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE 616	NUMBER 963-5511	YEAR 89	MO 03	DAY 10

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	02	01	TO	89	02	28

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	O TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	7.9	47	1					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12	7.9	50	1					
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12								
21		0.12	7.8	49	1					
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12								
28		0.12	7.9	53	1					
29										
30										
31										
	TOTAL									
	AVERAGE	0.12		50	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

MI 0029386	001 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	02	01	TO	89	02	28

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05										
06		0.011075	10	0.9						
07										
08										
09										
10										
11										
12										
13		0.017568	7	1.0						
14										
15										
16										
17										
18										
19										
20										
21		0.019592	6	1.0						
22										
23										
24										
25										
26										
27										
28		0.021810	3	0.5						
29										
30										
31										
	TOTAL									

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	02	01	TO	89	02	28

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/MAX 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	25	16.7						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08	17	11.3						
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08								
21		0.08	16	10.7						
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08								
28		0.08	23	15.3						
29										
30										
31										
	TOTAL									
	AVERAGE	0.08	[illegible]	[illegible]						

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

NAME WALLOWE CO.

ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040 0004
Expires 3-31-88

PERMIT NUMBER (2 16)	DISCHARGE NUMBER (17 19)
MI0029346	0 1 A

F - FINAL
COOLERCIL. LOWN TO [illegible]

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
89	01	01	89	01	31
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MINOR (SUBP JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	*****		*****	52	55		0		
	PERMIT REQUIREMENT	******	******	*****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
[illegible] 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	*****		7.9	*****	8.0		0		
	PERMIT REQUIREMENT	******	******	*****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT [illegible] EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		*****	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	*****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE [illegible] EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	*****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

[signature] 1.17.[illegible]

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	89	01	10

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

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

NAME WALDORF [illegible]

ADDRESS ATT: MR. PAUL [illegible]
17[illegible] ANGELL STREET
[illegible] CREEK [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: 0[illegible]

F - FINAL

Form Approved
OMB No. 2040 0004
Expires 3-31-88

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
[illegible]	01	01	[illegible]	01	31
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED [illegible] EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.8	1.1		******	6	8		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	16.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT [illegible] EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.017438	0.018114		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5571	89	01	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOF
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

F - FINAL

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2-16)	(17-19)
MI0029344	0 1
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	01	01	TO	89	01	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28-29)	(30-31)

MINOR (SUBR 33)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	13.2	15.3		******	20	23		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[illegible]	616	963-5511	89	01	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER

001 A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	01	01	TO	89	01	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00400 pH	00011 TEMP. WATER	91110 OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12	8.0	55	/					
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12	8.0	53	/					
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12	7.9	50	/					
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12	8.0	49	/					
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		52	/					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	01	01	TO	89	01	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON GENERAL MANAGER (TYPED OR PRINTED)

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05		0.017261	6	0.9						
06										
07										
08										
09										
10										
11										
12		0.016483	8	1.1						
13										
14										
15										
16										
17										
18		0.018114	5	0.8						
19										
20										
21										
22										
23										
24										
25		0.017894	3	0.4						
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.017438	6	0.8						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	01	01	TO	89	01	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00530 SOLIDS - SUSPENDED	85002 SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX.30	AVE. <33.0/MAX 49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	23	15.3						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08	21	14.0						
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08	15	10.0						
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08	20	13.3						
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.08	20	13.2						

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL SPORER
177 AYCELL STREET
BATTLE CREEK MI 49017

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16) MI0029866 — PERMIT NUMBER

(17-19) 001 A — DISCHARGE NUMBER

F - FINAL

COOLEY OIL, OLDSA TO ATTICA

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	12	01	TO	89	12	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

Form Approved. OMB No. 2040-0004 Expires 3-31-88

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		*****	56	58		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.9	******	8.0		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 84139 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
616	963-5511	89	01	09
AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME VALDOSE CORP

ADDRESS ATT: MR. PAUL STOFFE
177 ANGELL STREET
BATTLE CREEK [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No 2040-0004
Expires 3-31-88

(2 16)	(17 19)
[illegible]	001
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
88	1	[illegible]	88	12	31
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	0.9	1.0		******	6	7		0		
[illegible] 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	5.0 30DA AVG	15.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OF [illegible] TREATMENT PLANT	SAMPLE MEASUREMENT	0.019612	0.027182		******	******	******		0		
[illegible] 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5511	89	01	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. DALE SCOFIELD
177 ANGELL STREET
PETRL C [illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No 2040-0004
Expires 3-31-83

(2 16) PERMIT NUMBER: [illegible]

(17 19) DISCHARGE NUMBER: [illegible]

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	12	01	TO	89	12	31
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

MI OR (SUBP JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible] SUSPENDED	SAMPLE MEASUREMENT	12.0	14.7		*****	18	22		0		
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	30.0 30DA AVG	89.5 DAILY MX	LBS/DA	*****	30 30DA AVG	90 DAILY MX	MG/L		WEEKLY	GRAB
[illegible], IN CONDUIT OF FULL TREATMENT PLANT	SAMPLE MEASUREMENT	0.08	0.08		*****	*****	*****		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	*****	*****	*****	****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 616 NUMBER 963-5511

DATE: YEAR 89 MO 01 DAY 09

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER: MI 0029386

DISCHARGE NUMBER: 001 A

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	12	01	TO	88	12	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PARA MATER	50050 FLOW CONDUIT	00400 pH	00011 TEMP. WATER	91110 OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12								
06		0.12	8.0	58	1					
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12								
14		0.12	8.0	57	1					
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12	7.9	54	1					
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		D O	W N							
26		0.12								
27		0.12								
28		0.12	7.9	54	1					
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		56	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	12	01	TO	88	12	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 13 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT	00530 SOLIDS-SUSPENDED AVE. <30/MAX 100 MG/L	85002 SOLIDS-SUSPENDED AVE. <5.0/MAX 16.7 LBS./DAY
01				
02				
03				
04				
05				
06		0.017168	7	1.0
07				
08				
09				
10				
11				
12				
13				
14		0.027182	3	0.7
15				
16				
17				
18				
19		0.017291	6	0.9
20				
21				
22				
23				
24				
25				
26				
27				
28		0.016806	6	0.8
29				
30				
31				
	TOTAL			

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	12	01	TO	88	12	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX 30	AVE. <33.0/MAX 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08								
06		0.08	11	7.3						
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08								
14		0.08	19	12.7						
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08	22	14.7						
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.0	W N							
26		0.08								
27		0.08								
28		0.08	20	13.3						
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	[illegible]	10	[illegible]						

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2 16)	(17 19)
MI0029386	001 A
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COOLDECIL.BLDWN TO KILAMAZOO

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	89	11	01	TO	88	11	30
	(20 21)	(22 23)	(24 25)		(26 27)	(28 29)	(30 31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	63	65		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.8	******	7.9		0		
	PERMIT REQUIREMENT	******	******	**** ****	5.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAP
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MOD	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 00130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

[signature]

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
616	963-5511	88	12	9
AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS ATT: MR. PAUL STOP [illegible]
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

PERMIT NUMBER (2 16)	DISCHARGE NUMBER (17 19)
MI0022384	01 b

MONITORING PERIOD

FROM YEAR (20 21)	MO (22 23)	DAY (24 25)	TO YEAR (26 27)	MO (28 29)	DAY (30 31)
87	11	1	88	11	9

NOTE: Read instructions before completing this form.

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	1.2	1.9		******	9	11		0		
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	5.0 30DA AVG	15.0 DAILY MX	MG/L	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.015246	0.020908		******	******	******		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	88	12	9

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOELK
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

Form Approved
OMB No. 2040-0004
Expires 3-31-88

F - FINAL

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
MI0029396	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	87	11	01	TO	88	11	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	12.5	15.3		******	19	23		0		
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	33.0 30DA AVG	89.5 DAILY MX	LB/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616 AREA CODE	965-5511 NUMBER	88 YEAR	12 MO	9 DAY
TYPED OR PRINTED							

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	11	01	TO	88	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARA-MATER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		MAX 9.0/MIN. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12	7.9	65	1					
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12	7.9	64	1					
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12	7.8	61	1					
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12	7.9	60	1					
25		0.12								
26		0.12								
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		63	1					

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	11	01	TO	88	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04		0.014580	5	0.6						
05										
06										
07										
08										
09										
10		0.008098	10	0.7						
11										
12										
13										
14										
15										
16										
17		0.018199	9	1.4						
18										
19										
20										
21										
22										
23										
24		0.020908	11	1.9						
25										
26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.015446	9	1.2						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	11	01	TO	88	11	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARA-MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX.30	AVE. <33.0/MAX.49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08	17	11.3						
05		0.08								
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08	21	14.0						
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08	14	9.3						
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08	23	15.3						
25		0.08								
26		0.08								
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	19	12.5						

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFF
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2 16)	(17 19)
[illegible]0029386	[illegible]
PERMIT NUMBER	DISCHARGE NUMBER

F - FINAL
COOLER OIL PLANT TO [illegible]

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
[illegible]	10	1	[illegible]	[illegible]	31
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MINOR (SUBP J.1)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69 70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00 11 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	68	74		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
[illegible] 00 [illegible] 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.8	******	8.0		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
[illegible], IN CONDUIT OR THRU TREATMENT PLANT 00 [illegible] 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGL	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 00 [illegible] 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5511	88	11	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOP R
177 ANGELL STREET
BATTLE CREEK [illegible] 4901

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

F - FINAL

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

MONITORING PERIOD

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

MINOR (SUBR JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	12.9	16.0		******	19	24		0		
	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 00050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5511	88	11	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME #ALLORE CORP

ADDRESS ATT: MR. PAUL STORB
177 ANGELL STREET
WHITE CREEK I 49017

FACILITY

LOCATION

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

F - FINAL

Form Approved
OMB No. 2040 0004
Expires 3 31-88

PERMIT NUMBER (2 16)	DISCHARGE NUMBER (17 19)
MI0029396	001

MONITORING PERIOD

FROM YEAR (20 21)	MO (22 23)	DAY (24 25)	TO YEAR (26 27)	MO (28 29)	DAY (30 31)
88	10	1	88	10	31

MIDDB (SPIF JI)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46 53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
OIL & GREASE, TOTAL CURRENT CONTROL PERMIT EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.8	1.3		******	6	8		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	15.0 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		REPORT	GRAB
TSS, IN CONDUCT OF POTW TREATMENT PLANT 50 50 1 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.015361	0.018969		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	******		REPORT	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	616	963-5571	88	11	10
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

U.S. DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 A — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	10	01	TO	88	10	31

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12	7.8	74	1					
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12	7.9	71	1					
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12	7.9	65	1					
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	8.0	63	1					
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		68	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	10	01	TO	88	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON, GENERAL MANAGER (TYPED OR PRINTED)

DAY	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04										
05		0.015914	3	0.4						
06										
07										
08										
09										
10										
11		0.015007	7	0.9						
12										
13										
14										
15										
16										
17										
18		0.011554	6	0.6						
19										
20										
21										
22										
23										
24										
25										
26										
27		0.018964	8	1.3						
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.015361	6	0.3						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.

BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER: MI 0029386

DISCHARGE NUMBER: 001 C

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	10	01	TO	88	10	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: Les Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER (TYPED OR PRINTED): LES SPURGEON, GENERAL MANAGER

DAY	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX.30	AVE. <33.0/MAX.49.5						
	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	22	14.7						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08	13	8.7						
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08	18	12.0						
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	24	16.0						
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									
	AVERAGE	0.05	19	12.9						

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

NAME WALDORF CORP

ADDRESS ATT:MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016

FACILITY

LOCATION

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

Form Approved
OMB No 2040-0004
Expires 3-31-88

(1-16) MI0029386 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

F - FINAL
COOL&BOIL.BLDWN TO KALAMAZOO

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
88	09	01	88	09	30
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

MINOR (SUBR JJ)

NOTE Read instructions before completing this form

PARAMETER (32-37)		(1 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT	SAMPLE MEASUREMENT	******	******		******	82	86		0		
00011 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
PH	SAMPLE MEASUREMENT	******	******		7.8	******	7.9		0		
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE	SAMPLE MEASUREMENT	1	1		******	******	******		0		
84130 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

CERTIFY UNDER PENALTY OF LAW THAT HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 [illegible]

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	88	10	10

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP
ADDRESS ATT: MR. PAUL STOFER
177 ANGELL STREET
BATTLE CREEK MI 49016
FACILITY
LOCATION

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

F - FINAL

Form Approved
OMB No 2040 0004
Expires 3 31 88

(2 16) MI0029386 PERMIT NUMBER
(17 19) 001 B DISCHARGE NUMBER

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
88	09	01	88	09	30
(20 21)	(22 23)	(24 25)	(26 27)	(28 29)	(30 31)

MINOR (SUBR JJ)
NOTE Read instructions before completing this form

PARAMETER (32 37)		(3 Card Only) QUANTITY OR LOADING (46 53) AVERAGE	(54 61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38 45) MINIMUM	(46 53) AVERAGE	(54 61) MAXIMUM	UNITS	NO EX (62 63)	FREQUENCY OF ANALYSIS (64 68)	SAMPLE TYPE (69 70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	0.6	0.7		******	5	10		0		
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	5.0 30DA AVG	16.7 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.015400	0.021183		******	******	******		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (illegible)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	88	10	10

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

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

02377/051698-1921

*U.S. GPO: 1980-201-704

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

NAME WALDORF CORP

ADDRESS ATT: MR. PAUL STOFER

177 ANGELL STREET

BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No 2040-0004
Expires 3 31 88

F - FINAL

PERMIT NUMBER (1-16): MI0029386

DISCHARGE NUMBER (17-19): 001 C

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
88	09	01	88	09	30
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

MINOR (SUBB JJ)

NOTE Read instructions before completing this form

PARAMETER (32-39)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	13.0	18.0		******	20	27		0		
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	LBS/DY	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U S C § 1001 AND 33 U S C § 1319 [illegible]

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	88	10	10

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

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT

DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 A

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	09	01	TO	88	09	30

CERTIFICATION OF PERSON PRESENTLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 a day or maximum imprisonment of between 6 months to 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT MGD	00400 pH max 9.0/min. 6.0 0 TO 14	00011 TEMP. WATER °F	91110 OUTFALL OBSERV. ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12								
05		0.12	7.8	86	1					
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12								
11		0.12								
12		0.12								
13		0.12	7.8	84	1					
14		0.12								
15		0.12								
16		0.12								
17		0.12								
18		0.12								
19		0.12								
20		0.12	7.9	79	1					
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12								
27		0.12	7.8	77	1					
28		0.12								
29		0.12								
30		0.12								
31										
	TOTAL									
	AVERAGE	0.12		82	1					

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386	001 B
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	09	01	TO	88	09	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: L. Spurgeon

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: LES SPURGEON, GENERAL MANAGER (TYPED OR PRINTED)

DAY	PAR # / PARAMETER / LIMIT / UNITS	50050 FLOW CONDUIT MGD	00530 SOLIDS-SUSPENDED AVE. <30/MAX 100 mg/L	85002 SOLIDS-SUSPENDED AVE. <5.0/MAX 16.7 LBS./DAY						
01										
02										
03										
04										
05		0.007750	10	0.6						
06										
07										
08										
09										
10										
11										
12										
13		0.016710	3	0.4						
14										
15										
16										
17										
18										
19										
20		0.021183	3	0.5						
21										
22										
23										
24										
25										
26										
27		0.015956	5	0.7						
28										
29										
30										
31										
	TOTAL									
	AVERAGE	0.015400	5	0.6						

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	09	01	TO	88	09	30

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARA MATER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08								
05		0.08	12	8.0						
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08								
11		0.08								
12		0.08								
13		0.08	27	18.0						
14		0.08								
15		0.08								
16		0.08								
17		0.08								
18		0.08								
19		0.08								
20		0.08	22	14.7						
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08								
27		0.08	17	11.3						
28		0.08								
29		0.08								
30		0.08								
31										
	TOTAL									
	AVERAGE	0.08	20	13.0						

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

NAME WALDORF CORP

ADDRESS ATT: DR. PAUL S[illegible]

177 ANGELL STREET

BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2-16)	(17-19)
[illegible]002 3[illegible]	[illegible]
PERMIT NUMBER	DISCHARGE NUMBER

F - [illegible]

[illegible]

MONITORING PERIOD

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

MINOR (SUBR 33)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. FAHRENHEIT 00011 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	90	92		0		
	PERMIT REQUIREMENT	******	******	**** ****	******	REPORT 30DA AVG	REPORT DAILY MX	DEG.F		WEEKLY	INSTAN
[illegible] 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		7.8	******	7.9		0		
	PERMIT REQUIREMENT	******	******	**** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 00[illegible] 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.12	0.12		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	[illegible]	******	******	******	**** ****		DAILY	
OUTFALL OBSERVATION, VISUAL, Y/N RESPONSE 00130 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1	1		******	******	******		1		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	YES=1 NO=0	******	******	******	**** ****		DAILY	VISUAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

LES SPURGEON
GENERAL MANAGER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

[signature]

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE AREA CODE	NUMBER	DATE YEAR	MO	DAY
616	963-5511	88	09	08

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

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

02370/051688-1921

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

NAME WALTORE CORP

ADDRESS ATT: MR. PAUL S[illegible]

177 ANGELL STREET

BATTLE CREEK MI 49[illegible]

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040-0004
Expires 3-31-88

(2 16)	(17 19)
[illegible]	0 1 [illegible]
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

FROM YEAR	MO	DAY	TO YEAR	MO	DAY
88	0[illegible]	1	88	[illegible]	31
(20 21)	(22 23)	(24-25)	(26-27)	(28 29)	(30-31)

MINOR (SUBK JJ)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
SOLIDS, TOTAL SUSPENDED [illegible] 1 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.6	0.7		******	10	12		0		
	PERMIT REQUIREMENT	5.0 30DA AVG	16.3 DAILY MX	LBS/DY	******	30 30DA AVG	100 DAILY MX	MG/L		WEEKLY	CHAR
FLOW, IN CONDUIT OR THRU TREATMENT PLANT [illegible] 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	0.007247	0.010829		******	******	******		0		
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)	[signature]	616	963-5511	88	09	08
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

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

NAME [illegible]

ADDRESS ATT: [illegible]

177 ANGELL STREET

BATTLE CREEK MI 49016

FACILITY

LOCATION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2040 0004
Expires 3 31-88

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

MONITORING PERIOD

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

[illegible]

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
[illegible]	SAMPLE MEASUREMENT	12.7	16.0		******	19	24		0		
[illegible]	PERMIT REQUIREMENT	33.0 30DA AVG	49.5 DAILY MX	[illegible]	******	20 30DA AVG	30 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THEN TREATMENT PLANT	SAMPLE MEASUREMENT	0.08	0.08		******	******	******		0		
[illegible]	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	**** ****		WEEKLY	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
LES SPURGEON GENERAL MANAGER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10 000 and or maximum imprisonment of between 6 months and 5 years)	[illegible]	616	965-5511	88	09	08
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

MI 0029386 — PERMIT NUMBER
001 A — DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	08	01	TO	88	08	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00400	00011	91110					
	PARAMETER	FLOW CONDUIT	pH	TEMP. WATER	OUTFALL OBSERV.					
	LIMIT		max 9.0/min. 6.0							
DAY	UNITS	MGD	0 TO 14	°F	ASSESS.					
01		0.12								
02		0.12								
03		0.12								
04		0.12	7.9	92	1					
05		0.12								
06		0.12								
07		0.12								
08		0.12								
09		0.12								
10		0.12	7.8	90	1					
11		0.12								
12		0.12								
13		0.12								
14		0.12								
15		0.12								
16		0.12								
17		0.12	7.8	89	1					
18		0.12								
19		0.12								
20		0.12								
21		0.12								
22		0.12								
23		0.12								
24		0.12								
25		0.12								
26		0.12	7.9	87	1					
27		0.12								
28		0.12								
29		0.12								
30		0.12								
31		0.12								
	TOTAL									
	AVERAGE	0.12		90						

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

NAME WALDORF CORP.

ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY

LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 B

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	08	01	TO	88	08	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

DAY	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS-SUSPENDED	SOLIDS-SUSPENDED						
	LIMIT		AVE. <30/MAX 100	AVE. <5.0/MAX 16.7						
	UNITS	MGD	MG/L	LBS./DAY						
01										
02										
03										
04		0.005975	11	0.5						
05										
06										
07										
08										
09										
10		0.005537	8	0.4						
11										
12										
13										
14										
15										
16										
17		0.006647	12	0.7						
18										
19										
20										
21										
22										
23										
24										
25										
26		0.010829	7	0.6						
27										
28										
29										
30										
31										
	TOTAL									

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)
NAME WALDORF CORP.
ADDRESS 177 ANGELL ST.
BATTLE CREEK, MI. 49016

FACILITY
LOCATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
DISCHARGE MONITORING REPORT
DAILY MONITORING

PERMIT NUMBER	DISCHARGE NUMBER
MI 0029386	001 C

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	88	08	01	TO	88	08	31

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE ACCURATE AND COMPLETE I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319 (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
LES SPURGEON
GENERAL MANAGER
TYPED OR PRINTED

	PAR #	50050	00530	85002						
	PARAMETER	FLOW CONDUIT	SOLIDS - SUSPENDED	SOLIDS - SUSPENDED						
	LIMIT		AVE. <20/MAX. 30	AVE. <33.0/MAX 49.5						
DAY	UNITS	MGD	MG/L	LBS./DAY						
01		0.08								
02		0.08								
03		0.08								
04		0.08	24	16.0						
05		0.08								
06		0.08								
07		0.08								
08		0.08								
09		0.08								
10		0.08	17	11.3						
11		0.08								
12		0.08								
13		0.08								
14		0.08								
15		0.08								
16		0.08								
17		0.08	15	10.0						
18		0.08								
19		0.08								
20		0.08								
21		0.08								
22		0.08								
23		0.08								
24		0.08								
25		0.08								
26		0.08	20	13.3						
27		0.08								
28		0.08								
29		0.08								
30		0.08								
31		0.08								
	TOTAL									

QUESTION 20

5a.

KAR Laboratories, Inc.
4425 Manchester Road
Kalamazoo, MI 49002

(616) 381-9666

ANALYTICAL REPORT

To: Rock Tenn Co.
431 Helen Ave.
Otsego, MI 49078

Attn: Barb Cichon

Date: October 28, 1988

Laboratory Code: 881900

P.O. No.: 12291

Re: Analysis of one 001 composite outfall sample submitted 10/14/88.

Sample I.D.: 001 composite 10/13 to 10/14/88

	Concentration (ug/L)
2,3,7,8-tetrachlorodibenzo-P-dioxin	<0.01

Respectfully submitted,

KAR Laboratories, Inc.

William H. Bouma

William H. Bouma, Ph.D.
Director

WHB/crc

COMPUCHEM LABORATORIES

ANALYTICAL REPORT OF DATA
SUBMITTED TO:

Ms. Barb Chicon
Mead Paperboard Products
431 Helen Avenue
Otsego, MI 49078

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE SAMPLE EXTRACTED	DATE PESTICIDES/PCBs FRACTION ANALYZED
1.	001OUTFALL	112451	12/12/86	12/16/86	12/17/86 12/17/86

*Second column confirmation analysis which serves to verify the presence or absence of Pesticides/PCB's.

METHOD REFERENCE

CompuChem® employs Method 608 for the GC analysis of pesticides and PCBs in aqueous matrices. This method is published in Volume 49, October 26, 1984 Federal Register.

Method Summary

As stated in the October 1984 reference, "A measured volume of sample, approximately one liter, is solvent extracted with methylene chloride using a separatory funnel or continuous extractor. The methylene chloride extract is dried and exchanged to hexane during concentration to a final volume of 10 ml or less. Gas chromatographic conditions... permit the separation and measurement of the parameters in the extract by electron capture GC".

COMPOUND LIST -- PESTICIDES/PCBs

SAMPLE IDENTIFIER: 001OUTFALL
COMPUCHEM® SAMPLE NUMBER: 112451

		CONCENTRATION (UG/L)	DETECTION LIMIT (UG/L)
1P.	ALDRIN	BDL	0.10
2P.	ALPHA-BHC	BDL	0.10
3P.	BETA-BHC	BDL	0.10
4P.	GAMMA-BHC	BDL	0.10
5P.	DELTA-BHC	BDL	0.10
6P.	CHLORDANE (TECHNICAL)	BDL	0.50
7P.	4,4'-DDT	BDL	0.10
8P.	4,4'-DDE	BDL	0.10
9P.	4,4'-DDD	BDL	0.10
10P.	DIELDRIN	BDL	0.10
11P.	ALPHA-ENDOSULFAN	BDL	0.10
12P.	BETA-ENDOSULFAN	BDL	0.10
13P.	ENDOSULFAN SULFATE	BDL	0.10
14P.	ENDRIN	BDL	0.10
15P.	ENDRIN ALDEHYDE	BDL	0.10
16P.	HEPTACHLOR	BDL	0.10
17P.	HEPTACHLOR EPOXIDE	BDL	0.10
18P.	PCB-1242	BDL	1.0
19P.	PCB-1254	BDL	1.0
20P.	PCB-1221	BDL	1.0
21P.	PCB-1232	BDL	1.0
22P.	PCB-1248	BDL	1.0
23P.	PCB-1260	BDL	1.0
24P.	PCB-1016	BDL	1.0
25P.	TOXAPHENE	BDL	1.0

Surrogate Recovery - Introduced at the beginning of the extraction, the surrogate standard is a select compound that analytically mimics the response of certain analytes. A known concentration of this surrogate is added to the sample and a percent recovery is calculated. This recovery acts as a barometer of extraction efficiency and analytical response for the individual sample.

	% Recovery	Control Range %
Dibutylchlorendate	66	(48-136)*

*Advisory surrogate; with the exception of dilutions recovery below 10% requires action step (re-extraction and re-analysis).

BDL=BELOW DETECTION LIMIT

QUALITY CONTROL SUMMARY

SAMPLE IDENTIFIER: 001OUTFALL
COMPUCHEM® SAMPLE NUMBER: 112451

PESTICIDES/PCBs

	NUMBER	ACCEPTANCE CRITERIA
Blank	112703	OK
Sample Spike	112204	OK
Shift Standards		
Pesticide/PCBs Standard		OK

COMPUCHEM LABORATORIES

ANALYTICAL REPORT OF DATA
SUBMITTED TO:

Ms. Barbara Chicon
Mead Paperboard Products
431 Helen Avenue
Otsego, MI 49078

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE SAMPLE EXTRACTED	DATE ACID FRACTION ANALYZED	DATE BASE/NEUTRAL FRACTION ANALYZED
1.	0010UTFALL	112450	12/12/86	12/17/86	12/18/86	12/18/86

METHOD REFERENCE

CompuChem® employs Method 625 for GC/MS analysis of acid and base/neutral organics in liquid matrices. This method is published in Volume 49, October 26, 1984 Federal Register.

METHOD SUMMARY

As stated in the October 1984 reference, "A measured volume of sample, approximately one liter, is serially extracted with methylene chloride at a pH greater than 11 and again at pH less than 2 using a separatory funnel or a continuous extractor. The methylene chloride extract is dried and concentrated to a volume of 1 ml."

"Qualitative identification is performed using the retention time and the relative abundance of three characteristic ions. Quantitative analysis is performed using either external or internal standard techniques."

COMPOUND LIST -- ACID EXTRACTABLES

SAMPLE IDENTIFIER: 0010UTFALL
COMPUCHEM® SAMPLE NUMBER: 112450

		CONCENTRATION (UG/L)	DETECTION LIMIT (UG/L)
1A.	PHENOL	BDL	10
2A.	2-CHLOROPHENOL	BDL	10
3A.	2-NITROPHENOL	BDL	10
4A.	2,4-DIMETHYLPHENOL	BDL	10
5A.	2,4-DICHLOROPHENOL	BDL	10
6A.	P-CHLORO-M-CRESOL	BDL	10
7A.	2,4,6-TRICHLOROPHENOL	BDL	10
8A.	2,4-DINITROPHENOL	BDL	50
9A.	4-NITROPHENOL	BDL	50
10A.	4,6-DINITRO-O-CRESOL	BDL	50
11A.	PENTACHLOROPHENOL	BDL	50

Surrogate Recoveries - Introduced at the beginning of the extraction, surrogate standards are deuterated and/or select compounds that analytically mimic the response of certain analytes. Known concentrations of these surrogates are added to the sample and a percent recovery is calculated. This recovery acts as a barometer of extraction efficiency and analytical response for the individual sample.

	%Recovery	Control Range%
2-Fluorophenol	45	(23-121)
D_5-Phenol	36	(15-103)
2,4,6-Tribromophenol	60	(10-130)

BDL= BELOW DETECTION LIMIT

COMPOUND LIST -- BASE-NEUTRAL EXTRACTABLES

SAMPLE IDENTIFIER: 0010UTFALL
COMPUCHEM® SAMPLE NUMBER: 112450

		CONCENTRATION (UG/L)	DETECTION LIMIT (UG/L)
1B.	N-NITROSODIMETHYLAMINE	BDL	10
2B.	BIS (2-CHLOROETHYL) ETHER	BDL	10
3B.	1,3-DICHLOROBENZENE	BDL	10
4B.	1,4-DICHLOROBENZENE	BDL	10
5B.	1,2-DICHLOROBENZENE	BDL	10
6B.	BIS (2-CHLOROISOPROPYL) ETHER	BDL	10
7B.	N-NITROSODI-N-PROPYLAMINE	BDL	10
8B.	HEXACHLOROETHANE	BDL	10
9B.	NITROBENZENE	BDL	10
10B.	ISOPHORONE	BDL	10
11B.	BIS(2-CHLOROETHOXY) METHANE	BDL	10
12B.	1,2,4-TRICHLOROBENZENE	BDL	10
13B.	NAPHTHALENE	BDL	10
14B.	HEXACHLOROBUTADIENE	BDL	10
15B.	HEXACHLOROCYCLOPENTADIENE	BDL	10
16B.	2-CHLORONAPHTHALENE	BDL	10
17B.	DIMETHYLPHTHALATE	BDL	10
18B.	ACENAPHTHYLENE	BDL	10
19B.	2,6-DINITROTOLUENE	BDL	10
20B.	ACENAPHTHENE	BDL	10
21B.	2,4-DINITROTOLUENE	BDL	10
22B.	DIETHYLPHTHALATE	BDL	10
23B.	4-CHLOROPHENYL PHENYL ETHER	BDL	10
24B.	FLUORENE	BDL	10
25B.	DIPHENYLAMINE (N-NITROSO)	BDL	10
26B.	1,2-DIPHENYLHYDRAZINE (AZOBENZENE)	BDL	10
27B.	4-BROMOPHENYL PHENYL ETHER	BDL	10
28B.	HEXACHLOROBENZENE	BDL	10

(Continued)

BDL=BELOW DETECTION LIMIT

COMPOUND LIST -- BASE-NEUTRAL EXTRACTABLES (Page Two)

SAMPLE IDENTIFIER: 0010UTFALL
COMPUCHEM® SAMPLE NUMBER: 112450

		CONCENTRATION (UG/L)	DETECTION LIMIT (UG/L)
29B.	PHENANTHRENE	BDL	10
30B.	ANTHRACENE	BDL	10
31B.	DI-N-BUTYLPHTHALATE	BDL	10
32B.	FLUORANTHENE	BDL	10
33B.	PYRENE	BDL	10
34B.	BENZIDINE	BDL	50
35B.	BUTYLBENZYLPHTHALATE	BDL	10
37B.	3,3'-DICHLOROBENZIDINE	BDL	20
36B.	BENZO(A)ANTHRACENE	BDL	10
39B.	BIS(2-ETHYLHEXYL)PHTHALATE	BDL	10
38B.	CHRYSENE	BDL	10
40B.	DI-N-OCTYLPHTHALATE	BDL	10
41B.	BENZO(B)FLUORANTHENE	BDL	10
42B.	BENZO(K)FLUORANTHENE	BDL	10
43B.	BENZO(A)PYRENE	BDL	10
44B.	INDENO(1,2,3-C,D)PYRENE	BDL	10
45B.	DIBENZO(A,H)ANTHRACENE	BDL	10
46B.	BENZO(G,H,I)PERYLENE	BDL	10

Surrogates Recoveries - Introduced at the beginning of the extraction, surrogate standards are deuterated and/or select compounds that analytically mimic the response of certain analytes. Known concentrations of these surrogates are added to the sample and a percent recovery is calculated. This recovery acts as a barometer of extraction efficiency and analytical response for the individual sample.

	%Recovery	Control Range%
D_5-Nitrobenzene	90	(41-120)
2-Fluorobiphenyl	62	(44-119)
D_{14}-Terphenyl	63	(33-128)
D_{10}-Pyrene*	71	*

BDL=BELOW DETECTION LIMIT
*Advisory Surrogate; therefore no control range

QUALITY CONTROL SUMMARY

SAMPLE IDENTIFIER: 0010UTFALL
COMPUCHEM® SAMPLE NUMBER: 112450

ACID

	NUMBER	ACCEPTANCE CRITERIA
Blank	112593	OK
Blank Spike	112371	OK
Sample Spike	112370	**
DFTPP*	DF861218C20	OK
Shift Standard	AS861218C20	OK

BASE/NEUTRAL

Blank	112593	OK
Sample Spike	112370	OK
DFTPP*	DF861218A21	OK
Shift Standard	BU861218A21	OK

*The tuning calibration compound, Decafluorotriphenylphosphine, is used for the acid and base/neutral instruments.
**See Quality Assurance Notice

QUALITY ASSURANCE NOTICE
Matrix Spike#112370 Original#112369
Blank Spike#112371 Fraction: Acid

All spike/surrogate recoveries were not within acceptance criteria for the quality control matrix spike associated with this sample. To comply with the Oct. 26, 1984 revision of the Federal Register 600-series methodologies, a blank spike was analyzed with this batch of samples, and all spike and surrogate recovery criteria were met. In addition, surrogate recoveries in the original sample (used to prepare the matrix spike) were comparable to those in the matrix spike.

We have attributed the unacceptable recoveries to the matrix of the original sample, since recoveries in the blank and blank spike prepared in this batch were acceptable. We are reporting these associated sample data with reference to this notice.

data reviewer LLF

date 12/20/86

COMPUCHEM LABORATORIES

ANALYTICAL REPORT OF DATA
SUBMITTED TO:

Ms. Barb Cichon
ROCK-TENN CO.
431 Helen Ave.
Otsego, MI 49078

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE VOLATILE FRACTION ANALYZED
1.	001	207936	07/21/88	07/24/88

METHOD REFERENCE

CompuChem® employs Method 624 for the GC/MS analysis of volatile priority pollutant organics in liquid matrices. This method is published in Volume 49, October 26, 1984 Federal Register.

Method Summary

As stated in the October 1984 reference, "An inert gas is bubbled through a 5 ml sample contained in a specially designed purging chamber at ambient temperature. The purgeables are efficiently transferred from the aqueous phase to the vapor phase. The vapor is swept through a sorbent column where the purgeables are trapped. After purging is completed, the sorbent column is heated and backflushed with the inert gas to desorb the purgables onto a gas chromatographic column .... which are then detected with a mass spectrometer." Unknown compounds are tentatively identified by comparison to the National Bureau of Standards (NBS) mass spectral library.

The referenced methods are no longer appropriate for several of the original priority pollutant compounds. This is due to either the deletion from the toxic pollutant list (40 CFR Part 401) by EPA or the determination by EPA that the referenced methods may not be optimized for certain compounds (EPA-600/4-82-057) originally incorporated by the methods.

Those compounds which have actually been deleted are listed below with the Federal Register deletion reference.

Compound Name	GC/MS Fraction	Federal Register	Date
Dichlorodifluoromethane	Volatile	46FR2264	1/8/81
Trichlorofluoromethane	Volatile	46FR2264	1/8/81
Bis(Chloromethyl)Ether	Volatile	46FR10723	2/4/81

COMPOUND LIST - VOLATILE ORGANICS

SAMPLE IDENTIFIER: 001
COMPUCHEM® SAMPLE NUMBER: 207936

		CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
1V.	CHLOROMETHANE	BDL	10
2V.	BROMOMETHANE	BDL	10
3V.	VINYL CHLORIDE	BDL	10
4V.	CHLOROETHANE	BDL	10
5V.	METHYLENE CHLORIDE	BDL	10
6V.	ACROLEIN	BDL	100
7V.	ACRYLONITRILE	BDL	100
8V.	1,1-DICHLOROETHENE	BDL	10
9V.	1,1-DICHLOROETHANE	BDL	10
10V.	1,2-DICHLOROETHENE (TOTAL)	BDL	10
11V.	CHLOROFORM	BDL	10
12V.	1,2-DICHLOROETHANE	BDL	10
13V.	1,1,1-TRICHLOROETHANE	BDL	10
14V.	CARBON TETRACHLORIDE	BDL	10
15V.	BROMODICHLOROMETHANE	BDL	10
16V.	1,2-DICHLOROPROPANE	BDL	10
17V.	TRANS-1,3-DICHLOROPROPENE	BDL	10
18V.	TRICHLOROETHENE	BDL	10
19V.	DIBROMOCHLOROMETHANE	BDL	10
20V.	1,1,2-TRICHLOROETHANE	BDL	10
21V.	BENZENE	BDL	10
22V.	CIS-1,3-DICHLOROPROPENE	BDL	10
23V.	2-CHLOROETHYL VINYL ETHER	BDL	10
24V.	BROMOFORM	BDL	10
25V.	TETRACHLOROETHENE	BDL	10
26V.	1,1,2,2-TETRACHLOROETHANE	BDL	10
27V.	TOLUENE	BDL	10
28V.	CHLOROBENZENE	BDL	10
29V.	ETHYLBENZENE	BDL	10

Surrogate Recoveries - Introduced at the instrument, volatile surrogate standards are deuterated and/or select compounds that analytically mimic the response of certain analytes. Known concentrations of these surrogates are added to the sample and a percent recovery is calculated. This recovery acts as a barometer of method efficiency for the individual sample.

	% Recovery	Control Range %
D_4-1,2-Dichloroethane	91	(76-114)
4-Bromofluorobenzene	96	(86-115)
D_8-Toluene	98	(88-110)

BDL=BELOW DETECTION LIMIT

QUALITY CONTROL SUMMARY

SAMPLE IDENTIFIER: 001
COMPUCHEM® SAMPLE NUMBER: 207936

VOLATILE

	NUMBER	ACCEPTANCE CRITERIA
Blank	VC880724B03	OK
Sample Spike	207850	OK
BFB*	BF880724B03	OK
Shift Standard	VT880724B03	OK

*The tuning calibration compound, Bromofluorobenzene, is used for the volatile instruments.

COMPUCHEM LABORATORIES

ANALYTICAL REPORT OF DATA
SUBMITTED TO:

Ms. Barbara Cichon
ROCK-TENN CO.
431 Helen Ave.
Otsego, MI 49078

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE PHENOLS ANALYZED
1.	001	207948	07/21/88	08/05/88

COMPOUND LIST - CLASSICAL PARAMETERS

SAMPLE IDENTIFIER: 001

COMPUCHEM SAMPLE NUMBER: 207948

	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
1. PHENOLS, TOTAL	BDL	10

BDL = BELOW DETECTION LIMIT

COMPUCHEM LABORATORIES

ANALYTICAL REPORT OF DATA
SUBMITTED TO:

Ms. Barbara Cichon
ROCK-TENN Company
431 Helen Avenue
Otsego, MI 49078

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE METALS ANALYZED
1.	001	207940	07/21/88	08/10/88

FORM I

CompuChem Laboratories, Inc.
P.O. Box 12652
3308 Chapel Hill/Nelson Highway
Research Triangle Park, NC 27709

Client Sample No.
001

DATE 8/11/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Inorganics Laboratory CASE NO: COMMERCIAL

SOW NO: 785 Lab Receipt Date 07/21/88

LAB SAMPLE ID. NO. 207940 QC REPORT NO COM347

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM

MATRIX: WATER XXX SOIL SLUDGE OTHER

UNITS: ug/l

1.	Aluminum	429	P	13.	Magnesium	16200	P
2.	Antimony	33U	P	14.	Manganese	196	P
3.	Arsenic	[4.5]	F	15.	Mercury	.20U	CV
4.	Barium	113	P	16.	Nickel	34U	P
5.	Beryllium	[1.6]	P	17.	Molybdenum	16	P
6.	Cadmium	4.0U	P	18.	Selenium	2.0U	F
7.	Calcium			19.	Silver	9.4U	P
8.	Chromium	8.1U	P	20.	Sodium		
9.	Cobalt	2.4U	P	21.	Thallium	1.9U	F
10.	Copper	[22]	P	22.	Tin	16U	P
11.	Iron	493	P	23.	Zinc	44	P
12.	Lead	5.2	F	24.	Boron	1600	P
25.	Titanium	4.0	P		Percent Solids(%)		

Flags used: U = Element analyzed for but not detected
Value reported is the instrument detection limit.
[ ] = Value reported is less than contract-required detection limit
Methods used: P = ICP; F = Furnace AA; CV = Cold Vapor

Comments: YELLOW, OPAQUE

LAB MANAGER

QUALITY CONTROL SUMMARY

SAMPLE IDENTIFIER: 001
COMPUCHEM® SAMPLE NUMBER: 207940

METALS

	NUMBER	ACCEPTANCE CRITERIA
Blank	208875	OK
Blank Spike	207942	OK
Duplicate	207943	OK

Mac Sim Bar Paper Company, Division of United Biscuit Company of America, was formed and started in 1905. The Company was founded by three gentlemen: Mr. M. B. McClellan, Mr. S. W. Simpson and Mr. G. E. Bardeen. The name for the Corporation, Mac Sim Bar, was derived from the names of the three men. Mac Sim Bar became a subsidiary of United Biscuit Company of America in 1947.

At the start, only one board machine was bought, the small machine forming a sheet of board 115" wide. It was built by Beloit Iron Works, Beloit, Wisconsin. In 1909 the larger machine, trimming 128", was purchased, being built by Black-Clawson Company, Middletown, Ohio. After the close of World War Two, the 115" machine was completely rebuilt, new from one end to the other, and the 128" machine wet-end (paper forming section) was also completely revamped. With other changes meanwhile, each machine is up-to-date and modern in all respects.

The rated capacity for the two machines is 300 tons per 24 hour day, operations being continuous day and night throughout the week. We employ 400 people, all departments, including the office and sales.

The raw materials consist chiefly of waste paper, although most of our products require some virgin wood pulp. This wood pulp is bought principally from the U.S.A., with one grade coming from Scandinavia. It reaches us via the St. Lawrence and Great Lakes and is unloaded at South Haven, from which point it comes to us by rail. During each 24 hour day we use approximately 6 million gallons of water. Up until a year ago this supply was taken from the Kalamazoo river but now we use only well water.

Our three Springfield boilers, each rated at 100,000# of steam per hour, generate steam for our 4000 K.W. turbine which, in turn, produces our electrical requirements, the exhaust steam being used to dry the paperboard and to heat water for our beaters. Any two of the boilers are sufficient for our steam requirements, there always being one boiler in reserve. We burn approximately 160 tons of coal each 24 hours of operations. This would be sufficient to heat 25 average homes all winter.

The Company owns and operates its own fleet of Diesel, over the road trucks eighteen in number, and it also employs other contract carriers, all hauling paperboard outbound and waste paper inbound. A rail siding is enclosed in our shipping room, which is used for outbound rail shipments.

We have a full time nurse on duty daily; also, safety and plant protection men, with regular established meetings incidental thereto, including fire drills. A cafeteria is established for the convenience of our employees.

* In March, 1954, this Company had completed and in operation its waste water treatment plant, being one of the first mills in this area to be in compliance with the Water Resources Commission in its campaign to stop pollution of rivers and streams.

As previously noted, our paperboard is made up principally of waste papers of various descriptions, although most of our grades require some wood pulp, known as ground wood, sulphites or sulphates. A formula is followed for each grade of board we manufacture. Water is first admitted to beaters and hydrapulpers, then raw materials are added and also some chemicals, such as sizing and alum. After initial refining in these machines, further refining is done in hydrafiners and jordans. Before the pulp slurry goes to the board machines it is all screened to remove coarse or foreign particles. The pulp slurry contains about 3% fibres, the balance of the mix being water, as it goes to the board forming end of the machine, known as the "wet end".

A board machine is comprised of a series of vats, in each of which is a skeleton cylinder, 42" in diameter by whatever the width of the machine. Each cylinder is covered with a 40 to 50 mesh bronze wire cloth, known as a cylinder face. Our 115" machine has seven vats and cylinders and the 128" machine has eight vats and cylinders. Each cylinder is mounted in its respective vat so that the top of the cylinder will be higher than the pulp slurry which will flow into the vat. The board itself is formed on an endless woolen felt or blanket, known as a bottom felt. As the pulp slurry flows against the cylinder face, which is turning over in the vat, the water passes through the fine mesh wire cloth. The fibres remain on the cylinder face until they reach the uppermost top, as the cylinder turns, and where they are quickly transferred to the bottom side of the woolen felt, in the case of the first, or #1 cylinder, as the felt makes contact with the fibres.

The first layer of fibres, you will note, adheres to the nap on the underside of the felt and as the felt passes over each cylinder an added layer of fibres covers the layer last added until, on the 115" machine, seven layers go to make up the total board thickness. The 128" machine has eight cylinders, so eight layers of fibres comprise the total thickness on that machine. The board continues to the end of the machine where the felt carries it upward and over, the felt reversing its travel so that it moves towards the dry end of the machine. As it does this, another endless felt, known as the top felt, covers the top side of the board, the board now being in between the two felts. It continues its travel thusly through suction presses and press rolls, where much water is removed, after which it leaves the felts and travels by its own strength.

It continues onward a short distance to the driers, at about two-thirds moisture and one third dry. Driers are hollow cylinders, 42" in diameter and these are filled with exhaust steam from our turbine. There are 125 driers on the 115" machine and 160 driers on the 128" machine.

After the board completes its trip over the driers it passes through the calender stacks where it is ironed and smoothed, to give a smooth printing surface. Water is applied to each surface of the board to assist the smoothing process and other treatments may be applied at the calenders, if desired. There are three stacks of calenders for each machine,

following which are slitters and cutters. As the board passes through the last calender stack into the cutter, it is slit the proper width and cut to the proper length, as desired by the customer. There are also reel stands where the board may be wound into rolls, if the customer so specifies.

Sheet stock is shipped flat on skids, well banded. Rolls are prepared for shipment by fastening a steel band around each end of the roll.

It may be added that colored boards are made either by adding color to the fibre while in the beaters, or a surface coloring may be added as the board passes through the calenders.

Each machine is equipped to apply a coating of clay on the top side of the board, if desired. This is done about 1/3 way of its travel through the driers. Clay coating is desired on certain orders to increase brightness and printing surface.

We manufacture in the neighborhood of twenty principal grades of paperboard, with many various characteristics, colored boards and specialties. Thicknesses range from 16 to 54 points, one point being 1/1000 of an inch. This is written as .016 to .054. We also operate pasting or combining equipment, enabling us to supply Pasted Board up to and including .120.

Our paperboard is produced at the rate of between 200 and 300 lineal feet per minute. On the 115" machine the total length of paperboard from the first drier to the end of the cutter is 1200 feet and on the 128" machine the total length of the board is 1500 feet, or over a quarter mile.

Otsego Mill Lagoon Issue

1. The ealiest document that I could locate shows that what we now call Lagoon #2 and 3 were in existence prior to 1968 (See Att. 1)

2. Att. 2 and 3 shows what looks to be a proposal for what we call lagoon 1 in 1974. It looks like where Lagoon 1 now is stood two sludge ponds.

3. Att, 4 is the latest document I could find stating that there was only 1 lagoon in existence

4. Att 5 is from 1977 and shows that the 2 sludge ponds were converted into a lagoon. So some time between 1975 and 77 the lagoon which we call lagoon 1 was made

5. Att. 6 is from 1981 and shows that what we call lagoon 2 was lengthened.

MICHIGAN WATER RESOURCES COMMISSI

Report of
Wastewater Survey

PAGE 1

Mead Paperboard Products
(Mac Sim Bar Div.)
Otsego, Michigan

EARLIEST RECORD FOUND OF LAGOON # 1

May 20-22, 1968

Two consecutive 24 hour wastewater surveys were conducted at the Mead Paperboar Products, Mac Sim Bar Div., in Otsego starting May 20, 1968. The purpose of the survey was to determine the quality and quantity of waste water being discharged to the Kalamazoo River by the Company. The results of the survey will be compared with the conditions of the Order of Determination adopted by the Commission and the stipulations of the agreement between the Commission and the Company.

Operation and Wastewater Sources

The Mac Sim Bar Div. is a paper conversion plant with one 8 cylinder paper machine running 7 days per week producing laminated carton board. The company uses primarily well water for it's operation. Under certain conditions river water is used to supplement well water.

The treatment of the waste water from this plant consists first of a primary clarifier system followed by an oxidation-stabilization lagoon. The waste water goes to the primary system which consists of two circular clarifiers operating in parallel. Each clarifier has a 230,000 gallon capacity. The plant utilizes a water reuse program where a portion of the waste water from the primary system is reused. The excess waste water is pumped to the oxidation-stabilization lagoon for further biological reduction.

Final Order of Determination

The Final Order of Determination adopted by the Commission October 24, 1968 stipulated less than 10 lbs. of suspended solids per ton of paper produced would be discharged to the Kalamazoo River. One of the conditions of the agreement between the Company and the Commission dated June of 1961 are the oxygen consuming material measured as 5-day biochemical-oxygen-demand shall not exceed 2,085 pounds per day.

Survey Procedure and Results

The flow from the oxidation-stabilization lagoon was measured with the aid of the company's Parshall flume which is equipped with an integrating recorder. Previous checks indicate this device is reasonably accurate. An automatic sampler was installed at the approach channel to the flume. The sampler took samples at fifteen minute intervals proportional to the instantaneous flow and deposited them in a clean glass container to make up a 24-hour composite sample, representative of the total flow. The composite samples were transported to the WRC laboratory in Lansing for selected quantitative, chemical and physical ana

THE MEAD CORPORATION

MEAD research

ENVIRONMENTAL GROUP
CENTRAL RESEARCH LABORATORIES
CHILLICOTHE, OHIO 45601
TELEPHONE (614) 772-3503

PROJECT: OTSEGO MILL

RECOMMENDATIONS TO PROCEED

DATE: 2-18-74 BY: R. Drew

SHEET ____ OF ____

PURCHASE IMMEDIATELY BALANCE W/SENSITIVITY & ACCURACY ± 0.3 mg.; DESSICATOR; CRUCIBLES; IMHOFF CONES & RACK. USE STD. METHODS W/FIBER GLASS FOR TSS TEST.

MAKE SOME CROSS CHECKS W/ANOTHER LAB. ON BOD.

PLACE ON ORDER PROMPTLY A 40 OR 50 HP FLOAT T. H.S. AERATOR. ON DELIVERY MOUNT SAME IN ONE OF SLUDGE PONDS. DIRECT INFILCO EFF. TO THIS POND & THEN TO EXISTING ASB. EVALUATE EXTENSIVELY DURING SUMMER, FALL & WINTER OF 1974.

BUDGET IN 1975 TO PLACE SECOND SLUDGE POND ON LINE PARALLEL W/FIRST SLUDGE POND W/EITHER A NEW 40 OR 50 HP AERATOR OR IF '74 INDICATE PRACTICAL RELOCATE EXISTING 40 HP. EVALUATE EXIST. ASB PERFORMANCE IN 1975 & POSSIBLY RELOCATE 2 OF 20 HP AERATORS IN INFLUENT END OF ASB.

NOTE: CHANGES ETC. IN EXIST. ASB SHOULD BE MADE IN COLD WEATHER ONLY TO MINIMIZE ODOR POTENTIAL.

THIS LOOKS LIKE A PROPOSAL IN 1974 FOR AN ADDITIONAL LAGOON.

RT 104143

August 30, 1973

To: Mr. R. R. Deem

From: J. R. Stafford

Re: Aerated Lagoon Study - Otsego Paperboard Mill

Over a period of six weeks, July 2 to August 14, this mill's aerated lagoon indicated zero dissolved oxygen throughout its entirety. The plant was visited on August 22 and 23 in an attempt to determine the reason for this abnormal oxygen deficiency. The program included Dissolved Oxygen-Temperature Profiles, Sludge Deposits, oxygen uptake rates and analyses for Biochemical Oxygen Demand, Suspended Solids and various Nitrogenous compounds.

The mill's record for the lagoon showed an average daily flow of 1.03 million gallons for the period of August 1 through the 18th. However, due to operational difficulties the average flow was only 0.2 million gallons per day for August 19 through the 23rd. Due to low loadings to the lagoon just before and during this survey, the results contained in this report can be interpreted only as background data. When flows are stabilized, should oxygen deficiencies again be noted, a subsequent study of this nature is recommended.

The results of this study are listed in the attached pages as follows:

TABLE 1 Summary data except D.O.-Temp and Sludge profiles. Note discrepancies in D.O.-Winkler vs. YSI. This indicates interference to the Winkler test by some sulfur reducing compound in the lagoon water.

TABLE 2 D.O. Temp. profile

TABLES 3 & 3A Detailed data for oxygen uptake rates

FIG. 1 Diagram of the aerated lagoon showing locations of aerators and sampling points.

FIG. 2 Sludge Profile - sludge deposit in inches.

I wish to express my sincere thanks to Messrs. Dave Keith and Ward Fritz for their assistance during this survey.

J. R. Stafford

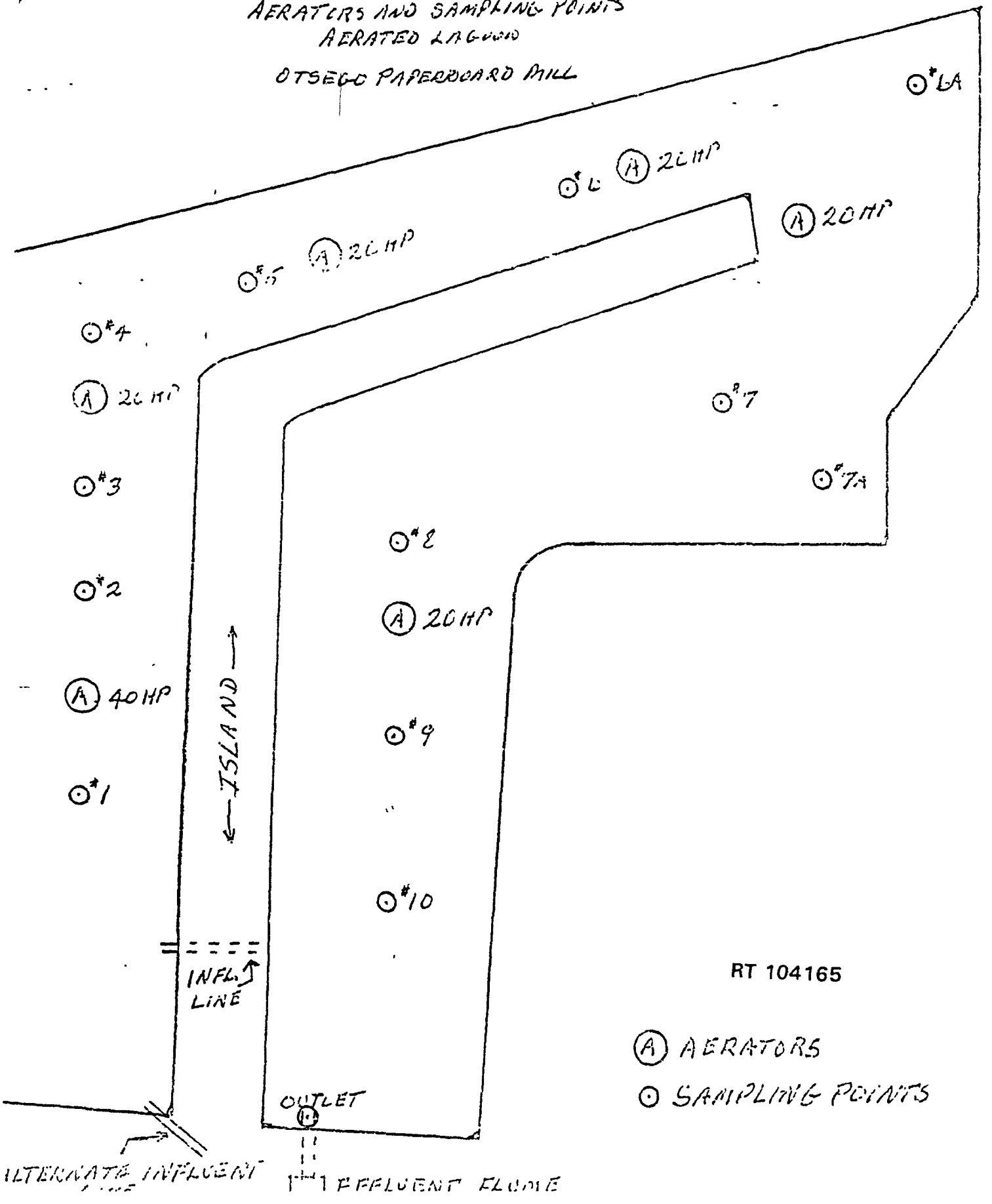
JRS/sc

cc: See Next Page

RT 104159

REDRAWN FROM MILL DIAGRAM BY J. STAFFORD Date AUGUST 23, 1973 | 1

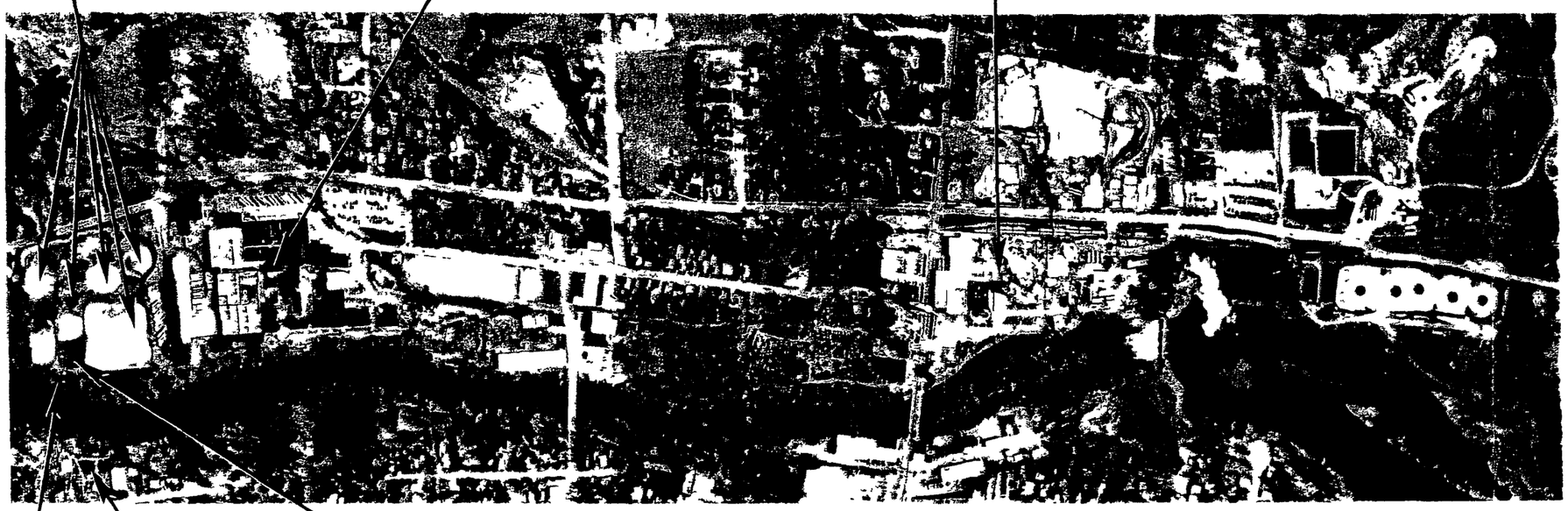
FIG. 1
AERATORS AND SAMPLING POINTS
AERATED LAGOON
OTSEGO PAPERBOARD MILL



RT 104165

FIGURE 2

EXISTING ARRANGEMENT



NOTE: OUTFALL LOCATION IS APPROXIMATE

RT 104548

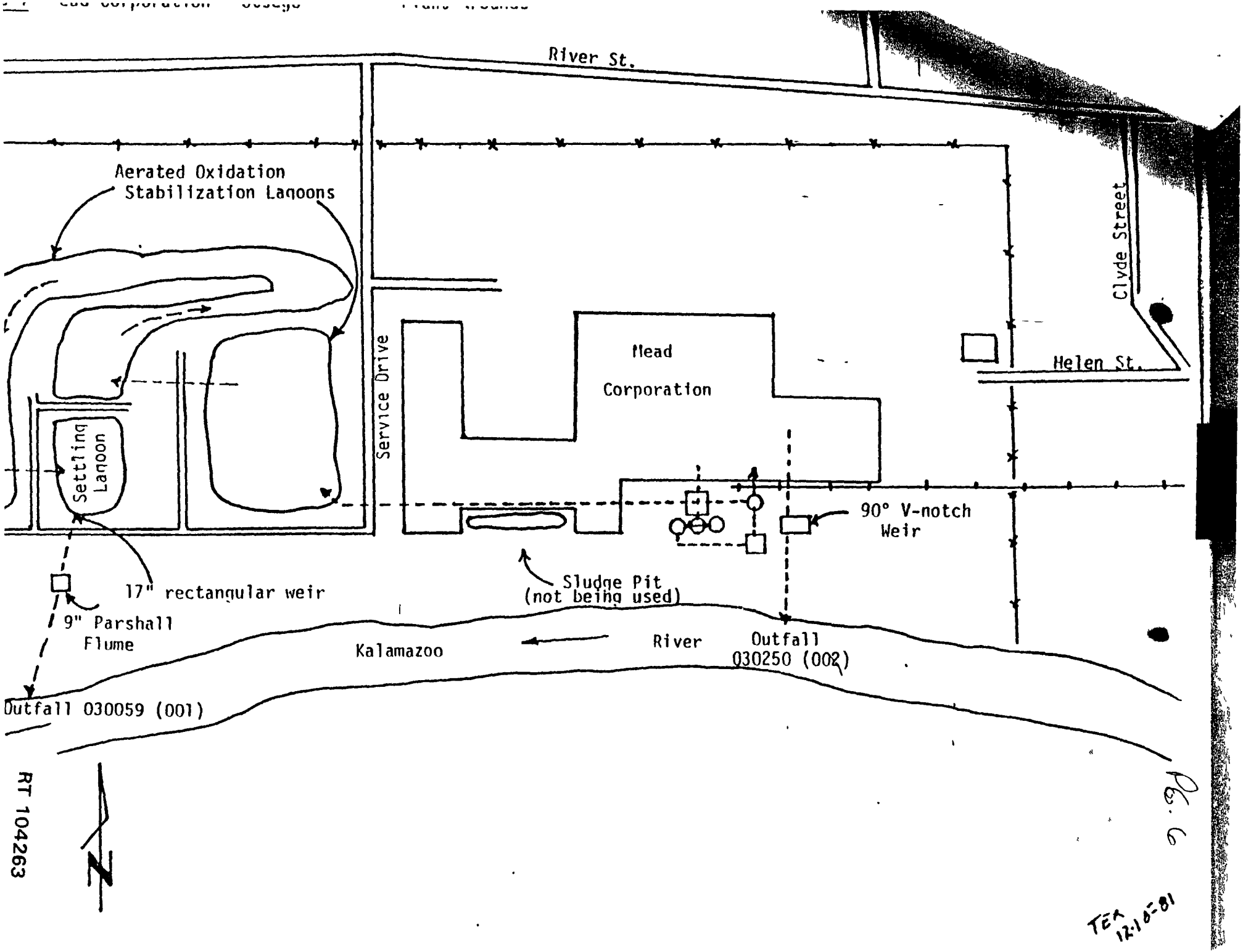
KALAMAZOO RIVER
STUDY GROUP

IDENTIFICATION OF OTHER PRPs

ROCK-TENN COMPANY
1991 AERIAL PHOTOGRAPH

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & GEOSCIENTISTS

NOVEMBER 1992
645.02.01



RT 104263

Pg. 6

TEA 12-10-81

e 6 Sample Preservation

meter	Preservative
	10 drops conc. H_2SO_4/250 ml (to pH <2).
l Metals	2 ml 1:1 HNO_3/250 ml (to pH <2).
& Grease	10 drops conc. H_2SO_4/250 ml (to pH <2).

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: David Keith, Certified Operator
Jerome Stoltz

Hydrocarbon Analyses by: Environmental Protection Bureau Laboratory

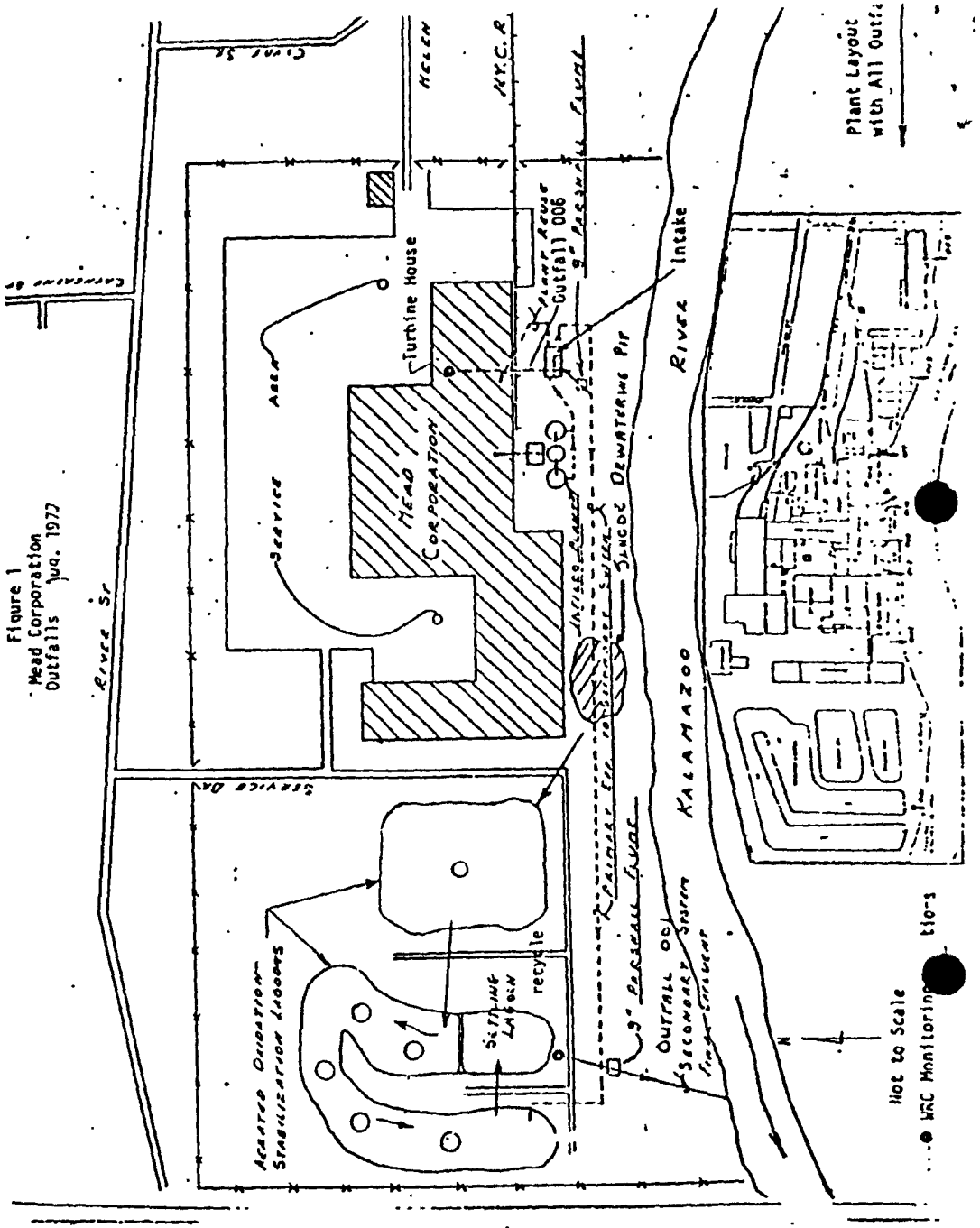
Physical & Chemical Analyses by: Environmental Protection Bureau Laboratory

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

stribution "A"

pg. 5

RT 104281



MAP From 1977

LATEST DOCUMENT FOUND
-3- STATING THAT THERE IS ONLY
1 LAGOON

60% of the primary effluent. This effluent enters a water supply chest which supplemented with river water supplies the process water for stock preparation and equipment clean-up.

The remaining 40% of the primary effluent is pumped to secondary treatment. The secondary treatment system consists of a 3.5 acre aerated, oxidation-stabilization lagoon. The lagoon illustrated on Figure 1 contains 5 aerators. The influent enters the lagoon's southwest section where anhydrous ammonia and a polyphosphate are added. The feed rate of these nutrients equal 30 pounds of ammonia and 35 pounds of phosphorus per day. After an average of 5 days retention the treated secondary effluent is discharged through the company's 9-inch flume to the Kalamazoo River.

Biomass from the settling section of the aerated lagoon is pumped back to the aerating section at a rate of 800 gpm.

Sanitary wastewater from the plant is discharged to the city system.

Survey Procedure

A 17" rectangular weir located on outfall 001, 030059, was utilized by staff for monitoring the treated effluent from the aeration lagoon.

The 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 the weir on a head versus time graph for the duration of each survey period. The total volume of wastewater over the weir during the survey period was computed from the graph. The automatic sampler obtained samples proportional to the instantaneous flow over the weir at 13-minute intervals. These individual samples were deposited in a clean container to make up a composite sample representative of the total flow over the weir during the survey period.

Flow from outfall 006, 030159, was minimal (< 1000 gpd) during the survey and hence a 24-hour grab composite sample was collected from this discharge. This composite consisted of 5 grab samples.

A 24-hour grab composite sample was collected from outfall 001 for chlorinated hydrocarbon analyses by periodically depositing grabs of the discharge into a clean glass container.

Three individual grab samples were collected from each outfall for selected physical, chemical and bacteriological analyses.

RT 104665

All samples collected were preserved according to Table 5.

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.

0012584

The results of the physical, chemical and bacteriological analyses are presented in Tables 1 - 3.

MEAD research
ENVIRONMENTAL GROUP
CENTRAL RESEARCH LABORATORIES
CHILLICOTHE, OHIO 45601
TELEPHONE (614) 772-3903

PROJECT: FLOW DIAGRAM - WASTE TREATMENT
OTSEGO, MICHIGAN MILL

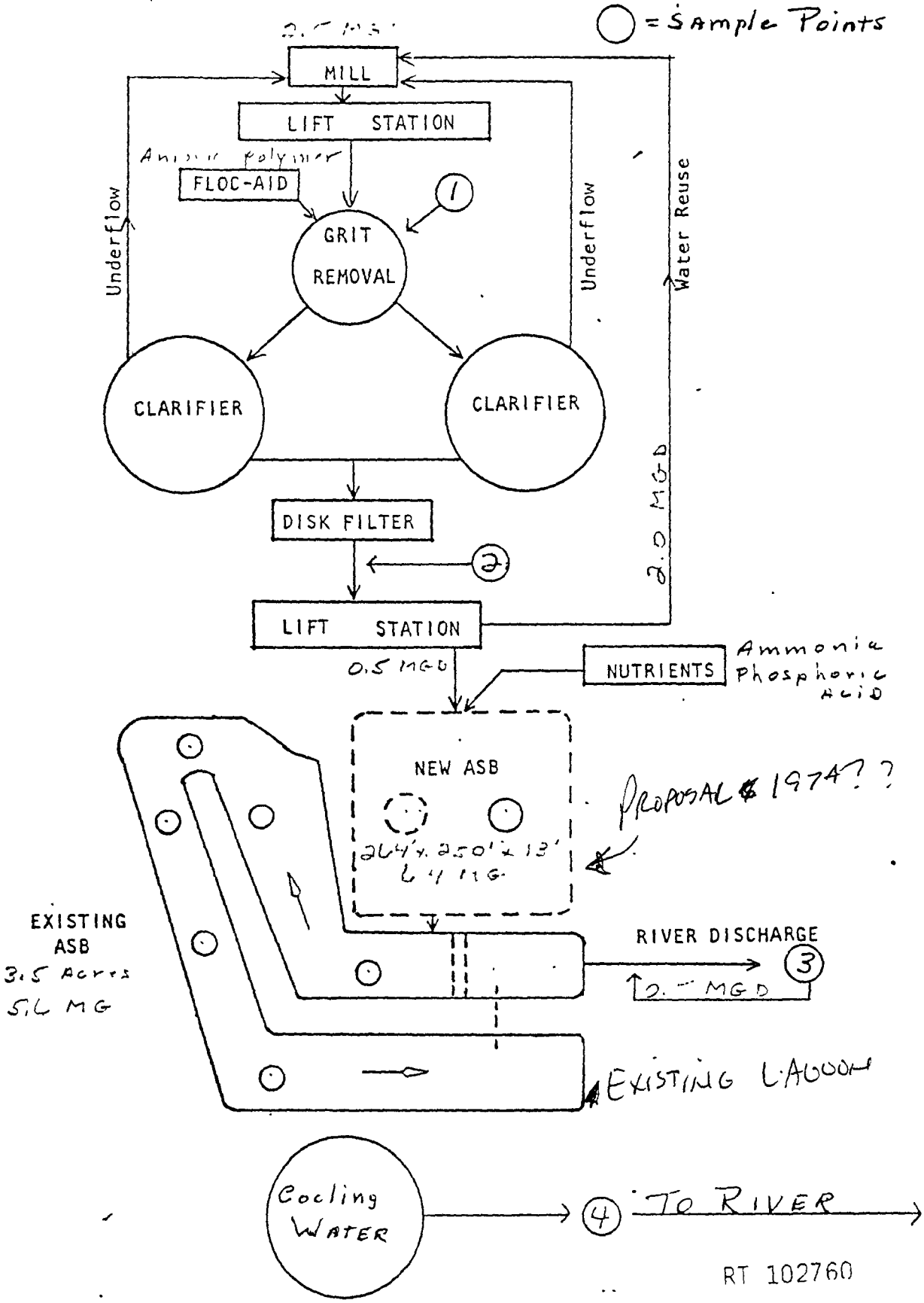
DATE: 10-30-74 BY:

SHEET 5 OF

Pg. 3

~~PROPOSED~~

○ = Sample Points



RT 102760

MICHIGAN CARTON COMPANY
BATTLE CREEK, MICHIGAN

STRUCTURES FOR CONNECTING ANGEL STREET PLANT SEWER TO CITY SEWAGE SYSTEM

CONTRACT DOCUMENTS

MAY 1959

MALCOLM PIRNIE ENGINEERS
25 West 43rd Street
New York 36, N.Y.

MICHIGAN CARTON COMPANY

BATTLE CREEK, MICHIGAN

STRUCTURES FOR CONNECTING ANGEL STREET
PLANT SEWER TO CITY SEWAGE SYSTEM

PROPOSAL

The undersigned, as bidder, declares that no person or persons, other than those named herein are interested in this proposal; that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the location of the proposed work, the plans and all contract documents; and that he proposes and agrees, to provide all necessary labor, materials, tools and equipment for constructing the work as shown on the plans and as specified hereinafter; and that he will take in full payment therefor, the following sum, to wit:

_____Dollars

and_____Cents

($_____).

_____
Contractor

_____
Address

Per_____

Title_____

Date_____

MICHIGAN CARTON COMPANY

BATTLE CREEK, MICHIGAN

STRUCTURES FOR CONNECTING ANGEL STREET
PLANT SEWER TO CITY SEWAGE SYSTEM

GENERAL SPECIFICATIONS

LOCATION AND DESCRIPTION OF WORK

1. The work consists of constructing two concrete manhole structures and interconnecting pipe which are to be located at the intersection of Parish and Hayes Streets in the City of Battle Creek, Michigan.

DEFINITIONS

2. The words "Company" or "Owner" shall mean the Michigan Carton Company, its authorized representatives or the consulting engineering firm of Malcolm Pirnie Engineers or its representatives.

The word "City" shall mean the City of Battle Creek, Michigan acting through its authorized representatives.

TIME OF COMPLETION

3. The Contractor shall commence work within seven (7) calendar days after receipt of written notification from the Company that his proposal has been accepted. The work shall be constructed and completed in a manner satisfactory to the Company and in accordance with the requirements of the plans and specifications within____calendar days after receipt of the aforesaid written notification.

INSURANCE

4. The Contractor shall, before beginning work, file with the Company, certificates of workmen's compensation, public liability and property damage insurance executed by the Contractor's insurance company. Coverage and company shall be satisfactory to Michigan Carton Company.

BOND

5. The Contractor shall, before beginning work, deposit with the Company, a surety company bond for satisfactory completion of the work and the payment of all debts pertaining to materials or labor used or employed in the execution of the contract, in an amount equal to the amount of the contract award.

DEFENSE OF SUITS

6. In case any action at law or suit in equity may or shall be brought against the City or any of its representatives or agents for or on account of the failure, omission or neglect of the Contractor or his sub-contractors or his or their employees or agents to do and perform any of the covenants, acts, matters or things by this contract undertaken or to be done or performed by the Contractor or his or their employees, or agents, the Contractor shall indemnify and save harmless the Company and its representatives, agents and servants of and from all loss, cost, damage, expense, judgment or decrees whatever arising out of such actions or suits as may or shall be brought as aforesaid.

PERMITS, LAWS AND ORDINANCES

7. The Contractor shall keep himself fully informed of all existing and current ordinances and regulations and City, County, State or National Laws in any way limiting or controlling the actions or operations of those engaged upon the work or affecting the materials supplied to or by them. He shall at all times observe and comply with all such valid and legally binding ordinances, laws and regulations and shall protect and indemnify the Company, its representatives and agents against any claim or liability arising from or based on any violation of the same. He shall obtain and pay for all necessary permits and pay all fees required in connection with the contract.

MODIFICATION AND EXTRA WORK

8. The Contractor understands that the Company reserves the right to modify the arrangement, character, grade or size of the work or appurtenances whenever in its opinion it shall deem it necessary or advisable so to do.

Whenever these modifications increase the amount of labor, materials, tools and equipment required, the Contractor will be compensated for the extra work involved. Extra work shall not be done except upon receipt of a written order from the Company.

The Contractor agrees that he will accept as full compensation for said extra work, the reasonable cost as determined by the Company, of all necessary labor, including payroll, taxes, union dues and insurance, equipment rental and materials, plus 20 per cent which includes superintendence, tools, plant and other overhead expenses and profit. Equipment rental shall not exceed the latest rates compiled by the Associated Equipment Distributors.

PAYMENT

9. The Company in consideration of the faithful performance by the Contractor of all the covenants, promises and agreements contained herein, agrees to pay the Contractor for the full completion by him of the work embraced in this contract, in the manner and within the time required, the price stipulated in the proposal. The payment will be made within 30 days following final acceptance of the work by the Company.

LINES AND GRADES

10. All work shall be constructed to the lines and grades shown on the plans.

The Contractor shall furnish and install all grade stakes, batter boards and other layout work required for properly constructing the work.

CARE AND PROTECTION OF WORK

11. From the commencement of work until the completion of the same, the Contractor shall be solely responsible for the care of the work covered by the contract, and for the materials delivered at the site intended to be used in the work; and all injury, damage or loss of the same, from whatever cause, shall be made good at his expense before the final estimate is made. He shall provide suitable means of protection for all materials intended to be used in the work and for all work in progress as well as for completed work. He shall take all necessary precautions to prevent injury or damage to the work in progress of construction by flood, freezing or inclement weather at any and all times. The methods used for this purpose shall be subject to approval.

CLEANING UP SITE

12. Upon completion of the work and before acceptance and final payment shall be made, the Contractor shall clean and remove from adjacent property all surplus and discarded materials, rubbish and temporary structures, restore in an acceptable manner all property both public and private, which has been damaged during the prosectuion of the work and leave the whole in a neat and presentable condition.

SPECIAL CONDITIONS

13. As stated hereinabove, the work is located within the right of way of a public street of the City of Battle Creek. It is required that at least one way traffic be maintained at all times. The Contractor shall provide and maintain all necessary fences, guards, lights, watchmen and all else necessary to maintain said traffic and to protect life and property. All protection provided shall meet the requirements of the City of Battle Creek.

Due to the nature of the work, it will be necessary for the Contractor to perform certain work during periods of low flows in the City's sewer and Company's waste line. It is probable that these periods will be during evening hours and on Sundays. Any extra costs incurred due to working during these periods of premium wages shall be considered as having been included in the lump sum price bid for the whole work.

DETAILED SPECIFICATIONS

EXCAVATION AND BACKFILL

SECTION 1

DESCRIPTION

1.1 Under this section the Contractor shall do all excavation, backfill and subgrade work required as shown and specified.

EXCAVATION

1.2 Excavations for structures and pipe lines shall be open excavations, shored and braced where necessary to prevent possible injury to workmen and existing pipe lines. Where structures and pipe lines are placed below ground water surface, the water shall be removed by approved means. All excavations shall be kept dry until backfilled.

All excavation shall be unclassified and shall include all materials encountered with the exception of ledge rock.

Structure excavations shall be made to such widths to permit the placing of full widths and lengths of footings on horizontal beds. Where masonry is to rest on other than solid rock, special care shall be taken not to disturb the bottom. When excavations for structures are made below the required grade, they shall be backfilled with well-compacted gravel or crushed stone at the expense of the Contractor.

Excavations for pipe lines shall be made to the grade of the bottom of the pipe. Where excavation is made below this grade, such areas shall be backfilled with gravel or crushed stone at the expense of the Contractor.

BACKFILL

1.3 All spaces excavated for and not occupied by structures and pipe lines shall be refilled to the roadway surface. The lower portion of the backfill up to an elevation of 3 feet below finished grade shall be backfilled with material excavated less any frozen lumps, wood, stumps, rocks larger than 6-inches in size or other extraneous materials. This portion of the backfill shall be placed in horizontal layers not exceeding 6 inches in depth and thoroughly compacted with mechanical tampers capable of delivering at least 185 pounds per blow per square foot of tamping area before the next area is placed.

The next portion of the fill shall extend from a depth of 3 feet below finished grade to a depth of 9 inches below finished grade. The material used in this portion of the backfill shall be a sandy loam material and shall be obtained from the City of Battle Creek. The material shall be installed as specified for the material mentioned hereinabove.

The top 9 inches of the backfill shall be a stabilized gravel installed in accordance with the requirements of the City of Battle Creek and shall be obtained from the City.

All backfills shall be placed under dry conditions.

All excess excavated material not used in backfilling, shall be removed from the site.

CONCRETE WORK

SECTION 2

WORK INCLUDED

2.1 The Contractor shall construct all concrete masonry work required for the two manhole structures shown on the plans.

CEMENT

2.2 All Portland cement shall meet the requirements of A.S.T.M. Designation C150, latest revision, Type I cement. It shall be made by a well-known acceptable manufacturer and the product of not more than one plant shall be used on the work. Cement shall be stored and handled so that it is kept dry and no hard or lumpy cement shall be used.

QUALITY OF SAND

2.3 The sand shall consist of clean, hard, durable, uncoated particles, free from lumps of clay, soft or flaky materials, loam or organic material. In no case shall sand containing lumps of frozen materials be used. When tested by means of laboratory screens and sieves, they shall conform to the following requirements:

Screen and Sieve Tests	Min.	Max.
Passing a 3/8" Sieve	100%	-
Passing a No. 4 Sieve	95%	100%
Passing a No. 50 Sieve	10%	30%
Passing a No. 100 Sieve	0%	50%

The sand shall be washed sand and shall contain not more than 3 per cent of clay and inorganic silt by actual dry weight. When subjected to the color test for organic impurities, the sand shall produce a color in the sodium hydroxide solution not darker than Figure I of A.S.T.M. Serial Designation C40, latest revision.

QUALITY OF COARSE AGGREGATE

2.4 Coarse aggregate for the concrete shall consist of fragments of hard, durable, insoluble stone or clean, sound insoluble gravel. It shall not contain dust, loam, clay, alkali, perishable matter or improper substances and shall be free from injurious amounts of soft, friable, thin, flaky, elongated or laminated particles. It shall be washed or screened, or both if necessary, to remove such substances. Coarse aggregate shall be so stored and handled as to remain clean and well-graded at all times and shall be kept separate

from other aggregate until placed in the mixer. It shall be well-graded from fine to coarse and shall conform to the following requirements:

All coarse aggregate shall pass a 1-1/2-inch ring, not less than 2 per cent, or more than 5 per cent by weight, shall be retained on a screen with 1-inch openings not less than 5 per cent, nor more than 10 per cent, shall pass a No. 4 sieve, and not less than 2 per cent, nor more than 5 per cent shall pass a No. 8 sieve.

MEASURING MATERIALS

2.5 The proportions of cement, sand and coarse aggregate for each batch of concrete shall be determined by weight. All equipment for measuring and accurately controlling the quantities of materials shall be of approved design. Equipment for measurement of the amount of water used in each mix shall be provided, capable of measuring water in variable amounts within a tolerance of 1 per cent.

PROPORTIONS

2.6 The amount of water used shall be not more than 6 gallons per bag of cement, and less shall be used if required, depending upon the character of the aggregates, the proportion of coarse to fine materials in the aggregates and the consistency desired for various parts of the work. Proper allowance shall be made for the moisture content in the aggregates. The exact proportions of water, cement, sand and coarse aggregate for the various portions of the work shall be as required, and shall be varied as ordered to give the best results for the aggregates used. The approximate proportions used, the minimum barrels of cement per cubic yard of concrete in place for each class of concrete and the minimum required 28-day compressive strength in pounds per square inch shall be as follows:

Cement	Cu. Ft. Sand	Coarse Aggregate	Bbls. Cement per Cu.Yd.	28-Day Compr. Strength psi
1	1.6	3-1/4	1.65	4,000

MIXING

2.7 Concrete shall be mixed at least two (2) minutes by an approved batch machine, except where hand mixing of very small quantities may be permitted. The arrangements shall provide for the correct measurement by weight of each ingredient before placing in the mixer, and the introduction of a measured quantity of water at any stage in the process.

FORMS

2.8 Forms shall be tight and of sufficient strength, shall be well-braced and tied so that they will maintain their proper position during the placing and ramming of the concrete, and shall be so constructed as to be readily removed before the concrete has fully hardened. No form shall be used which is not clean or of proper shape and strength and in every way suitable. Joints shall be close fitting and tight. All edges and corners in the finished work shall be straight and true and shall be beveled or rounded in an approved manner. For all faces which are exposed in the finished work, forms shall be of steel or of well-seasoned dressed boards or plywood, and shall be smooth and so built and treated that, when removed, the concrete will be left with smooth, presentable surfaces, free from offsets, ridges, discoloration or other unsightly defects. Deformed or otherwise defective forms shall be removed from the work. The methods and materials used for tying forms in place shall be subject to approval, and no wires shall be used for tying forms used on faces exposed in the finished work. Temporary openings shall be provided at the base of wall forms and at other points where necessary to facilitate cleaning and inspection.

Supporting forms shall not be removed until 14 days after pouring.

TRANSPORTING

2.9 Immediately after mixing, the concrete shall be transported and placed in the work, care being taken to avoid spilling and separation of the mixture. No concrete in which ingredients have become separated shall be placed in the work. Retempering of partially set concrete will not be permitted. Suitable and approved equipment for transporting of concrete from mixer to forms shall be used.

TRANSIT MIXED CONCRETE

2.10 Transit mixed concrete may be used in lieu of concrete mixed at the job. Such concrete shall meet all of the requirements specified and the Owner shall have access to the mixing plant at all times. The concrete shall be mixed in a revolving drum-type mixer truck constructed to produce a thoroughly mixed concrete with uniform distribution of ingredients throughout the mass. Loads shall not exceed the rated capacity of the mixer. Mixing shall be continuous at proper speeds until the concrete is discharged, and concrete shall be discharged from the mixer not more than 30 minutes after the water is added to the dry ingrecients. The organization supplying the transit mixed concrete shall have adequate facilities to insure continuous delivery of concrete at the required rate.

PLACING CONCRETE

2.11 Immediately before placing concrete the forms shall be thoroughly cleaned and wet, and the space to be occupied by concrete shall be free from all dirt, chips and foreign material. A layer of 1:2 mortar at least 2 inches thick shall be placed at the bottom of each pour which is placed on a previous pour. The concrete shall be carried up level along the whole length of the section under construction and shall be so placed as to avoid rehandling within the forms. Concrete for walls and slabs 12 inches or greater in thickness shall be compacted by means of approved internal vibrators. For thinner sections it shall be spaded or rammed into place and shall be thoroughly compacted around reinforcement, pipes or other shapes built into the work. No concrete shall be placed when the Owner is not present.

QUALITY OF CONCRETE WORK

2.12 Concrete shall be placed solidly against the forms and elsewhere so as to leave no voids. Every precaution shall be taken to make all masonry solid, compact, watertight, and smooth, and to prevent the formation of laitance and to avoid cold joints. If for any reason the surfaces have voids, or are unduly rough, or are in any way defective, such masonry shall be cut out and properly replaced, unless otherwise permitted.

JOINTS

2.13 Joints in concrete shall be made only at such points as shown, or as shall be directed or permitted by the Owner who will locate the joints with reference to the stability, strength and watertightness of the masonry. Before proceeding with the laying of any section of concrete, the joints shall be located and all form work, bulkheads and reinforcement for that section shall be in place Joints shall be made of such dimensions as are shown upon the drawings, or as directed, and shall have keys or grooves which shall be continuous and straight or regular. Where the details of joints are not shown, the directions of the Owner shall be carefully followed as to their selection and location.

CONCRETING IN FREEZING WEATHER OR AT NIGHT

2.14 No concrete shall be placed in freezing weather except by permission of the Owner, and then with special precautions, satisfactory to him to avoid the use of material containing frost, or covered with ice, and to provide means to prevent the concrete from freezing until it has thoroughly set. The cost of all material furnished or required to protect against freezing shall be at the sole expense of the Contractor without extra charge therefor.

No concrete shall be placed at night without permission of the Owner and the Contractor shall give at least 12 hours notice to the Owner if he wishes to place concrete at night.

PIPES AND FIXTURES IN CONCRETE

2.15 Pipes, sleeves, manhole covers, stop-log grooves or other inserts as shown on the plans or as may be directed, shall be placed by the Contractor in the concrete, Especial care shall be taken to place them on the proper lines and grades and to tamp thoroughly around them to prevent passage of water.

FINISH OF CONCRETE SURFACES

2.16 All horizontal surfaces shall be given a wood float finish.

CURING

2.17 All exposed surfaces shall be cured by water for a period of at least five (5) days or by the application of an approved curing compound.

STEEL REINFORCEMENT

2.18 Steel reinforcing bars or rods to be embedded in concrete shall be deformed bars of an approved form. They shall be free from defects and kinks and from bends which cannot be readily and fully straightened in the field. They shall conform to the Standard Specifications of the A.S.T.M. Serial Designation A305, for Billet Steel Concrete Reinforcement Bars, and shall be of intermediate grade. Test specimens shall be furnished and tests made as required at the expense of the Contractor, who shall furnish satisfactory test certificates. All bars shall be stored in clean, dry places until incorporated in the work.

PLACING REINFORCEMENT

2.19 All reinforcement shall be thoroughly cleaned, and no reinforcement having thick rust or scale shall be used. The steel shall be placed accurately in its proper location and position in the cross-section. It shall be bent accurately to the shapes shown or directed, and whenever shown or required, bent or hooked at the ends. All reinforcement shall be securely held in place in a satisfactory manner, and bars shall be wired together at intersections as often as necessary. Adjoining bars at splices shall overlap at least 24 diameters. Where necessary, particularly where steel is to be placed in the tops of slabs, adequate supports shall be provided.

MISCELLANEOUS WORK

SECTION 3

DESCRIPTION

3.1 The Contractor shall furnish and install all additional items shown on the plans and not specified hereinbefore.

The major items are as follows:

1. Manhole frames and covers.
2. Concrete pipe.
3. Stop planks, guides and tie rods.
4. Miscellaneous steel work.
   a. Manhole steps
   b. Lifting eyes
   c. Water stops
5. Temporary screen.
6. Temporary support for City sewer, if required.
7. Breaking into existing sewers.

MANHOLE FRAMES AND COVERS

3.2 The manhole frames and covers shall be Michigan State Highway Type 1510A with 24-inch clear opening. They may be obtained from the City of Battle Creek. After installation they shall be given a bitumastic spray in accordance with Michigan State Highway Specifications.

CONCRETE PIPE

3.3 The concrete pipe shall conform to A.S.T.M. Specification C76-57T, Table III, Wall B, 36-inch size.

Line joints shall be caulked with oakum and "GK compound" or equal, or shall be of the rubber and concrete type. The terminal joints at manholes shall be made in accordance with the detail shown on the plans.

STOP PLANKS AND GUIDES

3.4 The stop plank gates and guides shall be constructed and installed according to the details shown.

All lumber shall be T&G, 1300 f grade red cypress, 1300 grade Heart Structural Redwood or 1450 f grade red or white oak.

Aluminum rods shall be from Alloy 11S-T3.

Aluminum for grooves shall be from Alloy 61S-T6.

Washers shall be from Alloy 24S-T3.

Nuts shall be hexagon head, American Standard Regular, and they shall be formed from Alloy 24S-T4.

All welding shall be done in the shop and in accordance with the requirements of the American Welding Society.

MISCELLANEOUS STEEL WORK

3.5 All miscellaneous steel shall be fabricated from steel conforming to A.S.T.M. Specification A-7 and shall be installed at the locations shown on the plans. All exposed steel shall receive one (1) shop coat of red lead and two (2) coats of bituminous paint.

The revetments for the lifting eyes shall be filled with road tar.

TEMPORARY SCREEN

3.6 The Contractor shall furnish, install and subsequently remove, a temporary screen in the first downstream manhole on the City sewer line. This screen shall be made up of 1/4" x 2" steel bars spaced on 3-inch centers. The screen shall be securely blocked against the entrance to the outlet pipe.

During the progress of the work, the Contractor shall keep this screen cleaned of all materials adhering thereto.

TEMPORARY SUPPORT FOR SEWER

3.7 The construction of the existing City sewer may be of brick, segmental block or concrete pipe. If of brick or segmental block construction, the Contractor is required to adequately support this sewer during construction. He shall submit a sketch showing the method he proposes for doing this work to the office of Malcolm Pirnie Engineers, 25 West 43rd Street, New York 36, New York, for approval.

BREAKING INTO EXISTING SEWERS

3.8 As shown on the plans, the Contractor is required to remove a portion of the two existing sewers. This work shall be done with air hammers or by other approved means. He shall

exercise due care in preventing overbreakage and shall repair all overbreaks at his expense in an acceptable manner. He shall also exercise extreme care to prevent any excavated material from washing into the existing sewers.

MICHIGAN CARTON COMPANY
BATTLE CREEK, MICHIGAN

SEWER CONNECTION
FROM ANGEL STREET MILL

April 1959

MALCOLM PIRNIE ENGINEERS
25 West 43rd Street
New York 36, N. Y.

MICHIGAN CARTON COMPANY
BATTLE CREEK, MICHIGAN

SEWER CONNECTION

FROM ANGEL STREET MILL

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

1. The Angel Street Mill of Michigan Carton Company now discharges its wastes through a 24- and 33-inch sewer to the Kalamazoo River. The 33-inch sewer passes under the City's 54-inch interceptor by means of a short inverted siphon.

2. It is proposed to discharge the mill waste into the City's interceptor by means of the connection shown on Plates 1 and 2.

3. Peak flows in the City's intercepting sewer will not affect the accuracy of the Parshall flume during peak discharges from the mill.

4. The present waste disposal facilities of the Angel Street Mill will have sufficient capacity to adequately dispose of the mill waste after the connection has been made.

5. The proposed connection will allow uninterrupted service during construction with sufficient control to meet present and future requirements.

6. The backwash line discharge from the river sand filters should be removed from the mill waste sewer before the connection is made. It is understood that the Company can arrange an alternate discharge point.

7. Construction costs, including engineering fees and contingencies, are estimated at $6,000.00 for the proposed connection of the mill waste sewer with the City's sanitary sewerage system.

8. We recommend that the Company authorize preparation of plans and specifications for this connection as described above.

MICHIGAN CARTON COMPANY
BATTLE CREEK, MICHIGAN

SEWER CONNECTION
FROM ANGEL STREET MILL

---

1. PURPOSE AND SCOPE

In connection with the proposed discharge of wastes from the Angel Street Mill to the City's sewage treatment plant, the firm of Malcolm Pirnie Engineers was engaged to investigate the feasibility of a connection between the existing mill waste sewer of the Michigan Carton Company's Angel Street Mill and the intercepting sewer of the City of Battle Creek located in Parish Street at Walker Street. This investigation included a study of the effect of this connection upon the present waste handling facilities of the mill.

Engineers assigned to this project made a field investigation of the problem during the week of March 15, 1959, and interviewed Michigan Carton Company's plant and engineering personnel regarding the connection.

Subsequent office studies are reported on here and recommendations are made on the method of connecting to the City's sewer.

2. EXISTING WASTE DISPOSAL FACILITIES

The mill wastes are collected at a common point, flow through a metering station and discharge into the Kalamazoo River as shown on Plate 1. The metering station consists of a grit chamber with a tubular conveyor for the removal of grit and a 12-inch Parshall flume.

Effluent from the flume flows in a 24-inch concrete sewer to Lafayette Street. A 33-inch concrete sewer carries the waste down Lafayette, Hayes and Walker Streets, across Parish Street and to the river. A manhole in Parish Street forms an inverted siphon to carry the mill wastes under a 54-inch City intercepting sewer before discharging into the river. The invert of the 54-inch City's intercepting sewer is slightly lower than the invert of the 33-inch mill wastes sewer at this manhole.

Presently a backwash line from a bank of river water sand filters enters Manhole No. 43 (See Plate 1) downstream from the Parshall flume. Prior to connecting the mill wastes for discharge into the City's sanitary sewerage system, the Company plans to relocate the backwash line. Removal of this line from the mill wastes sewer will prevent submergence of the flume during backwash flows.

3. FLOW CONDITIONS

In a report to the City of Battle Creek, Michigan, by Malcolm Pirnie Engineers, entitled "Investigation of Board Mill Wastes of the Michigan Carton Company", dated December

1957, flow measurements were taken with a Leupold-Stevens level recorder installed upstream from the flume throat. Submergence of the Parshall flume occurred during certain periods of filter backwashing. The obstruction formed by the 54-inch interceptor in the special Parish Street manhole, caused the elevation of the water surface downstream from the flume to rise high enough to partially submerge the measuring flume. This condition will be eliminated when the backwash flow from the mill waste sewer is removed and when the mill waste is connected into the City's sanitary sewerage system.

During October 15 to October 29, 1957, flow measurements were taken with the following results:

Average flow	= 2.35 mgd
Peak Operating flow	= 2.90 mgd
Peak instantaneous cleanup flow	= 6.47 mgd

In computing the flume discharges, peak flow recordings occurring during periods of filter backwashing were arbitrarily discounted.

4. PROPOSED CONNECTION TO THE CITY SEWERAGE SYSTEM

Plate 1 shows how the existing mill waste sewer can be discharged into the City's interceptor by diverting the waste into a connecting manhole downstream of the existing siphon manhole in Parish Street. The proposed connection permits uninterrupted service during construction with sufficient control incorporated in the design of the structures to meet

present and future requirements. As shown on Plate 2, the diversion manhole has provisions for channeling the mill waste into the City's sanitary sewerage system before and after completion of the new sewage disposal plant with the use of wood stop planks, thus permitting an investigation of the effect of the mill waste on the present sludge digesters.

The estimated cost of this structure is $6,000.00 including engineering fees and contingencies.

5. EFFECT ON PRESENT MILL WASTE SEWER

Plate 1 shows the hydraulic gradient in the existing mill waste sewer with the proposed connection to the City interceptor for various flow conditions.

The maximum recorded flow during a cleanup period was 6.47 mgd. The hydraulic gradient for this flow, with a future condition of the interceptor flowing flow, shows the existing sewer flowing partially submerged. This will have no adverse effects on the system. The velocities in the system will be sufficient magnitude to prevent settling and the Parshall flume will be only 34 per cent submerged. A submergence of up to about 70 per cent will not affect the accuracy of metering.

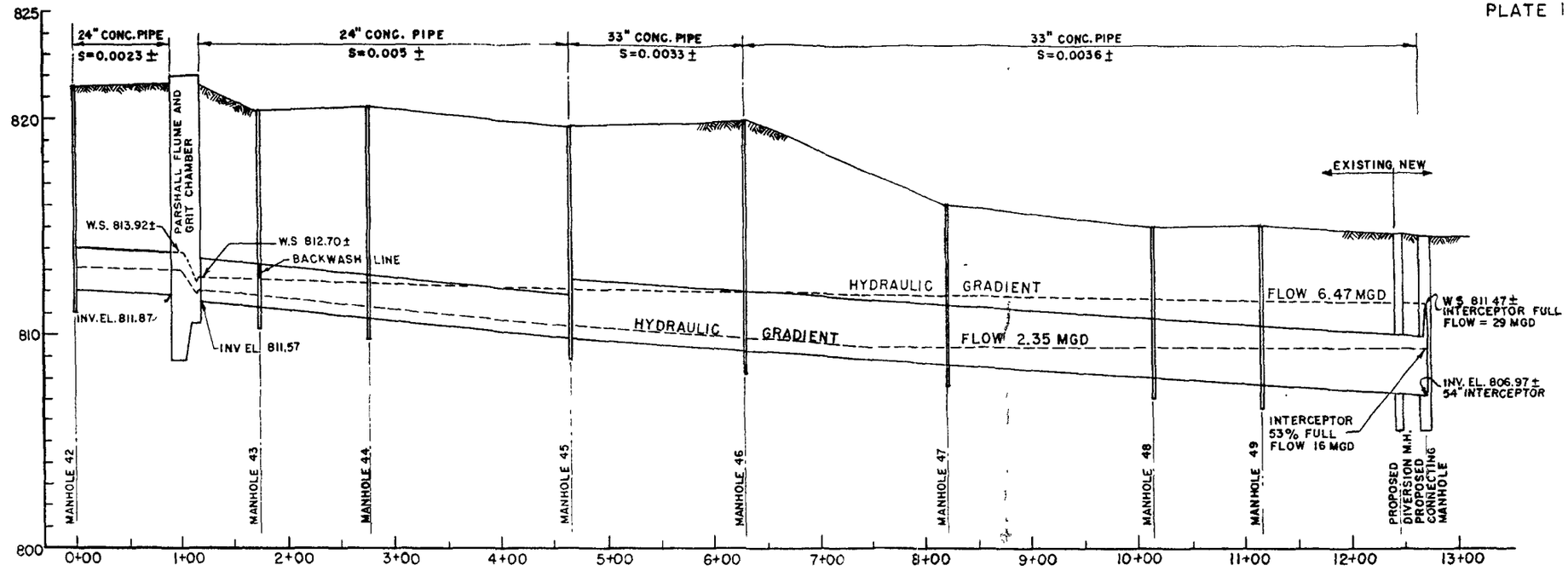
Average flow of 2.35 mgd in the mill waste sewer with 16 mgd flow in the interceptor (53 per cent full) will produce low velocities in the existing 33-inch sewer. These

velocities probably will cause some deposition of solids. This condition will be alleviated during peak flows in the mill or a lower flow in the interceptor to reduce the back water. The Parshall flume will be 10 per cent submerged during average flows in the mill waste sewer.

6. RECOMMENDATIONS

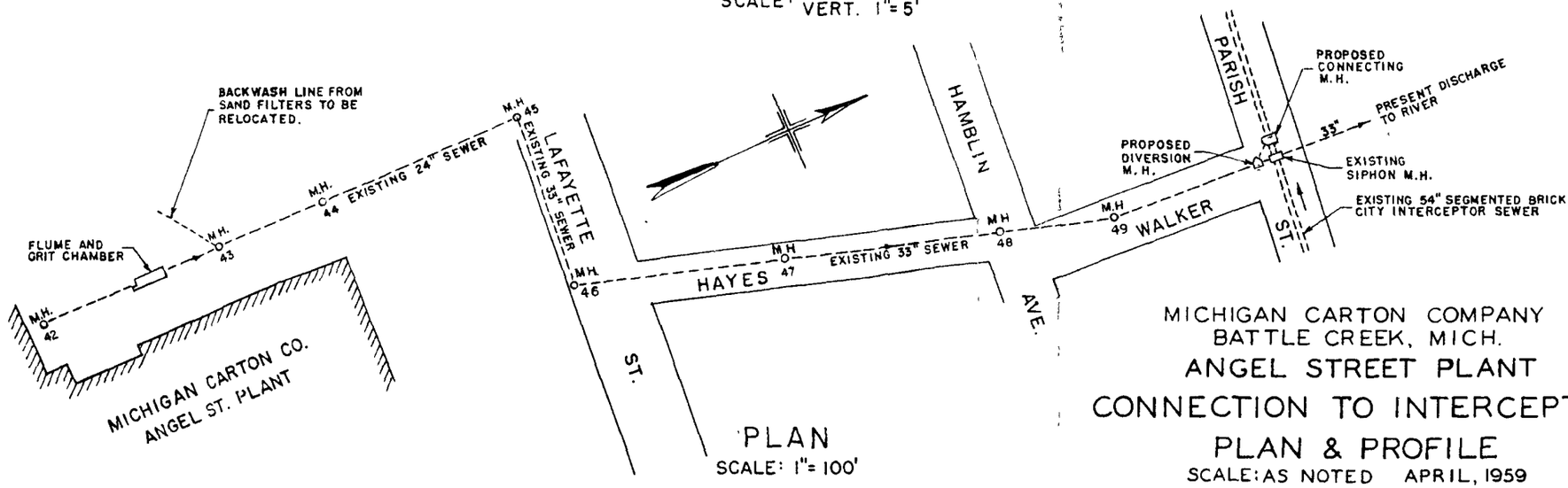
Our investigation indicates that a satisfactory connection can be made to the City's interceptor at Walker Street. We recommend that the Company authorize preparation of plans and specifications for the work essentially as shown on Plate 2.

PLATE 1



PROFILE

SCALE: HORIZ. 1"=100'
VERT. 1"=5'



PLAN

SCALE: 1"= 100'

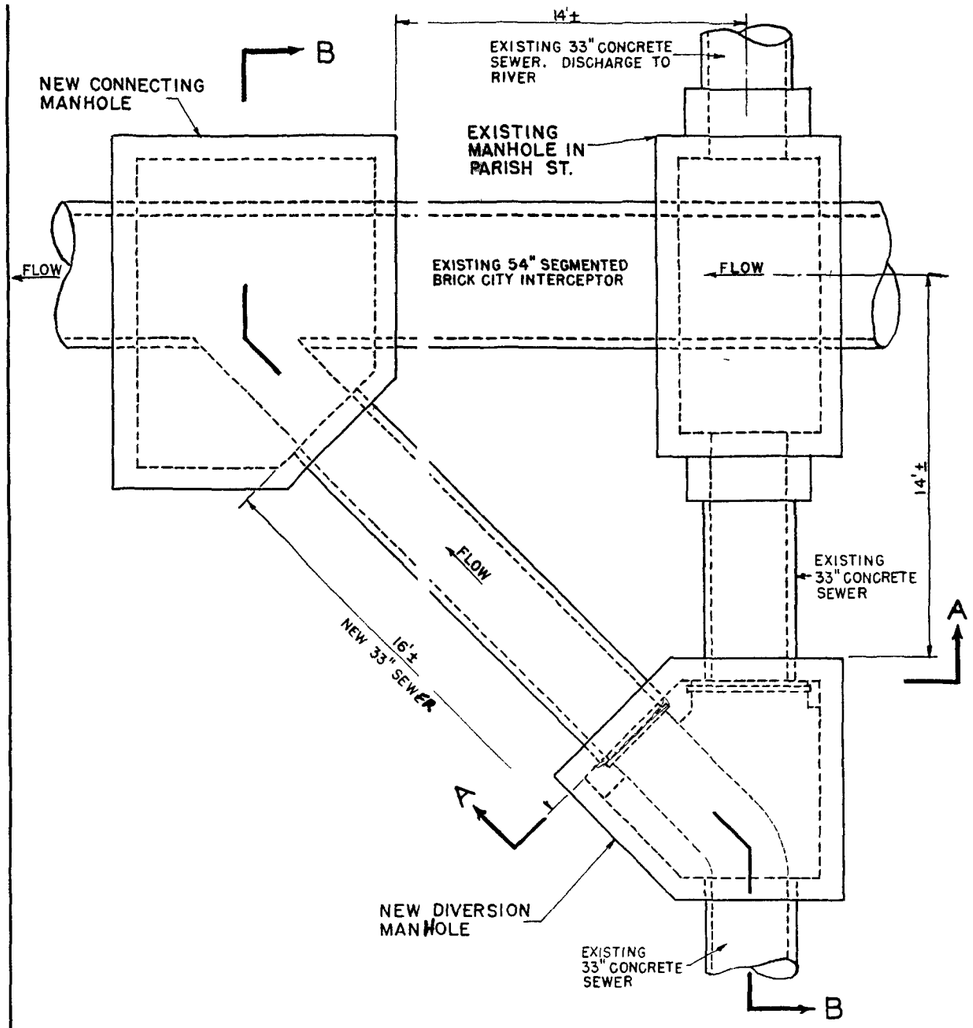
MICHIGAN CARTON COMPANY
BATTLE CREEK, MICH.

ANGEL STREET PLANT

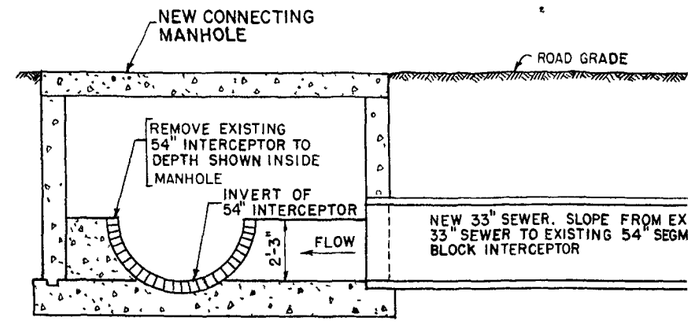
CONNECTION TO INTERCEPTOR

PLAN & PROFILE

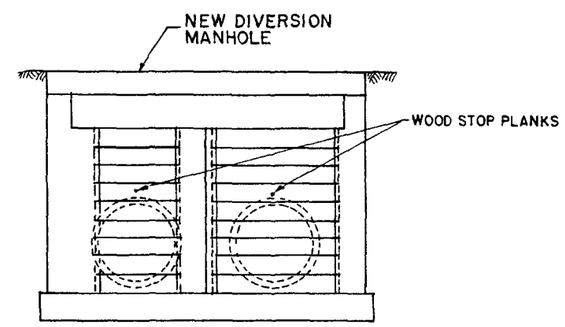
SCALE: AS NOTED APRIL, 1959



PLAN



SECTION B-B



SECTION A-A

CON

MALCOLM PIRNIE ENGINEERS

Consulting Civil and Sanitary Engineers

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HERBERT B. WYNDHAM, JR.

March 2, 1959

Michigan Carton Company
Battle Creek,
Michigan

Att: Mr. L. J. Phillipps

Gentlemen:

Re: Sewer Connection at Fountain Street and Angel Street Mills.

In accordance with your recent conversations with Mr. Quirk of this office we have reviewed the problem of sewer connections at the two plants at Battle Creek.

It appears certain that questions of location and grade of sewer and the necessity of pumping will be involved at Fountain Street. A hydraulic study is needed at the Angel Street Mill. It is impractical to estimate the cost of the construction work to be done without further study.

The surveys you recently furnished us include the basic data needed at both mills but at the Fountain Street Mill some additional field data will be required.

We suggest that we be authorized to study the problems at the two mills, including the securing of additional field data on which to base design. This study will include preparing preliminary layouts of the sewer from the Fountain Street Mill to the City's sewer at Hamblin and Capital Avenues, and the necessary hydraulic studies to determine if pumping is required at either Fountain Street or Angel Street.

After completing our studies we will review them with you, modifying the plans as required to meet your approval. We will then prepare plans and specifications in sufficient detail to permit construction of the work by your own forces or by a contractor of your choice.

Our fee for the study and preliminary work will be Two Thousand ($2000) Dollars payable upon submission of our project report. Our fee for preparing plans and specifications for the sewer connection from the Fountain Street Mill to the City's sewer will be Three Thousand ($3000) Dollars payable upon submission of plans and specifications. We can begin work on this project in about 10 days.

We appreciate the opportunity to submit a proposal for this work. If you have any question as to the scope of the work proposed, we will be pleased to discuss the matter with you.

Very truly yours,

MALCOLM PIRNIE ENGINEERS

Robert D. Mitchell

Robert D. Mitchell

RDM/bnp

DATA SHEET

Mill - Battle Creek, MI 49016
616 963-5511

Products - 10 mil (32lbs/MSF) to 26 mil (99 lbs/MSF) Recycl Board.

Production - 1984 Plan - 250T/D Total
235T/D Prime
1984 YTD (9 mos.) - 228.5T/D Total
208.5T/D Prime

RAW MATERIALS

Recycled News, CPO, Manifold Ledger, Double Lined Corrugated, Boxboard and various printed and unprinted Bleached Krafts.

POWER HOUSE

2 Springfield Boilers - installed in 1948, capacity 70,000 lbs/hr. each, 400 lbs. steam, 525 degree superheat and gas or oil fired.

1 Elliott Turbine Generator, installed in 1948.

Mill generates 20-24% of own power. Capacity about 50%.

STOCK PREP

Top Liner

1 16' Hydropulper - Black Clawson
2 High Density Cleaners - Escher Wyss
1 Deflaker - Bird
1 Barrier Screen - Bird
2 Refiners - (1 - 24" Beloit & 1 - 20" Sprout)

Back Liner

1 14' Hydropulper - Black Clawson
2 High Density Cleaners - Black Clawson
1 Seprafiner - Lodding
1 Refiner - 24" Beloit
1 Deflaker - Bird

Filler System

~~1 20' Hydropulper - Black Clawson~~
1 Float Purge System - Custom Design (1984), Hi Density Cleaner, Seprafiner and Johnson Screen.
3 High Density Cleaners - Bird
2 Pressure Screens - Bird
1 Deflaker - Bird
2 Johnson Screens (1-RPM 1 - Johnson)
4 Thickners - Shartels
2 Refiners (1-Beloit 34" 1 - Sprout 24")

BOARD MACHINE - 130" Trim

Manufacturer - Beloit, 146" wire. Rebuilt in 1978.
Maximum Current Speed 946 ft./minute.
Design production with current feed system 350 TPD, Nominal 250T/D.
5 Head Boxes - (1- Strataflow, 4 - single flow)
5 Bel Bond dewatering units
6 Pressure screens

Board Machine continued

Dryer Section

82 - 60" dryers - Beloit
1 Drive - Westinghouse turbine, 1200 H.P.
3 Calender Stacks - Beloit design

Coating Section

1 Trailing Blade Coater - Rice Barton
1 Air Knife Coater - Black Clawson
1 Drying oven - Ross

Winder

1 Beloit, 1948, 130" max. trim.

Rewinder

1 Beloit, 1948, two drum, max. speed 2400 ft./minute.

Auxiliary Equipment

1 Clark Aiken sheeter

Fiber Recovery

1 1200 gpm Sveen Pedersen

1 800 gpm Sveen Pedersen