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INTERNATIONAL PAPER

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Via FedEx

May 23, 2013

U.S. Environmental Protection Agency
Region 8
Attn: Sharon Abendschan (ENF-RC)
1595 Wynkoop Street
Denver, CO 80202-1129

Re: International Paper's Response to Request for Information Pursuant to Section 104(e) of CERCLA, Smurfit-Stone Mill Site, Missoula County, Montana, SSID A804

Dear Ms. Abendschan:

Please find enclosed the response of International Paper Company to the referenced Information Request. In responding to the Request, we endeavored to recover all relevant documents and information reasonably available. Also enclosed please find an index to the responsive documents.

Please direct all future correspondence to my attention at the above address and please do not hesitate to call me if you have any questions regarding the attached response.

Very truly yours,

Brian E. Heim

Brian E. Heim

RESPONDENT INTERNATIONAL PAPER'S REPONSES TO U.S. EPA REQUEST FOR INFORMATION REGARDING SMURFIT-STONE MILL SITE MISSOULA, MONTANA, SSID A804

GENERAL OBJECTIONS

1. Respondent has made and continues to make a good faith effort to identify documents responsive to the Information Request. Respondent expressly and without qualification reserves the right to amend or supplement its response, including without limitation to provide additional documents.

2. Respondent objects to the Request for Information on the ground that it is overbroad and unduly burdensome to the extent that certain requests seek the production of "all" or "any and all" information, data, or documents "regarding" or "relating to" various aspects of the facility. Notwithstanding this objection, Respondent will provide a response covering a reasonable scope for each such request.

3. Respondent objects to the Request for Information on the ground that certain requests seek information or documents not in Respondent's possession, custody, or control.

4. Respondent objects to the Request for Information to the extent that it seeks privileged information, including but not limited to documents and other information protected by the attorney-client privilege, joint defense privilege, common interest privilege, self-evaluative privilege, work product doctrine, or other applicable protection. Notwithstanding this objection, Respondent will provide non-privileged documents responsive to each such request. Any inadvertent disclosure by Respondent of material protected by any such privilege or protection is not intended, and shall not be construed, to constitute a waiver of such privilege or protection.

5. Respondent's production of documents does not represent or act as an admission by Respondent that the contents of all documents produced by Respondent are true, correct, or accurate, nor does it act to authenticate such documents for the purposes of admissibility in any administrative or judicial proceeding.

6. Respondent objects to the Request for Information to the extent that it seeks the production of documents and information already in the possession of U.S. Environmental Protection Agency ("EPA"). Respondent further objects to the Request for Information to the extent that it seeks documents or information which are otherwise as accessible to EPA as they are to Respondent.

SPECIFIC OBJECTIONS TO INSTRUCTIONS AND DEFINITIONS

1. Respondent objects to the requirement that Respondent submit a declaration as vague, ambiguous, unduly burdensome and not authorized by law to the extent it purports to require one individual to attest to the completeness and accuracy of all responses by Respondent.

2. Respondent objects to the definition of "you" and "Respondent" on the ground that it presumed a legal status not yet determined. Respondent further objects to the use of "Horner," as the correct spelling is Hoerner.

3. Respondent objects to the definition of "Site" as the Smurfit-Stone Mill Superfund Site on the ground that the term "Superfund" used in the definition is undefined and presumes a legal status that has yet to be determined.

QUESTIONS and RESPONSES

1. Identify the person(s) answering these questions on behalf of Respondent.

   Response:

   Brian E. Heim
   Chief Counsel, Environment & Sustainability
   International Paper Company
   6400 Poplar Avenue, Memphis, TN 38197
   (O) 901-419-3824
   (C) 901-229-0724
   brian.heim@ipaper.com

2. Identify the person(s) whom you wish to receive all further communications from the EPA related to the Site.

   Response: Brian E. Heim (see above contact information)

3. For each and every Question contained herein, identify all persons consulted in the preparation of the answer.

   Response: Due to historical nature of this matter, International Paper has no information on individuals with any direct knowledge of the operations of the Smurfit Stone Site. International Paper Records Management Coordinator, Alana LaCombe, assisted Brian Heim with researching archives for responsive documents. Ms. Lacombe can be reached through Mr. Heim.

4. For each and every Question contained herein, identify documents consulted, examined, or referred to in the preparation of the answer or that contain information responsive to the Question and provide accurate copies of all such documents.

   Response: Documents responsive to this request are provided and identified in the individual Question. Included is an index to the documents.

5. Describe the relationship among the Waldorf Paper Company, Waldorf Paper Products Company, Horner Boxes, Inc., Horner Waldorf Corporation, Waldorf Corporation, Champion International Corporation, and International Paper Company as it relates to the Site. Provide copies of all documents related to each relationship, including, but not limited to merger agreements, purchase agreements, property transfer documents, and assumptions of liability.

   Response: Respondent International Paper is the corporate successor, by stock acquisition, of Champion International. International Paper holds all Champion International's liability, if any, associated with this Site. Champion was the successor by stock acquisition and merger of Hoerner Waldorf Corporation. Champion succeeded to all liabilities of Hoerner Waldorf. The corporate transaction documents are attached in Exhibits 29 and 30. Respondent did not include the entire deal documents or "copies of all documents related to each relationship" as such a request is overly broad and burdensome and not reasonably expected to provide relevant information.

6. Describe the Respondent's activities at the Site including the following and provide copies of all documents relating to such activities:

   a. the date Respondent acquired the Site;
   b. the entity from which Respondent acquired the Site.
   c. a description of Respondent's operations at the Site;
   d. any changes Respondent made to the Site including any demolition or improvements;
   e. the activities taken upon cessation of operations at the Site;
   f. the date Respondent transferred all or a portion of the Site, and the entity to which the Site was transferred.

   Response: Respondent has no direct information regarding the operations of the Site and provides the following responses based on a review of documents. Attached to this response in Exhibit 31 are the October 1, 1985 Asset Purchase Agreement ("APA") and associated documents governing the sale of the Mill by Champion to Stone Container Corporation ("Purchaser"). The APA was revised by letter agreement of February 26, 1986 pursuant to which the Purchaser notified Seller that the assets would be purchased by Stone Brown Paper, Inc, a wholly-owned subsidiary of the Purchase. Closing of the sale occurred on February 26, 1986. Pursuant to the APA, Champion (now International Paper) retained liability for environmental liabilities existing or arising from operations or activities that occurred prior to Closing.

Information regarding the operations at the site under Champion and Hoerner Waldorf's ownership and operation are referenced in and can be obtained from a review of the documents produced in this response. In summary, the Site was built by Waldorf in the 1950s and operated as an unbleached containerboard mill until Champion sold it. The mill also appeared to have produced bleached pulp and used some dyes to produce colored product. Improvements to the Site of which Respondent is aware are discussed in Response to Q11.

7. Describe and, where available, provide maps and construction drawings that describe the physical characteristics of the Site and all changes that Respondent has made to the Site, including, but not limited to, the following:

    a. surface structures;
    b. waste impoundments;
    c. roads.

    Response: Exhibit 1 contains a schematic of the mill in 1969. Exhibit 19 is a picture of the mill from 1980. In summary, according to documents, the mill wastewater system utilized a series of infiltration ponds to treat mill wastewater. At times, the ponds would reach capacity and the wastewater would discharge directly into the Clark River. The wastewater permits produced in response to Q10 provide a narrative description of the operations.

8. Provide copies of all documents regarding environmental conditions at the Site including, but not limited to, any sampling information, solid and hazardous waste management plans, and any known releases of hazardous substances.

    Response: Except for the various wastewater documents included in this response, Respondent has located no other responsive documents.

9. Describe all waste materials that resulted from Respondent's activities at the Site. Describe the location and method of storing waste. Identify any hazardous substances contained in such wastes and provide copies of any and all documents that describe any analysis of such wastes and the results of the analysis.

    Response: Only information concerning wastewater was located. Please see permits produced in response to Q10. Exhibit 22 is a transcript of a public meeting concerning the Mill's application for a new NPDES permit in the mid-1980s that allowed for an increase in direct discharge to the river. Much of the testimony discusses the mill operations at that time.

10. Provide copies of any and all permits issued by State or Federal agencies related to Respondent's activities at the Site.

Response: Wastewater permits are included in Exhibit 8 and 24. No permit regarding solid or hazardous wastes were located.

11. Identify companies or individuals that Respondent hired to perform work at the Site. Provide all documentation, including contracts, pertaining to this work. Include information about the purpose of and documentation related to Respondent's contracts at the Site.

Response: Exhibits 2, 13, 14, 17, and 18 are or related to contracts concerning mill construction projects. No other contracts relevant to environmental matters were identified. Contracts with suppliers and customers were located but are considered to be outside the scope of this request and not relevant to environmental conditions at the Site.

12. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any Question contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

Response: There's a website that appears to have been created by former Smurfit-Stone employees. The address is http://www.frenchtownmill.com/class_classmates.cfm. Several individuals are identified who were in the environmental department. Operations and maintenance personnel would also likely have significant knowledge regarding the environmental conditions at the Site.

ENCLOSURE 2

NOTARIZED CERTIFICATE

I, Brian E. Heim, having been duly sworn and being of legal age, hereby state:

1. I am the person authorized by International Paper Company to respond to the Environmental Protection Agency's (EPA's) request for information concerning the Smurfit-Stone Mill Site located in Missoula, Montana.

2. I have made a complete and thorough review of all documents, information, and sources relevant to the request.

3. I hereby certify that the attached response to EPA's request is complete and contains all information and documents responsive to the request.

Brian E. Heim
(Signature)

~~Chief~~ Brian E. Heim
(Name)

Chief Counsel, Environment + Sustainability
(Title)

(SEAL)

Subscribed and sworn to me
this 23rd day of May, 2013.

Rebecca T. Hopper
Notary Public

My Commission Expires
My address is

REBECCA T. HOPPER
STATE OF TENNESSEE NOTARY PUBLIC
SHELBY COUNTY
My Commission Expires May 18, 2014

Missoula Index

#	Date	Documents
1	04/01/69	Effluent Treatment P&I Diagram
2	08/28/73	Vault Service Contract – Sandwell International
3	07/29/74	Application for Certification of Pollution Control Facility, Hoerner Waldorf Corporation re: Hog Fuel Scrubber
4	07/29/74	Application for Certification of Pollution Control Facility, Hoerner Waldorf Corporation re: Effluent Clarifier
5	08/05/74	Application for Certification of Pollution Control Facility, Hoerner Waldorf Corporation re: Modification of the No. 3 Recovery Boiler
6	10/17/74	Letter to Howard Johnson from Montana Dept. of Health & Environmental Services re: Certification to EPA of Modifications to #3 Recovery Furnace and Hogged Fuel Boiler
7	11/08/74	Letter from USEPA to Elwin Bonnell, Secretary of Treasury Office re: Certification of Pollution Control Facilities
8	12/02/74	Waste Discharge Permit No. MT-0000035
9	06/00/77	Application for Renewal of Waste Discharge Permit No. MT-0000035
10	07/22/77	Affidavit of Roy E. Countryman, Hoerner Waldorf, Division of Champion Int'l Corp.
11	09/00/77	Letter from Sandra Muckelston, Chief Counsel, DH&ES to Bob Fogarty, Champion Intl Corp. enclosing memo indicating effect of merger between Hoerner Waldorf & Champion International
12	09/12/77	Letter from Robert E. Fogarty to Dept. of Health & Environmental Sciences re: receipt of legal opinion dated Sept. 9, 1977 and acknowledged request for Certified Copy of Certificate of Authority for Champion International Corp.
13	06/16/78	Engineering Contract – Missoula Phase II Expansion
14	8/24/78	Phase II Expansion General Contract Agreement
15	04/26/79	Affidavit of Larry Weeks
16	05/12/80	Agreement Modification - Hoffman Construction Company and Champion International Company
17	06/02/80	Letter from C. W. Drinkward, Hoffman Construction Co. to Hall Whitworth, Champion Corp. re, phase II Expansion, Missoula Montana enclosing two (2) executed copies of Modification to Prime Contract
18	06/16/80	Letter from Hall Whitworth, Champion International Corp. to C.W. Drinkward, Hoffman Construction re: Phase II Expansion, Missoula Montana

Missoula Index

#	Date	Documents
19	08/01/80	Pictures of Missoula Expansion Project – Phase II
20	04/15/83	Review of Missoula Pollutant Discharge Elimination System Permit
21	07/22/83	Application for Modification of Waste Discharge Permit No. MT-0000035, Champion International Corp.
22	11/10/83	Transcript of Hearing re: Proposed Modification of Champion's MPDES Permit Number MT-0000035
23	11/29/83	Letter from Paulette M. Duncan, Hearing Reporter to Daniel Potts, Champion International Corp., enclosing Transcript of November 10 Hearing re: Proposed Modification of Champion's MPDES Permit No. MT-0000035
24	04/06/84	Montana Pollutant Discharge Elimination System Permit #MT-0000035, enclosing Lower Clark Fork River Monitoring Plan
25	04/14/84	Memorandum of Agreement, Champion Int'l Corp. and Conservation Groups
26	11/14/84	Letter from Daniel Potts, Operations Manager, Champion Int'l Corp. to Abraham Horpestad, Water Quality Bureau re: Amendment of Rules 16.20.701, 16.20.702, 16.20.703, 16.20.704, 16.20.705, relating to non-degradation of water quality
27	11/14/84	Letter from Daniel Potts, Operations Manager, Champion International Corp. to Abraham Horpestad, Water Quality Bureau re: Amendment of Rules 16.20.605, 16.20.607, 16.20.617, 16.20.618, 16.20.619, 16.20.620, 16.20.621, 16.20.622, 16.20.624, 16.20.631, 16.20.633, relating to water quality standards and classifications
28	Undated	Background Information on Application for Year-Round Discharge
29	06/20/00	Merger of Champion Int'l Corp. w/ a subsidiary of International Paper Co.
30	02/24/77	Merger of Hoerner Waldorf Corp. into Champion International Corp.
31	10/01/85	Asset Purchase Agreement – Champion Int'l Corp. and Stone Container Corp.

THIS AGREEMENT made this 28th day of August in the year one thousand nine hundred and seventy-three,

BETWEEN:

HOERNER WALDORF CORPORATION, a body corporate organized and existing under the laws of the State of Delaware, one of the United States of America, having offices at 2250 Wabash Avenue, in the City of St. Paul, in the State of Minnesota,

(hereinafter called the "Client")

OF THE FIRST PART,

AND

SANDWELL INTERNATIONAL INCORPORATED, a body corporate, organized and existing under the laws of the State of Oregon, one of the United States of America, having offices in the City of Portland, in the State of Oregon,

(hereinafter called "Sandwell")

OF THE SECOND PART.

WHEREAS the Client intends to increase production of kraft linerboard and commence production of kraft bag paper for an intended combined production of 1850 tons per day at its plant in the vicinity of Missoula in the State of Montana by installing new production equipment and by reactivating and modifying existing equipment more specifically described as follows.

A. Major new production equipment and facilities comprising:

1. New sawdust truck dumper (No. 3), dump pit, storage and reclaim facilities.

2. New do-nut storage installation for 50,000 BDU including reclaim and delivery.

3. New continuous sawdust digester (No. 3) sized for 350 TPD production followed by a two-stage diffuser washer with integral thickener all built integrally with and above the filtrate storage tank.

4. Refiner installation utilizing four 1500 HP refiners in a two pass (series-parallel) arrangement and single stage continuous diffuser washer, supported above and by a new 350 ton base liner hi-density storage tank (No. 5) equipped with duplicate agitators and pumps, a steam/wash water heat exchanger and refiner and diffuser enclosure buildings, all for operation in conjunction with the existing large Kamyr continuous digester (No. 1).

5. Two new fibrilizers and a hot stock knotter to be added to the existing batch digester blow tank (No. 2).

6. New hi-density tank to store 100 tons of bleached pulp (No. 6).

7. New weak liquor storage tank, a new six effect evaporator (No. 5), a 40% solids liquor surge tank, a new three-effect concentrator and a new concentrated (65%) liquor storage tank.

8. New 150,000 to 300,000 lb/hr package steam boiler for gas/oil firing (No. 1).

9. New kiln 12 ft diameter x 285 ft, approximately, (No. 4) complete with drive, feed and discharge end equipment and housing, dust scrubber for 99.5% collection efficiency, new lime mud storage tank (12 hours), and new 400 ton mixed lime storage bin.

10. New recausticizing plant equipment including a slaker (No. 3), three causticizers, a unit type white liquor clarifier and storage tank (No. 4), a unit type lime mud washer and storage tank (No. 3), a unit type green liquor clarifier and storage tank (No. 2) and a belt filter type dregs washer.

11. New 320 inch trim combination linerboard and bag paper machine (No. 3) balanced for 3000 FPM operation comprising pressurized primary and secondary headbox, fourdrinier, a suction first press, high nip venta-nip second and third press, dryer section comprising 59 predryers and two after dryers 72 inch diameter, breaker stack, conventional size press, gate roll size press, one four-roll calender stack with controlled crown bottom roll, reel, winder for 8000 FPM operation, mechanical drive with steam turbine prime mover or alternatively a sectional-electric drive, totally enclosed dryer hood, complete with vacuum system, dryer drainage system, dry end and couch pit broke and white water system, and centrifugal pressure pulp screening and cleaning system for linerboard and bag paper grades.

12. New stock preparation system for No. 3 paper machine bottom liner and top liner furnish comprising necessary storage and blending chests, two stage refining, primary pressure screening, rejects screening, broke storage, saveall and dual whitewater chests and fan pumps.

13. New unloading, bulk storage and cooking facilities for starch to supply all three paper machines.

14. New mechanized in-floor roll conveying system with roll scale, weight print-out device and roll bander to deliver rolls from No. 3 paper machine via lowerator to the warehouse.

15. New warehouse to provide storage for 10,000 tons and covered shipping platform for 15 rail cars.

16. New roll grinder and flat box conditioner.

17. Four new water supply wells, supply pumps and piping to connect to the existing mill supply pipeline.

18. Two new mill water service pumps.

19. New 1500 CFM, 100 psig air compressor and 500 CFM air dryer.

B. Modifications to existing equipment facilities and services comprising:

1. Modifications to existing chip and sawdust handling facilities comprising:

i. Modification to two existing hoist type chip truck dumpers (No. 1 and No. 2) to the hydraulic platform type.

ii. Modifications to two existing truck dumper (No. 1 and No. 2) pneumatic blowing systems to increase capacity and reduce cycle time per truck needed to meet peak unloading rates.

iii. Conversion of the existing Atlas sawdust bin to receive pin chips and modifications to the outfeed system to meet the new utilization feed rate.

iv. Modification to the existing veneer chip reclaim system to meet the new utilization feed rate.

v. Addition of a tramp material separator system to the existing belt conveyor feeding the existing large Kamyr chip digester (No. 1).

2. Modification to the existing digester, washing and screening facilities comprising:

i. Addition of controls for the new diffuser washer and blow line refiners for the large Kamyr digester (No. 1) to the existing operator's station.

ii. Modifications to digester piping to utilize No. 3 (Kamyr) blow tank for top liner.

iii. Modification of existing 11 ft 6 in diameter x 20 ft face washer piping to convert the four washers into a straight four-stage series washing cycle for top liner with counter-current filtrate flow.

iv. Reactivation of seven existing batch digesters and existing related facilities.

v. Modification of the existing 250 ton base stock hi-density tank (No. 4) to receive pulp from the new sawdust diffuser washer/thickener installation by way of a short new conveyor.

vi. Modification of existing No. 1 blow tank for use as a surge tank for stock dilution between the new sawdust digester (No. 5) and two-stage diffuser washer.

vii. Modifications to existing knotter reject systems for Kamyr (No. 2) top liner and batch digester pulp to provide combined storage in a single rejects tank and recycling to either blow tank (No. 3 or No. 2) through a surplus 1500 HP refiner.

3. Modifications to the existing recausticizing plant through relocation of No. 2 liquor preparation system comprising No. 2 slaker, No. 2 system causticizers (2), No. 3 white liquor clarifier, No. 2 lime mud washer and the existing fresh lime unloading station.

4. Modification of No. 2 recovery boiler to meet required air emission standards for the State of Montana by providing a new economizer section, removal of direct liquor contact evaporating equipment, adding a new precipitator for 99.6% collection efficiency, and adding a new remote control station.

5. Modifications to salt cake and chemical handling equipment and addition of a new conveyor to service all three recovery boilers.

6. Modification of No. 1 recovery boiler to a steam generating unit burning gas or oil.

7. Modification of existing boiler feed water equipment to meet requirements of the expanded steam generating facilities.

8. Modifications to existing control panels to accommodate additions or modified controls and instruments at the existing control stations.

9. Modification to service facilities comprising:

   i. Addition of boiler feed water system capacity to meet new steam generating requirements.

   ii. Demolition of an existing lunch room without replacement to provide room for the new No. 3 continuous digester.

   iii. Demolition of the existing paper warehouse and rail car loading docks.

   iv. Modifications for the existing mill road system to provide access to the new sawdust truck dump in the northeast corner of the woodyard and to provide access around the new paper machine building.

   v. Relocation of fencing currently existing west of No. 2 paper machine building to the edge of the property easement west of No. 3 paper machine and addition of new gates.

   vi. Minimal modifications to yard lighting without upgrading of the general level of lighting.

   vii. Extension of electrical distribution system and secondary wiring to accomodate new, relocated or modified facilities without upgrading or modifying other existing electrical systems.

   viii. Extension of existing sewers to accommodate new, relocated or modified facilities without upgrading or modifying other existing sewer systems. Relocation of existing sewer facilities only where essential to accommodate new facilities.

ix. Extension of existing gas service piping to accommodate new relocated or modified facilities without upgrading or modifying other existing gas distribution facilities.

x. Modification of existing deep well water supply pump to meet higher pumping head requirements resulting from increased flow through the existing main supply line and extension in height of No. 2 mill water service tank.

xi. Relocation of existing yard fire mains where necessary to make room for new plant and equipment and extension of existing mains to provide yard and sprinkler protection for all new facilities all to approval of FIA.

xii. Modifications and extensions to existing pipe bridges only in so far as such modifications or extensions result directly from the expansion project.

xiii. Modification of existing railway lines within the immediate plant site only as required to make room for new facilities or to serve new or modified facilities.

all collectively hereinafter referred to as the "Project";

AND WHEREAS Sandwell has agreed to perform for the Client the services hereinafter referred to in connection with the Project;

AND WHEREAS this Agreement is desired by the Client with the object of bringing the services of Sandwell to bear upon the Project, as defined in Paragraph 1A.

AND WHEREAS, if Client decides to complete said project the services of Sandwell shall be employed as defined in Paragraph 1B and 1C.

AND WHEREAS, nothing in this agreement shall bind the Client to complete the project beyond those services as defined in Paragraph 1 A.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH that in consideration of the respective covenants and agreements of the parties herein contained, the parties hereto covenant and agree as follows:

1. SERVICES TO BE PROVIDED BY SANDWELL

Sandwell covenants and agrees with the Client to provide to the Client professional engineering services in connection with construction of the Project including the following:

A. Design Development

a. Undertake studies necessary to make appropriate decisions on concept.

b. Develop site and departmental general arrangement drawings.

c. Develop basic flow diagrams.

d. Develop design criteria.

e. Compare and recommend materials of construction.

f. Prepare inquiry specifications for major items of equipment, receive firm bids, compare and recommend supplier.

g. Prepare inquiry specifications for representative list of pumps, tanks, instruments, motors and similar major commitments, receive bids, compare and recommend supplier.

h. Establish supplier for mill standard equipment such as reducers, V-belt drives, couplings, grease nipples, etc.

i. Establish size and configuration of all buildings.

j. Prepare detailed capital cost estimates for all departments.

k. Prepare engineering and construction schedule and time-money schedule.

l. Assemble all data in a Construction Budget Report which will define the project and establish detailed cost estimates suitable for financial commitment and construction cost control.

At the completion of the service specified in this Paragraph 1.A, and upon receipt of prior written authorization from Client, Sandwell shall provide the following services:

B. <u>Detailed Designs and Purchasing</u>

a. Assist in negotiation and award of major equipment contracts.

b. Prepare inquiry specifications or bid requests for minor items of equipment, receive bids, compare and recommend supplier.

c. Prepare purchase requisitions for Client to purchase equipment.

d. Prepare designs and working drawings for structural, mechanical, electrical, instrumentation and piping work suitable for construction. It is understood that piping drawings will be suitable for preparation of spool drawings by a piping contractor directly from drawings for new construction in the mill but that field confirmation by the piping contractor

will be required for preparation of pipe spool drawings in existing areas of the mill.

It is understood that those engineering changes required by incorrect engineering will be the responsibility of Sandwell and to Sandwell's account. Those changes that are requested by the client or changes in machinery requested by the client or a change in scope requested by the client are to be to the client's account.

It is also understood that in existing mill areas details of tie-ins and modifications may of necessity be developed in two or more steps requiring designs and drawings of such areas to be performed more than once; such reworking of work once completed and approved by the Client, when requested or required by the Client, shall be classed as Extra Work and payment shall be made accordingly.

e. Prepare a precedence bar construction schedule and maintain and report on actual progress compared to planned progress monthly.

f. Expedite technical data and information from vendors.

g. Prepare specifications and related contract documents for construction and equipment installation contracts, analyze bids and recommend contractor(s).

h. Assist in negotiation and award of construction contracts.

C. Field Supervision and Start-up Assistance

So far as engineering is concerned, the supervision of construction and installation work performed by the contractors to assure compliance with the designs and specifications; minor designs in the field; general review and approval of field accounts for payment if requested, assistance with budget controls; additional technical assistance during pre start-up checking and testing and initial start-up of the project.

2. PERSONNEL

Sandwell shall furnish the engineering and other personnel as may in Sandwell's opinion be required to perform the design services covered by this Agreement under Paragraph 1A and 1B, (herein called "the design services"). Sandwell shall furnish technical personnel to perform the field supervision services covered by this Agreement under Paragraph 1C (herein called "the field supervision services") in accordance with the types of technical personnel and in accordance with designated periods of time defined as follows:

Designation	Period (Man Months)
Construction Manager	20
Civil/Structural Engineer	10
Mechanical Area 1 Engineer	18
Mechanical Area 2 Engineer	12
Paper Machine Engineer	8
Electrical Engineer	12
Instrument Engineer	8
Check-out & Start-up Assistant (3)	3
Total Technical Man Months	91

Variations from the above defined field supervision services shall result in a corresponding increase or decrease in payment to Sandwell. Adjustment to charges upward or downward shall be as defined in Paragraph 6C for Extra Work.

Sandwell shall have the right to engage, at no additional cost to Client, other professional parties (including corporations affiliated with or related to Sandwell) to assist it. All personnel employed in the work shall be competent and qualified to perform the services and shall be subject to approval by the Client.

If it is deemed necessary that Sandwell, for and on behalf of its employees shall be required to participate in workman's compensation and unemployment compensation programs of any State, Sandwell will comply with such laws and regulations relating thereto, at its sole cost and expense.

3. FACILITIES AND EQUIPMENT

Sandwell shall provide without charge office space and ordinary office equipment and facilities at Sandwell's offices and the Client shall provide similar facilities required for the services in the field without charge.

4. SPECIALISTS

Sandwell shall have the right to consult other professional parties with respect to special technical problems related to the services but any such consultation requested by the Client shall be at the cost and expense of the Client and shall be approved by the Client before such services in behalf of the Client are engaged.

5. INSTRUCTIONS AND APPROVALS

Sandwell recognizes the need on the part of the Client to maintain existing plant and facilities in production and shall use every reasonable endeavor to design modifications to existing plant and schedule tie-ins so as to limit loss of production to a practical minimum.

Sandwell shall act in full cooperation with the Client in providing the services. The Client shall designate to Sandwell an official who is authorized to provide Sandwell with such instructions and approvals as Sandwell may from time to time request. Such official shall be available to Sandwell at all reasonable times.

6. CHARGES

A. Design Development

The Client shall pay Sandwell at par in Portland, Oregon a lump sum fee of three hundred and fifty thousand dollars ($350,000.00) in full payment of its charges for providing its services as defined in Paragraph 1A of this Agreement and such sum shall include all overhead, normal traveling between Sandwell Offices and the Client's Offices and other expenses and disbursements of Sandwell excepting, however, the costs, expenses and disbursements which are in this Agreement expressly stated to be paid or borne by the Client. Specifically, the

total cost of travel related to inspection of equipment and operating facilities in other mills or in factories if requested by the Client shall be borne by the Client.

B. Detail Design, Purchasing and Field Supervision

The Client shall pay to Sandwell at par in Portland, Oregon a lump sum fee of Three million nine hundred and thirty thousand ($3,930,000.00) being 5.85% of $67,200,000.00 the presently estimated total capital cost of the Project (including direct costs, contractors' overhead, contingencies, escalation and engineering cost) in full payment of its charges for providing its services as defined in Paragraphs 1B and 1C of this Agreement and such sum shall include all overhead, traveling and other expenses and disbursements of Sandwell excepting, however, the cost, expenses and disbursements which are in this Agreement expressly stated to be paid or borne by the Client, provided that, if the final estimate of the total capital cost of the Project as prepared by Sandwell and recorded in the Construction Budget referred to in Paragraph 1A hereof, and agreed to by the Client, increases beyond or decreases below the said $67,200,000.00 by more than 5%, then the same lump sum fee shall be adjusted upwards or downwards in proportion to the amount which such increase or decrease bears to $67,200,000.00, the presently estimated total capital cost of the project.

C. Extra Work

Sandwell shall notify the Client of estimated charges for extra work when such work becomes evident and shall obtain approval of the Client before proceeding with such work. For work performed

by Sandwell at the written request of the Client which is beyond the scope of work defined in Paragraphs 1A, 1B and 1C above the Client shall pay to Sandwell at par in Portland, Oregon by check or other valid order for payment its proper charges calculated as follows:

a. Time Charges

i. For time devoted by Sandwell personnel, as described in Paragraph 2, providing the services described in this Paragraph 6C at the standard hourly billing rates established from time to time by Sandwell on the basis of the average cost of wages and salaries for each of the personnel categories including fringe benefits and the pro rata share of the cost of wages and salaries of supporting staff; an overhead amount of sixty-six and two-thirds per cent of the average cost of wages and salaries and a fee of twenty per cent of the cost of wages and salaries and overhead. Current standard hourly billing rates effective until 31 December 1973 are as follows:

Category	Designation	Billing Rate (per hour)
02	Senior Supervisor	$27.50
03	Supervisor & Senior Specialist	22.00
04	Senior Design Engineer & Specialist	19.80
05	Design Engineer	18.20
06	Intermediate Engineer & Senior Technician	15.50

07	Junior Engineer	12.50
08	Senior Draftsman & Technician	14.20
09	Intermediate Draftsman & Junior Technician	11.40
10	Junior Draftsman	8.50
11	Stenographer & Clerk	8.40

These rates are subject to adjustment annually to reflect personnel salary adjustments.

b. Disbursements

The cost of all out-of-pocket disbursements incurred with respect to the work and providing the services including, without limitation, all out-of-pocket disbursements properly incurred by the personnel referred to in Paragraph 2 and the cost of services of the specialists referred to in Paragraph 4.

For the purposes of this subparagraph, the term "out-of-pocket disbursements" shall mean amounts paid for travel, telephone, printing, subsistence, car rental, and associated costs, and shall not include normal overhead expenses.

c. Equipment Charges

Charges for motor vehicles, aircraft, data processing and other equipment directly utilized in providing the services shall be at the rates set out in Sandwell's Schedule of Equipment Rates from time to time in effect, which Schedule is available to the Client upon request.

d. General

Sandwell will make every reasonable effort to keep the

remuneration of the personnel referred to in Paragraph 2 within the established standards of remuneration for such personnel in the place where the services are performed.

D. Optional Work

The Client retains the right at its option to perform engineering work defined in Paragraph 1A and 1B and 1C with the Client's personnel, specifically as detailed below and in this event the lump sum fee contained in Paragraph 6B or the lump sum fee as it may be adjusted in accordance with Paragraph 6B shall be adjusted downwards by the amounts stated herein.

a. For work performed by the Client comprising modification of existing 11 ft 6 inch diameter by 20 ft face washer piping as described under Item B2(iii) of the "Project" definition contained in Recitals

Deduct $20,000.00 from the lump sum fee set out in Paragraph 6B.

b. For work performed by the Client comprising the modification of No. 2 Recovery Boiler as described under Item B4 of the "Project" definition contained in the Recitals

Deduct $150,000.00 from the lump sum fee set out in Paragraph 6B

E. Alternative Work

The Client retains the right at its option to request Sandwell to perform engineering work defined in Paragraphs 1A, 1B and 1C related to alternative process and equipment selection specifically as outlined below and in this event the lump sum fee contained in Paragraph 6B or the lump sum fee as it may be adjusted in accordance

with Paragraph 6B shall be adjusted upwards by the amounts stated herein.

a. For incorporating appropriate drum washers complete with support structure, building enclosure and auxiliary equipment as an alternative to a two-stage diffuser washer following the new continuous sawdust digester as described under Item A3 of the "Project" definition contained in the Recitals

   Add $70,000.00 to the lump sum fee set out in Paragraph 6B.

b. For incorporating appropriate drum washers complete with support structures, building enclosures and auxiliary equipment as an alternative to a single stage continuous diffuser washer following the existing large Kamyr digester as described under Item A4 of the "Project" definition contained in the Recitals

   Add $60,000.00 to the lump sum fee set out in Paragraph 6B.

F. Extended Service

If for reasons beyond the control of Sandwell it services under Paragraph 1A, 1B and 1C are required beyond the period of obligation as set forth in Paragraph 8, herein, the Client shall pay to Sandwell at par in Portland, Oregon its proper charges as calculated for Extra Work under Paragraph 6C, plus the sum of $25,000.00 per month to cover extended administration costs borne by Sandwell except that time charges shall be applied at the then current standard hourly individual billing rates less the standard hourly individual billing rates in effect on 30 June 1974. If

Payments under this Paragraph 6F are in addition to payments due under Paragraph 6C above.

7. TERMS OF PAYMENT

A. a. Invoices shall be rendered by Sandwell and payment of the fee referred to in Paragraph 6A shall be made in four equal monthly installments of $87,500.00 each commencing on the last day of August 1973 and on the last day of three succeeding months thereafter.

b. Invoices shall be rendered by Sandwell and payment of the fee referred to in Paragraph 6B shall be made in eighteen equal monthly installments commencing on the last day of the month in which prior written authorization for detail design as described in Paragraph 1B hereof is received from Client.

However, Sandwell shall not render invoices, and Client shall not be obligated to pay any monthly installments of the fee referred to in Paragraph 6B, if by making such payment the percentage of the total said fee then paid would exceed the percentage of the services under Paragraphs 1B and 1C, above, then completed by Sandwell and accepted by Client.

c. The amount of any adjustment in the lump sum fee required to be made under Paragraphs 6B, 6D and 6E shall be pro-rated over the remaining fee installments or, at Sandwell's election, shall be paid or deducted at the time such adjustment is determined.

d. For extra work referred to in Paragraph 6C invoices shall be rendered by Sandwell at the end of each month in respect of employees' time and equipment charges and disbursements incurred by Sandwell during such month.

B. If payment of any such invoice is not made within twenty days upon presentation thereof and such default shall continue for more than thirty days after notice in writing thereof shall have been served by Sandwell on the Client, Sandwell shall have the right to terminate its services under this Agreement without further notice to the Client and Sandwell shall be entitled to receive from the Client the sums and indemnification as set forth in subparagraph D of this paragraph.

C. All records relating to payments made pursuant to this Paragraph 7Ad shall be retained by Sandwell for a period of two years from the termination of this Agreement and shall be produced at all reasonable times for inspection by or on behalf of the Client.

D. If for any reason the services of Sandwell hereunder shall be terminated, the Client shall pay to Sandwell all expenses and other charges payable as set forth in the preceding paragraphs of this Agreement commencing with the date of delivery of notices

of termination and any installment of Sandwell's lump sum fees under Paragraphs 6A and 6B payable before or within two months after the date of delivery of notice of termination. All other obligations incurred by Sandwell for the account of the Client or for the carrying out of this Agreement by Sandwell and which may continue after such termination shall be assumed and paid by the Client as and when the same are due and payable and the Client shall indemnify and save harmless Sandwell therefrom. Upon delivery of any notice of termination or redirection of scope of work in accordance with Paragraph 9 below, it will be the duty of Sandwell to take all necessary steps to reduce as rapidly as is possible, to the extent services are terminated, the services then being provided under this Agreement, and Sandwell, to the extent specified in the notice will:

a. Stop forthwith all services then being done by it;

b. Terminate as rapidly and as inexpensively as in Sandwell's opinion is practicable the employment in the work of the personnel referred to in Paragraph 2 hereof;

c. Terminate with as much speed and with as little cost to the Client as in Sandwell's opinion is practicable all other engagements and contracts entered into pursuant to this Agreement; and

d. Not begin any new work nor enter into any new engagements;

provided always, that during the period required to bring its services to an end Sandwell will remain subject to the instructions of the Client and will continue to render throughout that

period any services within the scope of this Agreement which the Client may request and make payment for in accordance with charges as set forth in Paragraph 6C and in particular Sandwell will, if so instructed, concentrate on completing any services or work which the Client desires to be so completed.

8. COMMENCEMENT AND COMPLETION

Sandwell shall commence its services hereunder promptly upon the execution and delivery of this Agreement and shall use every reasonable endeavor to carry out such services in such a manner as to enable the construction of the Project to be completed with all due dispatch. Sandwell services related to specific departments of the Project shall be terminated two calendar months after start-up of such mill departments and in any event Sandwell shall not be obliged to perform any of its design services hereunder from and after the 1st day of July 1975 and any of its field supervision services hereunder from and after the 1st day of January 1976, if it shall not have by then completed its services hereunder by reason of the non-performance of the Client's obligations under this Agreement or by reason of any cause beyond Sandwell's control, provided that Sandwell shall remain subject to the instructions of the Client and will continue to render any services within the scope of this Agreement which the Client may request and make payment for in accordance with charges as set forth in Paragraph 6F herein.

Notwithstanding the above, should at any time the Client be temporarily delayed or interrupted, in whole or in part in completion of the Project for any reason, the Client may give Sandwell a notice of temporary suspension of service specifying the anticipated period

of the suspension, and any fee payments otherwise due under Paragraphs 6A and 6B above, shall cease to be due and Sandwell shall immediately proceed to render invoices for only its direct costs and expenses and overhead cost and fee incurred during such delay period as set forth in the preceding Paragraph 6C of this Agreement and for any fee for additional work performed by Client's request during the delay period and payable under Paragraph 6C, above. The Client shall notify Sandwell in writing at least two weeks in advance of the reactivation date. Commencing as of the reactivation date charges based on Paragraph 6C specifically related to suspension shall cease and invoicing and payment based on Paragraphs 6A and 6B shall be reinstituted and continued until all amounts due thereunder have been paid. Client shall keep Sandwell advised of any anticipated changes to the period of suspension. If it appears that the suspension thus occasioned may become prolonged or permanent the Client shall have the right to terminate the Agreement in accordance with the provisions of Paragraph 7D above, and Paragraph 9 below.

9. TERMINATION

If at any time the Client shall determine that it is inadvisable or impossible to continue the execution of the Project, the Client shall have the right to terminate the services of Sandwell hereunder by delivery to Sandwell of a notice of termination. In no event shall the Client be responsible for the payment to Sandwell of any costs, expenses, fees or charges of any kind incurred for terminated services after two months from the date of delivery of the notice of termination of such services. In the event of termination, the provisions of Paragraph 7D hereof shall apply.

Client shall similarly have a right to reduce the scope of work specified in Paragraphs 1A, 1B and 1C and to terminate services related to such scope reduction by delivery to Sandwell of a notice of reduction specifying the extent to which the scope of work is reduced. In the event of such scope reduction, the provisions of Paragraph 7D hereof shall apply and an equitable adjustment shall be made to the remaining installments payable by the Client under Paragraphs 6A and 6B.

10. LIABILITY

Sandwell agrees with the Client that it will provide under this Agreement the standards of care, skill and diligence normally provided in the performance of services in respect of work similar to that contemplated by this Agreement. Sandwell at its own expense carries professional indemnity insurance (consulting engineers) to the extent it deems prudent and Sandwell's liability under this Agreement shall be limited to the extent that such liability is covered by such insurance from time to time in effect and is available to indemnify Sandwell and in any event Sandwell's liability under this Agreement shall be limited to loss or damage attributable to acts of Sandwell, its officers, servants or agents in contravention of the instructions or approvals referred to in Paragraph 5 or to its failure to provide the standards of care, skill and diligence mentioned above. In no event shall Sandwell be liable for loss or damage occasioned by delays beyond Sandwell's control, loss of earnings or other consequential damage howsoever caused.

At all times under this Agreement Sandwell shall provide Client

with copies of Sandwell aforesaid insurance policies and shall immediately notify Client in writing of any changes or anticipated changes in coverage as soon as such changes or anticipated changes become known to Sandwell. The Client agrees to Sandwell's limitation of liability aforesaid. If the Client, because of its particular circumstances or otherwise, desires to obtain any insurance to protect it against any risk beyond such limitation Sandwell will cooperate with the Client to obtain appropriate insurance at the Client's expense. The Client shall have no right of set-off against any billings of Sandwell under this Agreement.

11. CONFIDENTIAL DATA

Any and all secret information revealed by one of the parties hereto to the other during the currency of this Agreement and designated in writing, when revealed, as confidential, shall at all times hereafter be kept confidential by such other party and such other party shall not at any time hereafter disclose any such secret information to any third party, unless such information has become public knowledge through no fault of either party hereto.

12. DRAWINGS AND DESIGNS

All design data, working drawings, plans, estimates and specifications prepared by Sandwell in connection with this Agreement shall be and remain the joint property of Sandwell and the Client. Sandwell may retain one complete set of reproducible copies and the Client shall be entitled to receive the original tracings of all such design data, working drawings, plans, estimates and specifications and to reproduce therefrom such copies as may be necessary for completion or maintenance of the work to which they refer.

13. ASSIGNMENT OF AGREEMENT

Either party may assign the whole or any part of this Agreement to any corporation affiliated with or related to such party upon receipt of prior written approval by the other party but notwithstanding any such assignment the assignor shall remain liable upon its obligations under this Agreement.

14. INTERPRETATION

This Agreement shall become a binding contract only upon receipt by Sandwell at Portland, Oregon, of a copy hereof, duly executed by the Client. This Agreement shall for all purposes be governed by the laws of the State of Montana.

15. NOTICES

Any notice given to or served on Sandwell by the Client under this Agreement shall be well and sufficiently given or served if mailed or delivered to Sandwell addressed to Sandwell as follows:

Sandwell International Incorporated
1618 S. W. First Avenue
Portland, Oregon 97201

and any notice given to or served on the Client by Sandwell shall be well and sufficiently given or served if mailed or delivered to the Client addressed to the Client as follows:

Hoerner Waldorf Corporation
Drawer D
Missoula, Montana 59801

Any such notice to the Client or to Sandwell shall be deemed to have been given or served if delivered, when delivered, and if mailed by prepaid registered air post, within four days after the mailing of such notice in any Government Post Office in the City of Portland, Oregon or in the City of Missoula, Montana.

In the event of a change of address occurring in respect of either addressee as aforesaid, the Client or Sandwell shall advise the other party in writing as to the new address to be used for purposes of this paragraph.

IN WITNESS WHEREOF, this Agreement has been duly executed the day and year first above written.

THE CORPORATE SEAL of]
HOERNER WALDORF CORPORATION,]
was hereunto affixed in the pre-]
sence of:]

Roy C. Countryman]

Vice President]

THE CORPORATE SEAL of]
SANDWELL INSTERNATIONAL INCORPORATED,]
was hereunto affixed in the pre-]
sence of:]

Vice President]

]

]

FORM APPROVED
OMB NO. 158-R0013

VIRONMENTAL PROTECTION AGENCY

APPLICATION FOR CERTIFICATION OF POLLUTION CONTROL FACILITY

(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

TO: REGIONAL ADMINISTRATOR (Region, Street, City, State, Zip Code):	THRU: APPROPRIATE STATE WATER OR AIR POLLUTION CONTROL AGENCY (Name of State Agency, Street, City, State, Zip Code):
Region VIII 1860 Lincoln Street Denver, Colorado 80203	Mr. Benjamin Wake, Director Division of Air Pollution Control State of Montana Department of Health and Environmental Sciences Helena, Montana 59601

Application is hereby made for certification of the pollution control facility described herein. The following information is submitted in accordance with provisions of Part 602 of Title 18 of the Code of Federal Regulations (Volume 36, Federal Register, page 9509, May 26, 1971) and to the best of my knowledge and belief is true and correct.

APPLICANT	DATE
Hoerner Waldorf Corporation	July 29, 1974
SIGNATURE Roy C. Countryman	STREET ADDRESS, CITY, STATE, ZIP CODE 2250 Wabash Avenue St. Paul, Minnesota 55114
TITLE Vice President - Resident Manager, Missoula	

NOTE: READ ACCOMPANYING INSTRUCTIONS CAREFULLY PRIOR TO COMPLETING FORM.

EPA Form 3300-1 (9-71) (Page 1)

COPY 3

Exhibit 3

FORM APPROVED
OMB NO. 158-R0013

SECTION A – IDENTITY AND LOCATION OF CONTROL FACILITY

1. FULL BUSINESS NAME OF APPLICANT

Hoerner Waldorf Corporation
2250 Wabash Avenue
St. Paul, Minnesota 55114

2. TYPE OF OWNERSHIP

- [ ] INDIVIDUAL
- [ ] PARTNERSHIP
- [x] CORPORATION
- [ ] OTHER (Describe):

3. PERSON TO CONTACT REGARDING THIS APPLICATION (Name and Title)

Jim Challas, Vice President, Mill Division

TELEPHONE: (612)645-0131

ADDRESS (Street, City, State, Zip Code)

Hoerner Waldorf Corporation, Box 3260, St. Paul, Minnesota 55165

4. PERSON AUTHORIZED TO RECEIVE CERTIFICATION (Name and Title)

Howard E. Johnson, Senior Vice President - Finance

ADDRESS (Street, City, State, Zip Code)

Hoerner Waldorf Corporation, Box 3260, St. Paul, Minnesota 55165

5. BUSINESS NAME OF PLANT (If different from Item 1) (Street, City, State, Zip Code)

Hoerner Waldorf Corporation - Missoula Mill
Drawer D
Missoula, Montana 59801

6. APPLICANT'S EMPLOYER IDENTIFICATION NO.

42-0742113

SECTION B – DESCRIPTION OF CONTROL FACILITY

1. DESCRIBE THE FACILITY FOR WHICH CERTIFICATION IS SOUGHT. INCLUDE TYPE OF EQUIPMENT, MANUFACTURER AND MODEL NUMBER. SUBMIT DESIGN CRITERIA, ENGINEERING REPORT AND/OR PERFORMANCE SPECIFICATIONS WHICH DESCRIBE FUNCTION AND OPERATION OF FACILITY:

Hog Fuel Scrubber - See attached.

2. IS FACILITY IN OPERATION?

- [x] YES
- [ ] NO

A. IF "YES" DATE FACILITY WAS PLACED IN OPERATION

August 6,1970

B. IF "NO" DATE FACILITY IS EXPECTED TO BE PLACED IN OPERATION

3. IF FACILITY CONSISTS OF A BUILDING, IS IT EXCLUSIVELY FOR CONTROL OF POLLUTION?

- [ ] YES
- [ ] NO

SECTION C – DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

1. DESCRIBE PROCESS OR ACTIVITY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED.

(Please see attached sheet.)

2. STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE NUMBER

26

3. DATE THAT EACH PLANT OR OTHER PROPERTY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED, COMMENCED OPERATION

	PLANT OR PROPERTY	DATE
A.	Missoula Mill	Fall 1957
B.		
C.		

COPY 3

SECTION B. 1.

Certification is sought for air pollution control equipment associated with a Springfield hog fuel boiler, Serial Number 614, rated to produce 125,000 pounds of 600 psig, 750° F steam per hour. Air pollution equipment includes three sets of Western Precipitation Type 9-VRG-14 Multiclone scrubbers and two Western Precipitation Type D Turbulaire wet scrubbers. Under maximum steam production, 150,000#/hr, 155,000 ACFM gas at 485° F enters the multiclones, carrying 2.01 gr/DSCF, or 1,180 lbs/hr, of fly ash particulate. The multiclones remove 66.1%, after which the Turbulaire wet scrubbers remove 33.2%, resulting in a total loss to the atmosphere of 8.3#/hr of fly ash. A flow diagram is illustrated in Figure 1.

Fly ash removed by the multiclones is discharged as solid waste to landfill, while the fly ash removed by the Turbulaire scrubbers is in a water slurry. The water slurry enters the effluent system, from which the fly ash is removed through primary clarification to sludge ponds.

Under normal conditions the unit burns hog fuel 24 hours per day.

SECTION C - DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

1. DESCRIBE PROCESS OR ACTIVITY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED.

The Hoerner Waldorf mill is a kraft pulp and paperboard mill with a present daily production of 1,000 tons of linerboard and 150 tons of bleached pulp. The primary raw materials used by the mill are wood chips and sawdust purchased from sawmills and plywood plants throughout western Montana. The major operations of the plant include the pulping, papermaking, bleaching, and chemical recovery.

Pulp is produced from wood chips and sawdust with the addition of a chemical mixture known as white liquor (caustic soda and sodium sulfide) and the effects of pressure and steam. After the digestive process, where the lignin is selectively dissolved from the cellulose fibers in the wood, the fibers, or pulp, are separated from the dissolved organic material and spent cooking chemicals (commonly known as black liquor) in the pulp washing operation. The black liquor is concentrated through evaporation and burned in chemical recovery furnaces. Inside the recovery furnace the organic material is burned off, with the inorganic chemicals collected in a stream of molten smelt leaving the bottom of the furnace. The smelt is reconstituted into white liquor by a complex recausticizing operation.

In the bleach plant pulp is bleached in a four-stage process using chlorine, caustic soda, sodium hypochlorite, and chlorine dioxide. The bleached pulp is dried and baled for shipment.

Linerboard is produced by dual-headbox fourdrinier machines and is shipped as large rolls to our corrugating plants for the manufacture of cardboard boxes.

The effluent originates from a variety of sources within the mill, and the major sources include the paper machines, the bleach plant, and the evaporator hot wells. The effluent streams find their way into three basic ditches which are intercepted at the effluent clarifier.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1971—448-789

FORM APPROVED
OMB NO. 158-R1003

SECTION C – DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

4A. IF FACILITY IS OR WILL BE USED IN CONNECTION WITH MORE THAN ONE PLANT OR PROPERTY, AND IF ONE OR MORE OF THE PLANTS OR PROPERTIES IN CONNECTION WITH WHICH THE FACILITY IS OR WILL BE USED WAS NOT IN OPERATION PRIOR TO JANUARY 1, 1969, STATE THE PERCENTAGE OF THE COST OF FACILITY WHICH IS ALLOCABLE TO THE PLANT(S) OR PROPERTY(IES) IN OPERATION PRIOR TO THAT DATE. Inapplicable %

4B. DESCRIBE THE REASONING AND FURNISH THE DATA USED TO ARRIVE AT THE PERCENTAGE GIVEN IN RESPONSE TO ITEM 4(A).

The air pollution control equipment is used only for the hog fuel boiler at one plant, and the plant was in operation prior to January 1, 1969.

5A. IF FACILITY PERFORMS A FUNCTION OR FUNCTIONS IN ADDITION TO THE ABATEMENT OF POLLUTION, STATE THE PERCENTAGE OF THE COST OF FACILITY ALLOCABLE TO THE ABATEMENT OF POLLUTION. Inapplicable %

5B. DESCRIBE THE REASONING AND FURNISH THE DATA USED TO ARRIVE AT THE PERCENTAGE GIVEN IN RESPONSE TO ITEM 5(A).

Certification is being sought only on the equipment used for the abatement of air pollution.

☆ SECTION D – WASTEWATER CHARACTERISTICS (To be completed only in connection with facilities for the control of water pollution)

DESCRIBE THE EFFECT OF POLLUTION CONTROL FACILITY IN TERMS OF QUANTITY AND QUALITY OF EFFLUENT OR WASTEWATER DISCHARGED AND OF WASTES OR BY-PRODUCTS REMOVED, ALTERED OR DISPOSED OF. IF FEASIBLE, ATTACH PROCESS FLOW OR SCHEMATIC DIAGRAM WITH MATERIAL BALANCES OF THE WASTE OR WASTEWATER STREAM OR DISCHARGE. REPORT EITHER ON ACTUAL BASIS OR, IF FACILITY IS NOT YET IN OPERATION, ON DESIGN BASIS (Use Standard Units – pounds/gallon, grams/liter, ppm, etc.)

1. HOURS PLANT OR PROPERTY IS IN OPERATION: a. Per Month: Min. ____ Max. ____ Avg. ____
b. Per Year: Min. ____ Max. ____ Avg. ____

2. WASTEWATER DISCHARGE IN - (A) GALLONS PER MINUTE, (B) MILLIONS OF GALLONS PER MONTH.	WITHOUT POLLUTION CONTROL FACILITY			WITH POLLUTION CONTROL FACILITY		
	a. Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
	b. Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. POLLUTANTS OR WASTE PRODUCTS						
3.a ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.b ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.c ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.d ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.e ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.f ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.g ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.h ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.i ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.j ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____

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4. DESCRIBE METHOD (GRAB OR COMPOSITE) AND FREQUENCY OF SAMPLING AND METHODS USED TO DETERMINE QUANTITIES OF POLLUTANTS.

5. IS FACILITY A PRETREATMENT FACILITY TO PREPARE WASTEWATER FOR RECEIPT BY ANOTHER FACILITY, PUBLIC OR PRIVATE, FOR FURTHER TREATMENT? IF "YES", SKIP ITEMS 6, 7 AND 8 AND IDENTIFY RECEIVING FACILITY. ☐ YES ☐ NO

6. IDENTIFY THE BODY OR STREAM OF WATER INTO WHICH WASTEWATER FROM THE PLANT OR PROPERTY, IN CONNECTION WITH WHICH THE FACILITY IS USED, IS OR WILL BE DISCHARGED.

7. DESCRIBE LOCATION OF DISCHARGE OR OUTFALL WITH RESPECT TO RECEIVING WATERS.

8. IS THE RECEIVING BODY OR STREAM OF WATER A NAVIGABLE WATERWAY OF THE UNITED STATES OR A TRIBUTARY THEREOF? ☐ YES ☐ NO IF "NO," PROCEED TO ITEM 9.

A. IF "YES" HAS A U.S. ARMY CORPS OF ENGINEERS DISCHARGE PERMIT BEEN APPLIED FOR? ☐ YES ☐ NO IF "NO," EXPLAIN, THEN PROCEED TO ITEM 9.

B. IF ANSWER TO ITEM 8A IS "YES" HAS A U.S. ARMY CORPS OF ENGINEERS DISCHARGE PERMIT BEEN ISSUED? ☐ YES ☐ NO
(1) IF "YES," ATTACH COPY OR PROVIDE PERMIT NUMBER_____ OMIT ITEM 9.
(2) IF "NO," EXPLAIN, GIVING DATES OF ANY OFFICIAL ACTION WITH RESPECT TO APPLICATION.

9. IF ITEM 8B HAS NOT BEEN ANSWERED "YES," IDENTIFY APPLICABLE STATE AND LOCAL WATER POLLUTION CONTROL REQUIREMENTS AND STANDARDS.

SECTION E – EMISSION CHARACTERISTICS (To be completed only in connection with facilities for the control of air pollution)

DESCRIBE THE EFFECT OF POLLUTION CONTROL FACILITY IN TERMS OF QUANTITY AND QUALITY OF EMISSION AND OF WASTES OR BY-PRODUCTS REMOVED, ALTERED OR DISPOSED OF. IF FEASIBLE, ATTACH PROCESS FLOW OR SCHEMATIC DIAGRAM WITH MATERIAL BALANCES OF POLLUTANTS IN THE EMISSION STREAM. REPORT EITHER ON ACTUAL BASIS, OR, IF FACILITY IS NOT YET IN OPERATION, ON DESIGN BASIS.

1. HOURS PLANT OR PROPERTY IS IN OPERATION: a. Per Month: Min. ___ Max. 720 Avg. 720
b. Per Year: Min. ___ Max. ___ Avg. ___

		WITHOUT POLLUTION CONTROL FACILITY	WITH POLLUTION CONTROL FACILITY
2. POLLUTANTS TO BE CONTROLLED (Specify each)	a.	Particulate	
	b.		
	c.		
	d.		
3. VOLUMETRIC FLOW RATE OF EMISSION (actual cubic feet/minute)		Min. ___ Max. ___ Avg. 155,000 at 485 °F	Min. ___ Max. ___ Avg. 105,000 at 142 °F
4. CONCENTRATION (in volume % of gaseous components)	a.	Min. ___ Max. ___ Avg. ___ at ___ °F	Min. ___ Max. ___ Avg. ___ at ___ °F
	b.	Min. ___ Max. ___ Avg. ___ at ___ °F	Min. ___ Max. ___ Avg. ___ at ___ °F
	c.	Min. ___ Max. ___ Avg. ___ at ___ °F	Min. ___ Max. ___ Avg. ___ at ___ °F
	d.	Min. ___ Max. ___ Avg. ___ at ___ °F	Min. ___ Max. ___ Avg. ___ at ___ °F
5. CONCENTRATION (grains/cubic feet of all particulate matter) *		Min. ___ Max. ___ Avg. 2.01 at 485 °F grain/DSCF	Min. ___ Max. ___ Avg. 0.014 at 142 °F grain/DSCF
6. CONCENTRATION (grains/cubic feet of any specific particulate listed in E-2 above)		Min. ___ Max. ___ Avg. ___ at ___ °F Inapplicable	Min. ___ Max. ___ Avg. ___ at ___ °F

*Insufficient data to define maximum and minimum values

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FORM APPROVED
OMB NO. 158-R0013

7. DESCRIBE METHODS OF DETERMINING RATES, CONCENTRATION AND CHARACTERISTICS OF EMISSIONS.

Rates and concentrations were derived through stack testing after the multiclones and after the Turbulaire scrubbers, and by calculating the inlet to the multiclones by weighing the collected fly ash. Stack tests were conducted using a stainless steel probe, air condenser, two water impingers, and glass fiber filters, in that order, for the wet stack. In the dry stack test, following the multiclones, an alundum thimble was used before the water impingers, and the filter was eliminated.

8. IDENTIFY APPLICABLE STATE AND LOCAL AIR POLLUTION CONTROL REQUIREMENTS AND STANDARDS.

The Montana air pollution control requirement is 0.27 lb of particulate per 10^6 BTU boiler input. The emission rate in Figure 1 of 8.3 lbs/hr is equivalent to 0.045 lb particulate per 10^6 BTU at 150,000 lbs steam/hr production. 3.5 lbs steam are produced per pound of wet hog fuel with a BTU content of 5,320 BTU/wet lb. Montana is presently considering a new standard of approximately 0.1 lb particulate per 10^6 BTU boiler input.

SECTION F – COST INFORMATION (See Note to Instructions for this section)

1. IS THERE ANY BY-PRODUCT OR MATERIAL WHICH, WITHOUT THE CONTROL FACILITY, WOULD BE LOST AND WHICH IS RECOVERED THROUGH THE USE OF THE FACILITY? ☒ YES ☐ NO

A. IF YES, IDENTIFY Fly ash.

B. INDICATE THE DISPOSITION OF EACH TYPE OF RECOVERED MATERIAL, INCLUDING IF APPLICABLE, THE SALE OR SIMILAR DISPOSITION OF RECLAIMED OR RECOVERED MATERIAL TO INDUSTRIAL WASTE RECOVERY FIRMS OR OTHERS.

Fly ash is recovered in two forms: a slurry from the wet scrubbers and a dry solid from the multiclone scrubbers. It is disposed of to landfill in sludge ponds and as solid waste, respectively.

2. ANNUAL COST RECOVERY	A. MATERIAL RECOVERED AND SOLD	$ 0
	B. OTHER	$ 0
	C. TOTAL	$ 0
3. TOTAL AVERAGE ANNUAL MAINTENANCE AND OPERATING COSTS *(Not applicable if no cost recovery is reported in Item 2)*		$ Inapplicable

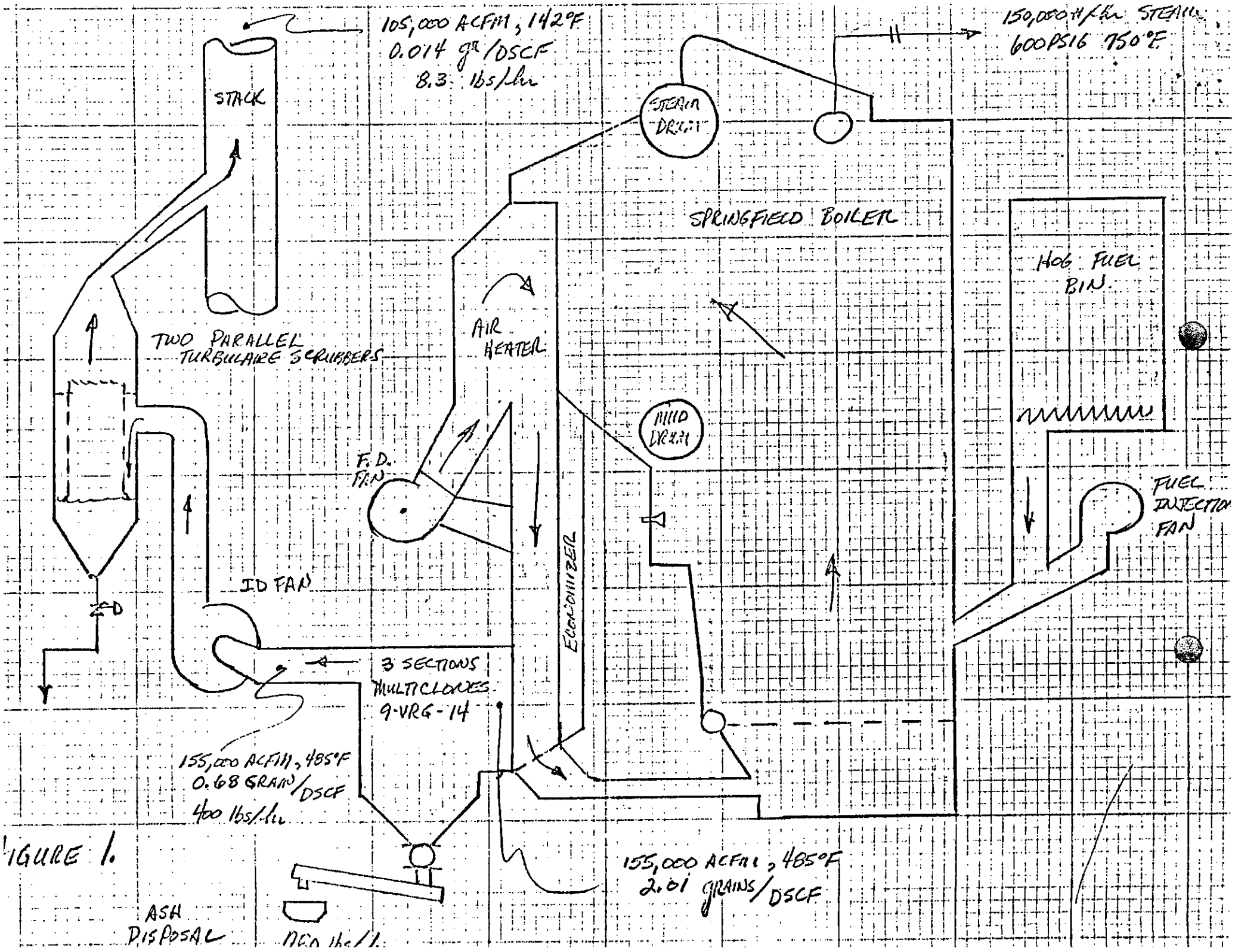
105,000 ACFM, 142°F
0.014 gr/DSCF
8.3 lbs/hr
STACK
150,000 #/hr STEAM
600 PSIG 750°F
STEAM DRUM
SPRINGFIELD BOILER
HOG FUEL BIN
TWO PARALLEL TURBULAIRE SCRUBBERS
AIR HEATER
MUD DRUM
F.D. FAN
FUEL INJECTION FAN
ECONOMIZER
ID FAN
3 SECTIONS MULTICLONES 9-VRG-14
155,000 ACFM, 485°F
0.68 GRAIN/DSCF
400 lbs/hr
155,000 ACFM, 485°F
2.01 GRAINS/DSCF
ASH DISPOSAL

FIGURE 1.

FORM APPROVED
OMB NO. 158-R00

ENVIRONMENTAL PROTECTION AGENCY

APPLICATION FOR CERTIFICATION OF POLLUTION CONTROL FACILITY

(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

TO: REGIONAL ADMINISTRATOR (*Region, Street, City, State, Zip Code*):

Region VIII
1860 Lincoln Street
Denver, Colorado

THRU: APPROPRIATE STATE WATER OR AIR POLLUTION CONTROL AGENCY (*Name of State Agency, Street, City, State, Zip Code*):

Director, Division of Environmental Sanitat
State of Montana Department of Health
Helena, Montana 59601

Application is hereby made for certification of the pollution control facility described herein. The following information is submitted in accordance with provisions of Part 602 of Title 18 of the Code of Federal Regulations (Volume 36, Federal Register, page 9509, May 26, 1971) and to the best of my knowledge and belief is true and correct.

APPLICANT	DATE
Hoerner Waldorf Corporation	**July 29, 1974**
SIGNATURE	STREET ADDRESS, CITY, STATE, ZIP CODE
Roy C. Countryman	**2250 Wabash Avenue** **St. Paul, Minnesota 55114**
TITLE **Vice President - Resident Manager, Missoula**	

NOTE: READ ACCOMPANYING INSTRUCTIONS CAREFULLY PRIOR TO COMPLETING FORM.

EPA Form 3300-1 (9-71) (Page 1)

ORIGINAL

Exhibit 4

FORM APPROVED
OMB NO. 158-R0013

SECTION A – IDENTITY AND LOCATION OF CONTROL FACILITY

1. FULL BUSINESS NAME OF APPLICANT
Hoerner Waldorf Corporation
2250 Wabash Avenue
St. Paul, Minnesota 55114

2. TYPE OF OWNERSHIP
- [ ] INDIVIDUAL
- [ ] PARTNERSHIP
- [x] CORPORATION
- [ ] OTHER (Describe):

3. PERSON TO CONTACT REGARDING THIS APPLICATION (Name and Title)
Jim Challas, Vice President, Mill Division

ADDRESS (Street, City, State, Zip Code)
Hoerner Waldorf Corporation, Box 3260, St. Paul, Minnesota 55165

TELEPHONE
(612) 645-0131

4. PERSON AUTHORIZED TO RECEIVE CERTIFICATION (Name and Title)
Howard E. Johnson, Senior Vice President - Finance

ADDRESS (Street, City, State, Zip Code)
Hoerner Waldorf Corporation, Box 3260, St. Paul, Minnesota 55165

5. BUSINESS NAME OF PLANT (If different from Item 1) (Street, City, State, Zip Code)
Hoerner Waldorf Corporation - Missoula Mill
Drawer D
Missoula, Montana 59801

6. APPLICANT'S EMPLOYER IDENTIFICATION NO.
42-0742113

SECTION B – DESCRIPTION OF CONTROL FACILITY

1. DESCRIBE THE FACILITY FOR WHICH CERTIFICATION IS SOUGHT. INCLUDE TYPE OF EQUIPMENT, MANUFACTURER AND MODEL NUMBER. SUBMIT DESIGN CRITERIA, ENGINEERING REPORT AND/OR PERFORMANCE SPECIFICATIONS WHICH DESCRIBE FUNCTION AND OPERATION OF FACILITY:

Effluent clarifier - See attached.

2. IS FACILITY IN OPERATION?
- [x] YES
- [ ] NO

A. IF "YES" DATE FACILITY WAS PLACED IN OPERATION
May 20, 1970

B. IF "NO" DATE FACILITY IS EXPECTED TO BE PLACED IN OPERATION

3. IF FACILITY CONSISTS OF A BUILDING, IS IT EXCLUSIVELY FOR CONTROL OF POLLUTION?
- [ ] YES
- [ ] NO

SECTION C – DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

1. DESCRIBE PROCESS OR ACTIVITY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED.

(Please see attached sheet.)

2. STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE NUMBER
26

3. DATE THAT EACH PLANT OR OTHER PROPERTY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED, COMMENCED OPERATION

	PLANT OR PROPERTY	DATE
A.	Missoula mill	Fall 1957
B.		
C.		

COPY 3

SECTION B. 1. - DESCRIPTION OF CONTROL FACILITY

The facility includes an intercept ditch, a lift station, a standard 200 foot diameter Dorr-Oliver waste treatment type clarifier, and the necessary ditching to handle the effluent to and from the installation. A self-cleaning Link-Belt bar screen is located at the entrance to lift station to protect the pumps from large foreign objects. There are three vertical pumps (Layne & Bowler) in the lift station, each with a capacity of 7500 gpm, to lift the effluent from the sump into the clarifier. The clarifier has a rise rate of a little over 600 gallons per square foot/day at the design rate of 20 mgd. The sludge is pumped from the clarifier by one of two Wemco pumps and disposed of in adjacent ponds.

SECTION C - DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

1. DESCRIBE PROCESS OR ACTIVITY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED.

The Hoerner Waldorf mill is a kraft pulp and paperboard mill with a present daily production of 1,000 tons of linerboard and 150 tons of bleached pulp. The primary raw materials used by the mill are wood chips and sawdust purchased from sawmills and plywood plants throughout western Montana. The major operations of the plant include the pulping, papermaking, bleaching, and chemical recovery.

Pulp is produced from wood chips and sawdust with the addition of a chemical mixture known as white liquor (caustic soda and sodium sulfide) and the effects of pressure and steam. After the digestive process, where the lignin is selectively dissolved from the cellulose fibers in the wood, the fibers, or pulp, are separated from the dissolved organic material and spent cooking chemicals (commonly known as black liquor) in the pulp washing operation. The black liquor is concentrated through evaporation and burned in chemical recovery furnaces. Inside the recovery furnace the organic material is burned off, with the inorganic chemicals collected in a stream of molten smelt leaving the bottom of the furnace. The smelt is reconstituted into white liquor by a complex recausticizing operation.

In the bleach plant pulp is bleached in a four-stage process using chlorine, caustic soda, sodium hypochlorite, and chlorine dioxide. The bleached pulp is dried and baled for shipment.

Linerboard is produced by dual-headbox fourdrinier machines and is shipped as large rolls to our corrugating plants for the manufacture of cardboard boxes.

The effluent originates from a variety of sources within the mill, and the major sources include the paper machines, the bleach plant, and the evaporator hot wells. The effluent streams find their way into three basic ditches which are intercepted at the effluent clarifier.

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SECTION C – DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

4A. IF FACILITY IS OR WILL BE USED IN CONNECTION WITH MORE THAN ONE PLANT OR PROPERTY, AND IF ONE OR MORE OF THE PLANTS OR PROPERTIES IN CONNECTION WITH WHICH THE FACILITY IS OR WILL BE USED WAS NOT IN OPERATION PRIOR TO JANUARY 1, 1969, STATE THE PERCENTAGE OF THE COST OF FACILITY WHICH IS ALLOCABLE TO THE PLANT(S) OR PROPERTY(IES) IN OPERATION PRIOR TO THAT DATE. inapplicable %

4B. DESCRIBE THE REASONING AND FURNISH THE DATA USED TO ARRIVE AT THE PERCENTAGE GIVEN IN RESPONSE TO ITEM 4(A).

The effluent clarifier is used for one plant only, and the plant was in operation prior to January 1, 1969.

5A. IF FACILITY PERFORMS A FUNCTION OR FUNCTIONS IN ADDITION TO THE ABATEMENT OF POLLUTION, STATE THE PERCENTAGE OF THE COST OF FACILITY ALLOCABLE TO THE ABATEMENT OF POLLUTION. 100%

5B. DESCRIBE THE REASONING AND FURNISH THE DATA USED TO ARRIVE AT THE PERCENTAGE GIVEN IN RESPONSE TO ITEM 5(A).

The entire function of the effluent clarifier is abatement of water pollution.

SECTION D – WASTEWATER CHARACTERISTICS (To be completed only in connection with facilities for the control of water pollution)

DESCRIBE THE EFFECT OF POLLUTION CONTROL FACILITY IN TERMS OF QUANTITY AND QUALITY OF EFFLUENT OR WASTEWATER DISCHARGED AND OF WASTES OR BY-PRODUCTS REMOVED, ALTERED OR DISPOSED OF. IF FEASIBLE, ATTACH PROCESS FLOW OR SCHEMATIC DIAGRAM WITH MATERIAL BALANCES OF THE WASTE OR WASTEWATER STREAM OR DISCHARGE. REPORT EITHER ON ACTUAL BASIS OR, IF FACILITY IS NOT YET IN OPERATION, ON DESIGN BASIS (Use Standard Units – pounds/gallon, grams/liter, ppm, etc.)

1. HOURS PLANT OR PROPERTY IS IN OPERATION: a. Per Month: Min. 552 Max. 744 Avg. 700
b. Per Year: Min. ____ Max. ____ Avg. 8,400

2. WASTEWATER DISCHARGE IN (A) GALLONS PER MINUTE, (B) MILLIONS OF GALLONS PER MONTH. FROM MILL	WITHOUT POLLUTION CONTROL FACILITY			WITH POLLUTION CONTROL FACILITY		
	a. Min. 6500*	Max. 12,600*	Avg. 11,000	Min. Same	Max. ____	Avg. ____
	b. Min. 273	Max. 529.2	Avg. 462	Min. ____	Max. ____	Avg. ____
	*daily averages					

3. POLLUTANTS OR WASTE PRODUCTS

3.a suspended solids	Min. 160	Max. 560	Avg. 320 mg/l	Min. 60	Max. 310	Avg. 150 mg/l
3.b biochemical oxygen demand	Min. 250	Max. 980	Avg. 536 mg/l	Min. 250	Max. 900	Avg. 508 mg/l
3.c ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.d ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.e ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.f ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.g ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.h ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.i ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3.j ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____

U.S. GOVERNMENT PRINTING OFFICE: 1971—448-791

FORM APPROVED
OMB NO. 158-R1003

4. DESCRIBE METHOD (GRAB OR COMPOSITE) AND FREQUENCY OF SAMPLING AND METHODS USED TO DETERMINE QUANTITIES OF POLLUTANTS.

All samples represent a 24-hour composite. The suspended solids in and out of the clarifier are measured on a daily basis and the BOD test is run once per week. The procedures used are described in Standard Methods for the Examination of Water and Wastewater, 13th edition.

5. IS FACILITY A PRETREATMENT FACILITY TO PREPARE WASTEWATER FOR RECEIPT BY ANOTHER FACILITY, PUBLIC OR PRIVATE, FOR FURTHER TREATMENT? IF "YES", SKIP ITEMS 6, 7 AND 8 AND IDENTIFY RECEIVING FACILITY. ☒ YES ☐ NO

745 acres of earthen lagoons with depths ranging from 4 - 12 feet.

6. IDENTIFY THE BODY OR STREAM OF WATER INTO WHICH WASTEWATER FROM THE PLANT OR PROPERTY, IN CONNECTION WITH WHICH THE FACILITY IS USED, IS OR WILL BE DISCHARGED.

7. DESCRIBE LOCATION OF DISCHARGE OR OUTFALL WITH RESPECT TO RECEIVING WATERS.

8. IS THE RECEIVING BODY OR STREAM OF WATER A NAVIGABLE WATERWAY OF THE UNITED STATES OR A TRIBUTARY THEREOF? ☐ YES ☐ NO IF "NO," PROCEED TO ITEM 9.

A. IF "YES" HAS A U.S. ARMY CORPS OF ENGINEERS DISCHARGE PERMIT BEEN APPLIED FOR? ☐ YES ☐ NO IF "NO," EXPLAIN, THEN PROCEED TO ITEM 9.

B. IF ANSWER TO ITEM 8A IS "YES" HAS A U.S. ARMY CORPS OF ENGINEERS DISCHARGE PERMIT BEEN ISSUED? ☐ YES ☐ NO
(1) IF "YES," ATTACH COPY OR PROVIDE PERMIT NUMBER_____OMIT ITEM 9.
(2) IF "NO," EXPLAIN, GIVING DATES OF ANY OFFICIAL ACTION WITH RESPECT TO APPLICATION.

9. IF ITEM 8B HAS NOT BEEN ANSWERED "YES," IDENTIFY APPLICABLE STATE AND LOCAL WATER POLLUTION CONTROL REQUIREMENTS AND STANDARDS.

9.2 pounds suspended solids and 4.4 pounds BOD per ton of unbleached pulp (proposed EPA standards) to be met by July 15, 1975.

SECTION E – EMISSION CHARACTERISTICS (To be completed only in connection with facilities for the control of air pollution)

DESCRIBE THE EFFECT OF POLLUTION CONTROL FACILITY IN TERMS OF QUANTITY AND QUALITY OF EMISSION AND OF WASTES OR BY-PRODUCTS REMOVED, ALTERED OR DISPOSED OF. IF FEASIBLE, ATTACH PROCESS FLOW OR SCHEMATIC DIAGRAM WITH MATERIAL BALANCES OF POLLUTANTS IN THE EMISSION STREAM. REPORT EITHER ON ACTUAL BASIS, OR, IF FACILITY IS NOT YET IN OPERATION, ON DESIGN BASIS.

1. HOURS PLANT OR PROPERTY IS IN OPERATION: a. Per Month: Min. ____ Max. ____ Avg. ____
b. Per Year: Min. ____ Max. ____ Avg. ____

		WITHOUT POLLUTION CONTROL FACILITY	WITH POLLUTION CONTROL FACILITY
2. POLLUTANTS TO BE CONTROLLED (Specify each)	a.		
	b.		
	c.		
	d.		
3. VOLUMETRIC FLOW RATE OF EMISSION (actual cubic feet/minute)		Min. ____ Max. ____ Avg. ____ at ____°F	Min. ____ Max. ____ Avg. ____ at ____°F
4. CONCENTRATION (in volume % of gaseous components)	a.	Min. ____ Max. ____ Avg. ____ at ____°F	Min. ____ Max. ____ Avg. ____ at ____°F
	b.	Min. ____ Max. ____ Avg. ____ at ____°F	Min. ____ Max. ____ Avg. ____ at ____°F
	c.	Min. ____ Max. ____ Avg. ____ at ____°F	Min. ____ Max. ____ Avg. ____ at ____°F
	d.	Min. ____ Max. ____ Avg. ____ at ____°F	Min. ____ Max. ____ Avg. ____ at ____°F
5. CONCENTRATION (grains/cubic feet of all particulate matter)		Min. ____ Max. ____ Avg. ____ at ____°F	Min. ____ Max. ____ Avg. ____ at ____°F
6. CONCENTRATION (grains/cubic feet of any specific particulate listed in E-2 above)		Min. ____ Max. ____ Avg. ____ at ____°F	Min. ____ Max. ____ Avg. ____ at ____°F

U.S. GOVERNMENT PRINTING OFFICE: 1971—448-790

FORM APPROVED
OMB NO. 155-R0013

7. DESCRIBE METHODS OF DETERMINING RATES, CONCENTRATION AND CHARACTERISTICS OF EMISSIONS.

8. IDENTIFY APPLICABLE STATE AND LOCAL AIR POLLUTION CONTROL REQUIREMENTS AND STANDARDS.

SECTION F – COST INFORMATION (See Note to instructions for this section)

1. IS THERE ANY BY-PRODUCT OR MATERIAL WHICH, WITHOUT THE CONTROL FACILITY, WOULD BE LOST AND WHICH IS RECOVERED THROUGH THE USE OF THE FACILITY? ☐ YES ☐ NO

A. IF YES, IDENTIFY

B. INDICATE THE DISPOSITION OF EACH TYPE OF RECOVERED MATERIAL, INCLUDING IF APPLICABLE, THE SALE OR SIMILAR DISPOSITION OF RECLAIMED OR RECOVERED MATERIAL TO INDUSTRIAL WASTE RECOVERY FIRMS OR OTHERS.

Sludge from the effluent clarifier is pumped to adjacent ponds where it is further dewatered by settling and decanting.

2. ANNUAL COST RECOVERY	A. MATERIAL RECOVERED AND SOLD	$ 0
	B. OTHER	$ 0
	C. TOTAL	$ 0
3. TOTAL AVERAGE ANNUAL MAINTENANCE AND OPERATING COSTS *(Not applicable if no cost recovery is reported in Item 2)*		$ inapplicable

FORM APPROVED
OMB NO. 158-R0013

ENVIRONMENTAL PROTECTION AGENCY

APPLICATION FOR CERTIFICATION OF POLLUTION CONTROL FACILITY

(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

TO: REGIONAL ADMINISTRATOR *(Region, Street, City, State, Zip Code)*:	THRU: APPROPRIATE STATE WATER OR AIR POLLUTION CONTROL AGENCY *(Name of State Agency, Street, City, State, Zip Code)*:
Region VIII 1860 Lincoln Street Denver, Colorado 80203	Mr. Benjamin Wake, Director Division of Air Pollution Control State of Montana Department of Health and Environmental Sciences Helena, Montana 59601

Application is hereby made for certification of the pollution control facility described herein. The following information is submitted in accordance with provisions of Part 602 of Title 18 of the Code of Federal Regulations (Volume 36, Federal Register, page 9509, May 26, 1971) and to the best of my knowledge and belief is true and correct.

APPLICANT	DATE
Hoerner Waldorf Corporation	August 5, 1974
SIGNATURE Roy E. Countryman	STREET ADDRESS, CITY, STATE, ZIP CODE 2250 Wabash Avenue St. Paul, Minnesota 55114
TITLE Vice President and Resident Manager, Missoula Mill	

NOTE: READ ACCOMPANYING INSTRUCTIONS CAREFULLY PRIOR TO COMPLETING FORM.

EPA Form 3300-1 (9-71) (Page 1)

COPY 3

Exhibit 5

FORM APPROVED
OMB NO. 158-R0013

SECTION A – IDENTITY AND LOCATION OF CONTROL FACILITY

1. FULL BUSINESS NAME OF APPLICANT
Hoerner Waldorf Corporation
2250 Wabash Avenue
St. Paul, Minnesota 55114

2. TYPE OF OWNERSHIP
- [ ] INDIVIDUAL
- [ ] PARTNERSHIP
- [x] CORPORATION
- [ ] OTHER (Describe):

3. PERSON TO CONTACT REGARDING THIS APPLICATION (Name and Title)
Jim Challas, Vice President, Mill Division

TELEPHONE
(612) 645-0131

ADDRESS (Street, City, State, Zip Code)
2250 Wabash Avenue, St. Paul, Minnesota 55114

4. PERSON AUTHORIZED TO RECEIVE CERTIFICATION (Name and Title)
Howard E. Johnson, Senior Vice President - Finance

ADDRESS (Street, City, State, Zip Code)
Hoerner Waldorf Corporation, 2250 Wabash Avenue, St. Paul, Minnesota 55114

5. BUSINESS NAME OF PLANT (If different from Item 1) (Street, City, State, Zip Code)
Hoerner Waldorf Corporation - Missoula Mill
Drawer D
Missoula, Montana 59801

6. APPLICANT'S EMPLOYER IDENTIFICATION NO.
42-0742113

SECTION B – DESCRIPTION OF CONTROL FACILITY

1. DESCRIBE THE FACILITY FOR WHICH CERTIFICATION IS SOUGHT. INCLUDE TYPE OF EQUIPMENT, MANUFACTURER AND MODEL NUMBER. SUBMIT DESIGN CRITERIA, ENGINEERING REPORT AND/OR PERFORMANCE SPECIFICATIONS WHICH DESCRIBE FUNCTION AND OPERATION OF FACILITY:

Modification of the No. 3 Recovery Boiler
See attached description.

2. IS FACILITY IN OPERATION?
- [x] YES
- [ ] NO

A. IF "YES" DATE FACILITY WAS PLACED IN OPERATION
April 28,1971

B. IF "NO" DATE FACILITY IS EXPECTED TO BE PLACED IN OPERATION

3. IF FACILITY CONSISTS OF A BUILDING, IS IT EXCLUSIVELY FOR CONTROL OF POLLUTION?
- [ ] YES
- [ ] NO N/A

SECTION C – DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

1. DESCRIBE PROCESS OR ACTIVITY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED.

(See attached)

2. STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE NUMBER
26

3. DATE THAT EACH PLANT OR OTHER PROPERTY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED, COMMENCED OPERATION

	PLANT OR PROPERTY	DATE
A.	Missoula, Montana pulp mill	1957
B.		
C.		

COPY 3

FORM APPROVED
OMB NO. 158-R1003

SECTION C – DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

4A. IF FACILITY IS OR WILL BE USED IN CONNECTION WITH MORE THAN ONE PLANT OR PROPERTY, AND IF ONE OR MORE OF THE PLANTS OR PROPERTIES IN CONNECTION WITH WHICH THE FACILITY IS OR WILL BE USED WAS NOT IN OPERATION PRIOR TO JANUARY 1, 1969, STATE THE PERCENTAGE OF THE COST OF FACILITY WHICH IS ALLOCABLE TO THE PLANT(S) OR PROPERTY(IES) IN OPERATION PRIOR TO THAT DATE. _____%

N/A

4B. DESCRIBE THE REASONING AND FURNISH THE DATA USED TO ARRIVE AT THE PERCENTAGE GIVEN IN RESPONSE TO ITEM 4(A).

The No. 3 recovery boiler is used only at one plant, and the plant was in operation prior to January 1, 1969.

5A. IF FACILITY PERFORMS A FUNCTION OR FUNCTIONS IN ADDITION TO THE ABATEMENT OF POLLUTION, STATE THE PERCENTAGE OF THE COST OF FACILITY ALLOCABLE TO THE ABATEMENT OF POLLUTION. _____%

N/A

5B. DESCRIBE THE REASONING AND FURNISH THE DATA USED TO ARRIVE AT THE PERCENTAGE GIVEN IN RESPONSE TO ITEM 5(A).

N/A

SECTION D – WASTEWATER CHARACTERISTICS (To be completed only in connection with facilities for the control of water pollution)

DESCRIBE THE EFFECT OF POLLUTION CONTROL FACILITY IN TERMS OF QUANTITY AND QUALITY OF EFFLUENT OR WASTEWATER DISCHARGED AND OF WASTES OR BY-PRODUCTS REMOVED, ALTERED OR DISPOSED OF. IF FEASIBLE, ATTACH PROCESS FLOW OR SCHEMATIC DIAGRAM WITH MATERIAL BALANCES OF THE WASTE OR WASTEWATER STREAM OR DISCHARGE. REPORT EITHER ON ACTUAL BASIS OR, IF FACILITY IS NOT YET IN OPERATION, ON DESIGN BASIS (Use Standard Units – pounds/gallon, grams/liter, ppm, etc.)

1. HOURS PLANT OR PROPERTY IS IN OPERATION: a. Per Month: Min. ____ Max. ____ Avg. ____
b. Per Year: Min. ____ Max. ____ Avg. ____

2. WASTEWATER DISCHARGE IN (A) GALLONS PER MINUTE, (B) MILLIONS OF GALLONS PER MONTH.	WITHOUT POLLUTION CONTROL FACILITY			WITH POLLUTION CONTROL FACILITY		
	a. Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
	b. Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____

3. POLLUTANTS OR WASTE PRODUCTS						
3. a ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. b ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. c ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. d ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. e ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. f ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. g ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. h ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. i ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____
3. j ____	Min. ____	Max. ____	Avg. ____	Min. ____	Max. ____	Avg. ____

FORM APPROVED
OMB NO. 158-R1003

4. DESCRIBE METHOD (GRAB OR COMPOSITE) AND FREQUENCY OF SAMPLING AND METHODS USED TO DETERMINE QUANTITIES OF POLLUTANTS.

5. IS FACILITY A PRETREATMENT FACILITY TO PREPARE WASTEWATER FOR RECEIPT BY ANOTHER FACILITY, PUBLIC OR PRIVATE, FOR FURTHER TREATMENT? IF "YES", SKIP ITEMS 6, 7 AND 8 AND IDENTIFY RECEIVING FACILITY. ☐ YES ☐ NO

6. IDENTIFY THE BODY OR STREAM OF WATER INTO WHICH WASTEWATER FROM THE PLANT OR PROPERTY, IN CONNECTION WITH WHICH THE FACILITY IS USED, IS OR WILL BE DISCHARGED.

7. DESCRIBE LOCATION OF DISCHARGE OR OUTFALL WITH RESPECT TO RECEIVING WATERS.

8. IS THE RECEIVING BODY OR STREAM OF WATER A NAVIGABLE WATERWAY OF THE UNITED STATES OR A TRIBUTARY THEREOF? ☐ YES ☐ NO IF "NO," PROCEED TO ITEM 9.

A. IF "YES" HAS A U.S. ARMY CORPS OF ENGINEERS DISCHARGE PERMIT BEEN APPLIED FOR? ☐ YES ☐ NO IF "NO," EXPLAIN, THEN PROCEED TO ITEM 9.

B. IF ANSWER TO ITEM 8A IS "YES" HAS A U.S. ARMY CORPS OF ENGINEERS DISCHARGE PERMIT BEEN ISSUED? ☐ YES ☐ NO
(1) IF "YES," ATTACH COPY OR PROVIDE PERMIT NUMBER_____ OMIT ITEM 9.
(2) IF "NO," EXPLAIN, GIVING DATES OF ANY OFFICIAL ACTION WITH RESPECT TO APPLICATION.

9. IF ITEM 8B HAS NOT BEEN ANSWERED "YES," IDENTIFY APPLICABLE STATE AND LOCAL WATER POLLUTION CONTROL REQUIREMENTS AND STANDARDS.

SECTION E – EMISSION CHARACTERISTICS (To be completed only in connection with facilities for the control of air pollution)

DESCRIBE THE EFFECT OF POLLUTION CONTROL FACILITY IN TERMS OF QUANTITY AND QUALITY OF EMISSION AND OF WASTES OR BY-PRODUCTS REMOVED, ALTERED OR DISPOSED OF. IF FEASIBLE, ATTACH PROCESS FLOW OR SCHEMATIC DIAGRAM WITH MATERIAL BALANCES OF POLLUTANTS IN THE EMISSION STREAM. REPORT EITHER ON ACTUAL BASIS, OR, IF FACILITY IS NOT YET IN OPERATION, ON DESIGN BASIS.

1. HOURS PLANT OR PROPERTY IS IN OPERATION:
a. Per Month: Min. ___ Max. 744 Avg. 720
b. Per Year: Min. ___ Max. ___ Avg. ___

2. POLLUTANTS TO BE CONTROLLED (Specify each)	a. TRS (total reduced sulfur)	
	b. SO_2 (sulphur dioxide)	
	c. Particulate	
	d.	
3. VOLUMETRIC FLOW RATE OF EMISSION (actual cubic feet/minute)	WITHOUT POLLUTION CONTROL FACILITY	WITH POLLUTION CONTROL FACILITY
	Min. ___ Max. ___ Avg. 150,000 at 170 °F	Min. ___ Max. ___ Avg. 207,000 at 400 °F
4. CONCENTRATION (in volume % of gaseous components)	a. Min. ___ Max. ___ Avg. 444 ppm at 170 °F	Min. Trace Max. 10 ppm Avg. 5 ppm at 400 °F
	b. Min. ___ Max. ___ Avg. Trace at 170 °F	Min. Trace Max. 100 ppm Avg. 50 at 400 °F (below 31% sulfidity)
	c. Min. ___ Max. ___ Avg. ___ at ___ °F	Min. ___ Max. ___ Avg. ___ at ___ °F
	d. Min. ___ Max. ___ Avg. ___ at ___ °F	Min. ___ Max. ___ Avg. ___ at ___ °F
5. CONCENTRATION (grains/cubic feet of all particulate matter)	Min. ___ Max. ___ Avg. 0.394 at 32 °F (std. cond.)	Min. ___ Max. ___ Avg. 0.070 at 32 °F (std. cond.)
6. CONCENTRATION (grains/cubic feet of any specific particulate listed in E-2 above)	Min. ___ Max. ___ Avg. ___ at ___ °F	Min. ___ Max. ___ Avg. ___ at ___ °F

COPY 3

FORM APPROVED
OMB NO. 158-R0013

7. DESCRIBE METHODS OF DETERMINING RATE, CONCENTRATION AND CHARACTERISTICS OF EMISSIONS.

TRS and SO_2 emissions were measured by means of Model 400 Barton Electrolytic titrators.

Particulate concentrations were determined on the No. 3 recovery boiler stack. All of the particulate testing carried out prior to March, 1972 was based on the alundum thimble method. This sampling train consisted of a stainless steel nozzle, thimble holder, and probe, followed by a wet scrubber and mist trap. The thimble was sintered alundum, porosity RA-98. After March, 1972 particulate concentration determinations were made using the EPA particulate sampling train manufactured by the Research Appliance Co. A stainless steel Stauscheibe pitot tube was used for measuring gas volumes.

8. IDENTIFY APPLICABLE STATE AND LOCAL AIR POLLUTION CONTROL REQUIREMENTS AND STANDARDS.

The Montana air pollution control requirement for particulate is covered under Regulation 90-004, which is a Process Weight Rate Formula. For No. 3 recovery, the maximum allowable emission is 45.3 lbs/hr. at design loading (100% rated capacity).

TRS emissions are controlled by Montana Regulation 90-008, Subsection IV, which states that the maximum TRS emission will be 17.5 ppm TRS as H_2S.

There is no point source standard for SO_2 emissions.

SECTION F – COST INFORMATION (See Note to instructions for this section)

1. IS THERE ANY BY-PRODUCT OR MATERIAL WHICH, WITHOUT THE CONTROL FACILITY, WOULD BE LOST AND WHICH IS RECOVERED THROUGH THE USE OF THE FACILITY? [X] YES [ ] NO

A. IF YES, IDENTIFY Salt cake (NA_2SO_4)

B. INDICATE THE DISPOSITION OF EACH TYPE OF RECOVERED MATERIAL, INCLUDING IF APPLICABLE, THE SALE OR SIMILAR DISPOSITION OF RECLAIMED OR RECOVERED MATERIAL TO INDUSTRIAL WASTE RECOVERY FIRMS OR OTHERS.

The salt cake that is recovered in the precipitator is returned to the black liquor system to be used as chemical make-up in the cooking liquor.

2. ANNUAL COST RECOVERY	A. MATERIAL RECOVERED AND SOLD	$ 0
	B. OTHER	$ 0
	C. TOTAL	$ 0
3. TOTAL AVERAGE ANNUAL MAINTENANCE AND OPERATING COSTS *(Not applicable if no cost recovery is reported in Item 2)*		$ Inapplicable

SECTION B - DESCRIPTION OF CONTROL FACILITY

Phase I of the air pollution abatement plan for the Hoerner Waldorf pulp mill in Missoula, Montana, involved the conversion of a conventional kraft recovery boiler with a nominal capacity of 470 tons per day to a "controlled odor" design unit by the elimination of the direct contact evaporator.

To successfully accomplish this conversion, a 20 month project was undertaken at a capital cost of $2,725,634. A black liquor evaporator concentrator, a second boiler economizer, and a dry bottom, high efficiency (99.125%) electrostatic precipitator were installed as part of the overall program.

Phase I consisted primarily of converting the No. 3 recovery boiler from a conventional kraft unit to a "controlled odor" design unit by the elimination of the direct contact evaporator, the major source of reduced sulfur gas (TRS) emissions. The solids content of black liquor would be raised from 40% to 63% by means of a heavy liquor concentrator (forced circulation evaporator) before being fed to the recovery furnace. A high efficiency electrostatic precipitator (99.125%) with a dry bottom would collect the particulate from the flue gases and return it to process. An additional vertical steel tube water economizer would increase the feedwater temperature to the boiler by recovering flue gas heat previously used for direct contact evaporation. At the same time, the temperature of boiler exit gases would be reduced prior to their entry into the precipitator, thereby reducing the total volume of gases discharged. A new induced draft (I.D) fan would also be installed on the discharge side of the precipitator thereby making it a "clean" unit.

Figure 1 is a flow diagram showing the new modified system, complete with concentrator, precipitator, and economizer addition. Figure 2 indicates the before and after arrangement of ductwork and scrubbers.

With the elimination of the direct contact evaporator additional supplemental evaporation had to be provided to raise the black liquor concentration above the 60 percent solids level necessary for good combustion. The Unitech concentrator selected for this purpose had an evaporation capacity of 49,000 lb of water per hour provided by 10,000 square feet of heating surface. This concentrator is a long tube forced-circulation evaporator with preheat, falling film and rising film sections. Steam (50#) is used on the shell side to provide the necessary heat for evaporation.

The No. 3 recovery boiler was installed by Babcock and Wilcox in 1966. It has a design load rating of 1,400,000 lb/day of dry solids based on 6600 BTU/lb dry solids (D.S.). This is equivalent to a nominal capacity of 470 tons per day of pulp processing capacity (based on 3000 lb D.S./pulp ton). Steam capacity of the boiler is 235,000 lb/hr. at 750°F and 600 psi. Although no basic physical changes were made to the boiler,

proper operation of the unit is essential to insure that the overall system functions properly to insure minimum emissions. Under design load conditions the dust concentration (particulates) in the boiler exit gases should not exceed 8.0 grains/SDCF (equivalent to 5520 lbs/hr.).

The hot gases leaving the boiler pass through the new duct work leading to the inlet of the No. 2 economizer. Additional heat is reclaimed by the boiler feedwater passing through the economizer tubes where the flue gas temperature is reduced from 600-650°F to 400°F.

The dust-laden gas then enters the electrostatic precipitator. The precipitator has two parallel chambers with three electrical sections (fields) in each. The dust particles, electrically charged in the corona of the discharge wires, are attracted to the ground plates, and adhere to the plates as they lose their charge. Periodically the plates and wire frames are vibrated or "rapped" to dislodge the adhering salt cake. The dislodged dust falls to the bottom of the precipitator and is dragged to the front where it falls into a screw conveyor and is finally discharged into the sluice tank. Heavy duty drag chains, two per chamber and parallel to gas flow, are used in the dust removal system.

The design gas flow specified for the unit is 207,000 ACFM at a temperature of 400°F. The precipitator has a guaranteed collection efficiency of 99.125% (by weight) based on a dust load of 8.0 grains/SDCF in the entering gas stream for 100% boiler loading. Dust load at the precipitator outlet would then be 0.07 grains/SDCF, equivalent to 45 lb/hr.

This project demonstrated that, under practical operating conditions, a modified recovery boiler can maintain sufficiently low emissions of both TRS and particulates to meet the Montana State Emission Standards of 17.5 ppm TRS (daily average) and 45.3 lb/hr. of particulate matter. Previous daily TRS emissions averaged over 400 ppm, ranging from 100 to 700 ppm. Daily TRS emissions from the new system average less than 5 ppm and range from essentially zero to 10 ppm. Particulate emissions have been reduced from 6000 lb/day to 1000 lb/day, a reduction of 83%.

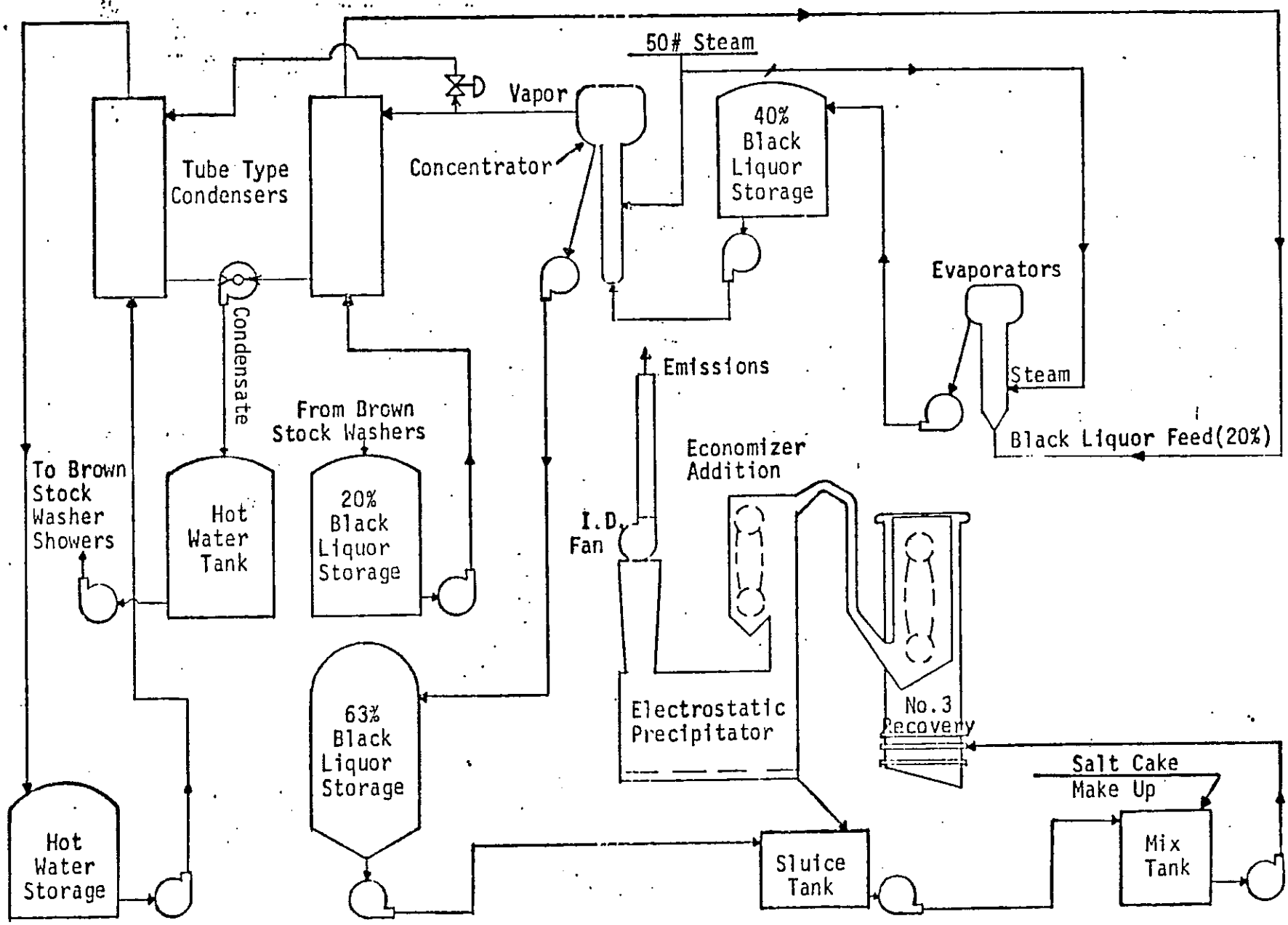

Figure 1 Flow diagram for No. 3 recovery system

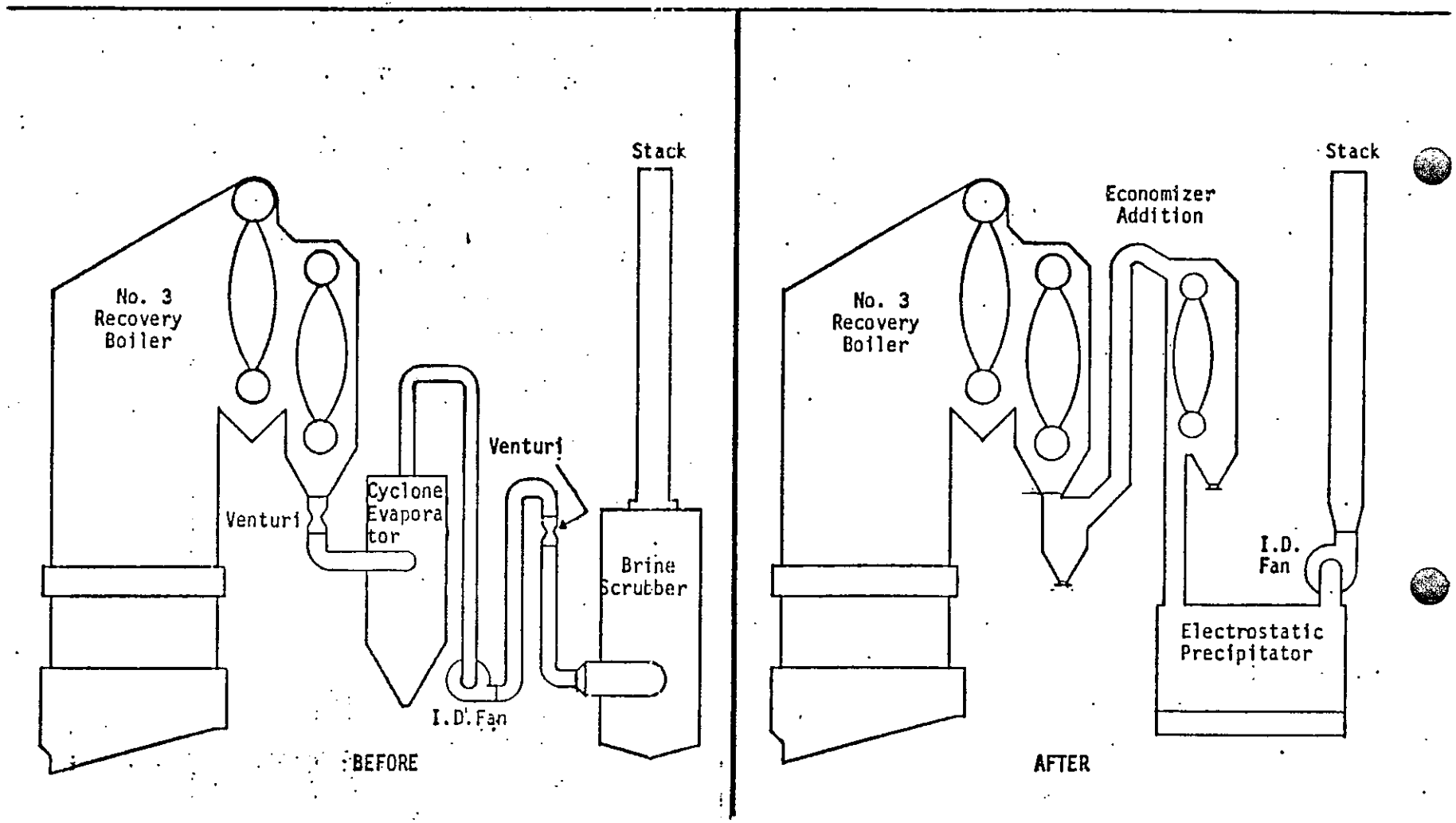

Figure 2 Conversion of No. 3 recovery system

SECTION C - DESCRIPTION OF COMMERCIAL PROCESS OR ACTIVITY

1. DESCRIBE PROCESS OR ACTIVITY IN CONNECTION WITH WHICH FACILITY IS OR WILL BE USED.

The Hoerner Waldorf mill is a kraft pulp and paperboard mill with a present daily production of 1,000 tons of linerboard and 150 tons of bleached pulp. The primary raw materials used by the mill are wood chips and sawdust purchased from sawmills and plywood plants throughout western Montana. The major operations of the plant include the pulping, papermaking, bleaching, and chemical recovery.

Pulp is produced from wood chips and sawdust with the addition of a chemical mixture known as white liquor (caustic soda and sodium sulfide) and the effects of pressure and steam. After the digestive process, where the lignin is selectively dissolved from the cellulose fibers in the wood, the fibers, or pulp, are separated from the dissolved organic material and spent cooking chemicals (commonly known as black liquor) in the pulp washing operation. The black liquor is concentrated through evaporation and burned in chemical recovery furnaces. Inside the recovery furnace the organic material is burned off, with the inorganic chemicals collected in a stream of molten smelt leaving the bottom of the furnace. The smelt is reconstituted into white liquor by a complex recausticizing operation.

In the bleach plant pulp is bleached in a four-stage process using chlorine, caustic soda, sodium hypochlorite, and chlorine dioxide. The bleached pulp is dried and baled for shipment.

Linerboard is produced by dual-headbox fourdrinier machines and is shipped as large rolls to our corrugating plants for the manufacture of cardboard boxes.

The effluent originates from a variety of sources within the mill, and the major sources include the paper machines, the bleach plant, and the evaporator hot wells. The effluent streams find their way into three basic ditches which are intercepted at the effluent clarifier.

Department of Health and Environmental Sciences
STATE OF MONTANA HELENA, MONTANA 59601

John S. Anderson M.D.
DIRECTOR

October 17, 1974

Phil Clark - Will you pls. see to proper disposition of these?

Howard E. Johnson
Senior Vice-President--Finance
Hoerner-Waldorf Corporation
Box 3260
St. Paul, MN 55165

Dear Mr. Johnson:

Enclosed are copies of the states certification to EPA of the modifications to #3 recovery furnace and hogged-fuel boiler. The originals were delivered to the EPA liaison officer for Montana on October 17, 1974.

Sincerely,

Jon N. Bolstad
Environmental Engineer
Air Quality Bureau

JNB:dmg
Enclosure

Exhibit 6

FORM APPROVED
OMB NO. 158-R0013

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF STATE CERTIFICATION
(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

STATE: Montana

WATER OR AIR POLLUTION CONTROL AGENCY OR AUTHORITY: Water Quality Bureau

It is hereby certified that the control facility described in the attached application is in conformity with State and local programs and requirements for the control of [X] water pollution [ ] air pollution, as required by section 169 of the Internal Revenue Code of 1954, as amended, and regulations issued thereunder. According to the applicant, this control facility [X] was placed [ ] will be placed in operation on May 20, 19 70

In the case of control facility not yet in operation, this notice is certification only that the control facility, if constructed and operated in accordance with the application, will be in conformity with State and local programs or requirements for abatement or control of water or air pollution.

1. NAME OF APPLICANT
Hoerner - Waldorf Corporation

ADDRESS *(Street, City, State, Zip Code)*

2. PERSON AUTHORIZED TO RECEIVE CERTIFICATION
Howard E. Johnson

TITLE
Senior Vice President - Finance

ADDRESS *(Street, City, State, Zip Code)*
Box 3260
St. Paul, Minnesota 55165

3. DESCRIPTION OF CONTROL FACILITY

Effluent Clarifier

4. LOCATION OF CONTROL FACILITY *(Street, City, State, Zip Code)*
Drawer D
Missoula, Montana 59801

5. RECEIVING BODY OR STREAM OF WATER, IF ANY
N/A

6. USE OF THE CONTROL FACILITY CERTIFIED HEREBY IS IN CONFORMITY WITH THE FOLLOWING APPLICABLE STATE PLAN OR REQUIREMENTS FOR THE CONTROL OF [X] WATER POLLUTION [ ] AIR POLLUTION.

ISSUED
THIS 18 DAY OF October 19 74

SIGNED *(Official of State Agency)*

STATE CERTIFICATION NUMBER

TITLE
Chief, Water Quality Bureau

EPA Form 3300-2 (9-71)

FORM APPROVED
OMB NO. 158-R0013

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF STATE CERTIFICATION
(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

STATE: Montana

WATER OR AIR POLLUTION CONTROL AGENCY OR AUTHORITY: Air Quality Bureau

It is hereby certified that the control facility described in the attached application is in conformity with State and local programs and requirements for the control of ☐ water pollution ☒ air pollution, as required by section 169 of the Internal Revenue Code of 1954, as amended, and regulations issued thereunder. According to the applicant, this control facility ☒ was placed ☐ will be placed in operation on August 6, , 1970

In the case of control facility not yet in operation, this notice is certification only that the control facility, if constructed and operated in accordance with the application, will be in conformity with State and local programs or requirements for abatement or control of water or air pollution.

1. NAME OF APPLICANT
Hoerner-Waldorf Corporation

ADDRESS (Street, City, State, Zip Code)
2250 Wabash Avenue
St. Paul, MN 55114

2. PERSON AUTHORIZED TO RECEIVE CERTIFICATION
Howard E. Johnson

TITLE
Senior Vice-President--Finance

ADDRESS (Street, City, State, Zip Code)
Box 3260
St. Paul, MN 55165

3. DESCRIPTION OF CONTROL FACILITY

Turbulaire wet scrubbers on hogged-fuel boiler.

4. LOCATION OF CONTROL FACILITY (Street, City, State, Zip Code)
Drawer D
Missoula, MT 59801

5. RECEIVING BODY OR STREAM OF WATER, IF ANY
NA

6. USE OF THE CONTROL FACILITY CERTIFIED HEREBY IS IN CONFORMITY WITH THE FOLLOWING APPLICABLE STATE PLAN OR REQUIREMENTS FOR THE CONTROL OF ☐ WATER POLLUTION ☒ AIR POLLUTION.

ISSUED
THIS 17 DAY OF October 19 74

SIGNED (Official of State Agency)
Donald R. Hall

STATE CERTIFICATION NUMBER

TITLE
Chief, Air Quality Bureau

EPA Form 3300-2 (9-71)

FORM APPROVED
OMB NO. 158-R0013

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF STATE CERTIFICATION
(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

STATE: Montana

WATER OR AIR POLLUTION CONTROL AGENCY OR AUTHORITY: Air Quality Bureau

It is hereby certified that the control facility described in the attached application is in conformity with State and local programs and requirements for the control of ☐ water pollution ☒ air pollution, as required by section 169 of the Internal Revenue Code of 1954, as amended, and regulations issued thereunder. According to the applicant, this control facility ☒ was placed ☐ will be placed in operation on April 28, 1971

In the case of control facility not yet in operation, this notice is certification only that the control facility, if constructed and operated in accordance with the application, will be in conformity with State and local programs or requirements for abatement or control of water or air pollution.

1. NAME OF APPLICANT	2. PERSON AUTHORIZED TO RECEIVE CERTIFICATION
Hoerner-Waldorf Corporation	Howard E. Johnson
ADDRESS *(Street, City, State, Zip Code)* 2250 Wabash Avenue St. Paul, MN 55114	TITLE Senior Vice-President--Finance
	ADDRESS *(Street, City, State, Zip Code)* Box 3260 St. Paul, MN 55165

3. DESCRIPTION OF CONTROL FACILITY

Addition of black liquor evaporators concentrator a second boiler economizer and high efficiency electrostatic precipitator to the number three kraft recovery furnace.

4. LOCATION OF CONTROL FACILITY *(Street, City, State, Zip Code)*	5. RECEIVING BODY OR STREAM OF WATER, IF ANY
Drawer D Missoula, MT 59801	NA

6. USE OF THE CONTROL FACILITY CERTIFIED HEREBY IS IN CONFORMITY WITH THE FOLLOWING APPLICABLE STATE PLAN OR REQUIREMENTS FOR THE CONTROL OF ☐ WATER POLLUTION ☒ AIR POLLUTION.

ISSUED	SIGNED *(Official of State Agency)*
THIS 17 DAY OF October 19 74	Donald R. Holtz
STATE CERTIFICATION NUMBER	TITLE Chief, Air Quality Bureau

EPA Form 3300-2 (9-71)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80203

PHIL CLARK
Pls. be sure this gets to Phil - probably call him.

NOV 8 1974

Our Ref: 8A-EE

RECEIVED
NOV 11 1974
H. E. JOHNSON

Mr. Elwin Bonnell
Office of the Secretary
of the Treasury
Room 4054
1500 Pennsylvania Avenue
Washington, D.C. 20220

Re: Certification of Pollution
Control Facilities

Dear Mr. Bonnell:

In accordance with instructions from your Ogden, Utah, Office, I am forwarding the attached Applications for Certification of Pollution Control Facility with applicable Notices of State and Federal Certification.

If you have any questions relative to these certifications please contact Mr. David W. Robbins, this Agency, at (303) 837-2361.

Sincerely yours,

Irwin L. Dickstein
Director, Enforcement Division

Enclosure

cc: Howard E. Johnson
Senior Vice President
Hoerner Waldorf
Box 3260
St. Paul, Minnesota 55165

Dr. John S. Anderson
Director, Department of
Health and Environmental Sciences
Cogswell Building
Helena, Montana

Exhibit 7

FORM APPROVED
OMB NO. 158-R0013

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF FEDERAL CERTIFICATION

(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

PLEASE TAKE NOTICE that pursuant to section 169 of the Internal Revenue Code of 1954, as amended, and Part 602 of Title 18 of the Code of Federal Regulations, the control facility identified herein

☒ Is certified

☐ Will, if constructed, reconstructed, acquired, erected, installed and operated in accordance with the accompanying application, be certified

as being in compliance with the applicable regulations of Federal agencies and the general policies of the United States for cooperation with the States in the prevention and abatement of ☐ water pollution ☒ air pollution under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1151 et seq.) or the Clean Air Act, as amended (42 U.S.C. 1857 et seq.). This certification is based on facts furnished by the applicant, and is valid for purposes of section 169 only to the extent that such facts are complete and accurate.

1. NAME OF APPLICANT Hoerner - Waldorf Corporation	ADDRESS (Street, City, State, Zip Code) Drawer D Missoula, Montana 59801
2. EMPLOYER IDENTIFICATION NUMBER 42-0742113	
3. PERSON AUTHORIZED TO RECEIVE CERTIFICATION:	
NAME Howard E. Johnson	ADDRESS (Street, City, State, Zip Code) Hoerner - Waldorf Corporation Box 3260 St. Paul, Minnesota 55165
TITLE Senior Vice President - Finance	

4. DESCRIPTION OF CONTROL FACILITY

Scrubbers on hog fuel boiler
3 western precipitation type 9-VRG-14 Multiclone scrubbers
2 western precipitation type D Turbulaire wet scrubbers

5. LOCATION OF CONTROL FACILITY (Street, City, State, Zip Code)

Missoula Mill, Missoula, Montana

6. EFFLUENT DISCHARGED TO

N/A

7. THE CONTROL FACILITY IDENTIFIED HEREIN ☐ DOES ☒ DOES NOT GENERATE PROFITS THROUGH THE RECOVERY AND SALES OF WASTES, OR OTHERWISE.

8. THE CONTROL FACILITY IDENTIFIED HEREIN ☐ IS ☒ IS NOT A BUILDING THE ONLY FUNCTION OF WHICH IS THE ABATEMENT OR CONTROL OF POLLUTION, AS DETERMINED IN ACCORDANCE WITH SECTION 1.169-2 (2) (i) OF THE INCOME TAX REGULATIONS.

9.

☒ A. THE CONTROL FACILITY IDENTIFIED HEREIN IS USED ONLY IN CONNECTION WITH PLANTS OR PROPERTIES THAT WERE IN SERVICE ON OR BEFORE DECEMBER 31, 1968.

☐ B. _____% OF THE AMORTIZABLE BASIS OF THE FACILITY IS ALLOCABLE TO ITS USE IN CONNECTION WITH PLANTS OR PROPERTIES THAT WERE IN SERVICE ON OR BEFORE DECEMBER 31, 1968.

10.

☒ A. THE CONTROL FACILITY PERFORMS NO FUNCTION IN ADDITION TO THE ABATEMENT OR CONTROL OF POLLUTION.

☐ B. _____ % OF THE AMORTIZABLE BASIS OF THE CONTROL FACILITY IS ALLOCABLE TO THE ABATEMENT OR CONTROL OF POLLUTION.

ISSUED THIS _____ DAY OF 8 OCT 19[illegible], 19_____	SIGNATURE SIGNED
STATE CERTIFICATION NUMBER 1A	TITLE Donald P. Dubois Deputy Regional Administrator

EPA Form 3300-3 (9-71)

FORM APPROVED
OMB NO. 158-R0013

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF FEDERAL CERTIFICATION

(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

PLEASE TAKE NOTICE that pursuant to section 169 of the Internal Revenue Code of 1954, as amended, and Part 602 of Title 18 of the Code of Federal Regulations, the control facility identified herein

[X] Is certified

[ ] Will, if constructed, reconstructed, acquired, erected, installed and operated in accordance with the accompanying application, be certified

as being in compliance with the applicable regulations of Federal agencies and the general policies of the United States for cooperation with the States in the prevention and abatement of [ ] water pollution [X] air pollution under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1151 et seq.) or the Clean Air Act, as amended (42 U.S.C. 1857 et seq.). This certification is based on facts furnished by the applicant, and is valid for purposes of section 169 only, to the extent that such facts are complete and accurate.

1. NAME OF APPLICANT Hoerner - Waldorf Corporation	ADDRESS (Street, City, State, Zip Code) Drawer D Missoula, Montana 59801
2. EMPLOYER IDENTIFICATION NUMBER 42-0742113	
3. PERSON AUTHORIZED TO RECEIVE CERTIFICATION:	
NAME Howard E. Johnson	ADDRESS (Street, City, State, Zip Code) Hoerner - Waldorf Corporation Box 3260 St. Paul, Minnesota 55165
TITLE Senior Vice President - Finance	

4. DESCRIPTION OF CONTROL FACILITY

Black Liquor evaporator concentrator (unitech)
Second boiler economizer
electrostatic precipitator

5. LOCATION OF CONTROL FACILITY (Street, City, State, Zip Code)

Missoula Mill, Missoula, Montana

6. EFFLUENT DISCHARGED TO

N/A

7. THE CONTROL FACILITY IDENTIFIED HEREIN [ ] DOES [X] DOES NOT GENERATE PROFITS THROUGH THE RECOVERY AND SALES OF WASTES, OR OTHERWISE.

8. THE CONTROL FACILITY IDENTIFIED HEREIN [ ] IS [X] IS NOT A BUILDING THE ONLY FUNCTION OF WHICH IS THE ABATEMENT OR CONTROL OF POLLUTION, AS DETERMINED IN ACCORDANCE WITH SECTION 1.169-2 (2) (i) OF THE INCOME TAX REGULATIONS.

9.
[X] A. THE CONTROL FACILITY IDENTIFIED HEREIN IS USED ONLY IN CONNECTION WITH PLANTS OR PROPERTIES THAT WERE IN SERVICE ON OR BEFORE DECEMBER 31, 1968.

[ ] B. _____% OF THE AMORTIZABLE BASIS OF THE FACILITY IS ALLOCABLE TO ITS USE IN CONNECTION WITH PLANTS OR PROPERTIES THAT WERE IN SERVICE ON OR BEFORE DECEMBER 31, 1968.

10.
[X] A. THE CONTROL FACILITY PERFORMS NO FUNCTION IN ADDITION TO THE ABATEMENT OR CONTROL OF POLLUTION.

[ ] B. _____ % OF THE AMORTIZABLE BASIS OF THE CONTROL FACILITY IS ALLOCABLE TO THE ABATEMENT OR CONTROL OF POLLUTION.

ISSUED THIS _____ DAY OF 8 OCT 1974, 19_____	SIGNATURE
STATE CERTIFICATION NUMBER 2A	TITLE Donald P. Dubois Deputy Regional Administrator

EPA Form 3300-3 (9-71)

FORM APPROVED
OMB NO. 158-R0013

ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF FEDERAL CERTIFICATION

(Pursuant to Section 169 of the Internal Revenue Code of 1954, as amended)

PLEASE TAKE NOTICE that pursuant to section 169 of the Internal Revenue Code of 1954, as amended, and Part 602 of Title 18 of the Code of Federal Regulations, the control facility identified herein

[X] K certified

[ ] Will, if constructed, reconstructed, acquired, erected, installed and operated in accordance with the accompanying application, be certified

as being in compliance with the applicable regulations of Federal agencies and the general policies of the United States for cooperation with the States in the prevention and abatement of [X] water pollution [ ] air pollution under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1151 et seq.) or the Clean Air Act, as amended (42 U.S.C. 1857 et seq.). This certification is based on facts furnished by the applicant, and is valid for purposes of section 169 only to the extent that such facts are complete and accurate.

1. NAME OF APPLICANT
Hoerner - Waldorf Corporation

ADDRESS (Street, City, State, Zip Code)
Drawer D
Missoula, Montana 59801

2. EMPLOYER IDENTIFICATION NUMBER
42-0742113

3. PERSON AUTHORIZED TO RECEIVE CERTIFICATION:

NAME
Howard E. Johnson

TITLE
Senior Vice President - Finance

ADDRESS (Street, City, State, Zip Code)
Hoerner - Waldorf Corporation
Box 3260
St. Paul, Minnesota 55165

4. DESCRIPTION OF CONTROL FACILITY
Effluent clarifier (Dorr-Oliver) and attendant facilities to include: ditches, pumps, bar screen and control equipment.

5. LOCATION OF CONTROL FACILITY (Street, City, State, Zip Code)
Missoula Mill, Missoula, Montana

6. EFFLUENT DISCHARGED TO
Clark Fork River

7. THE CONTROL FACILITY IDENTIFIED HEREIN [ ] DOES [X] DOES NOT GENERATE PROFITS THROUGH THE RECOVERY AND SALES OF WASTES, OR OTHERWISE.

8. THE CONTROL FACILITY IDENTIFIED HEREIN [ ] IS [X] IS NOT A BUILDING THE ONLY FUNCTION OF WHICH IS THE ABATEMENT OR CONTROL OF POLLUTION, AS DETERMINED IN accordance WITH SECTION 1.169-2 (2) (i) OF THE INCOME TAX REGULATIONS.

9.
[X] A. THE CONTROL FACILITY IDENTIFIED HEREIN IS USED ONLY IN CONNECTION WITH PLANTS OR PROPERTIES THAT WERE IN SERVICE ON OR BEFORE DECEMBER 31, 1968.

[ ] B. _____% OF THE AMORTIZABLE BASIS OF THE FACILITY IS ALLOCABLE TO ITS USE IN CONNECTION WITH PLANTS OR PROPERTIES THAT WERE IN SERVICE ON OR BEFORE DECEMBER 31, 1968.

10.
[X] A. THE CONTROL FACILITY PERFORMS NO FUNCTION IN ADDITION TO THE ABATEMENT OR CONTROL OF POLLUTION.

[ ] B. _____ % OF THE AMORTIZABLE BASIS OF THE CONTROL FACILITY IS ALLOCABLE TO THE ABATEMENT OR CONTROL OF POLLUTION.

ISSUED
THIS _____ DAY OF 8 OCT 1974, 19_____

SIGNATURE
SIGNED

STATE CERTIFICATION NUMBER 3W

TITLE Donald P. Dubois
Deputy Regional Administrator

EPA Form 3300-3 (9-71)

Received 12-18-74
Original copy

Permit No.: MT-00000
Application No.: MT-071-0YB-2-00002

MONTANA DEPARTMENT OF HEALTH
AND
ENVIRONMENTAL SCIENCES

AUTHORIZATION TO DISCHARGE UNDER THE

MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Section 69-4801, et. seq., R.C.M. 1947, MAC 16-2.14(10)-S14460 and MAC 16-2.14(10)-S14480,

The Hoerner-Waldorf Corporation,
Drawer D
Missoula, Montana 59801

is authorized to discharge from a facility located at Missoula, Montana,

to receiving waters named the Clark Fork River,

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

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, December 31, 1977.

FOR THE MONTANA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES

D. G. Willems

D. G. Willems, P.E., Chief
Water Quality Bureau
Environmental Sciences Division

Dated this 2nd day of December, 1974.

Exhibit 8

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - SEE ANY ADDITIONAL REQUIREMENTS UNDER PART III.

Immediate Effluent Limitations

During the period beginning immediately and lasting through July 14, 1975, the permittee is authorized to discharge from outfalls serial numbers 001, 002, 003, and 004, and by seepage.

Such discharges shall be limited by the permittee as specified below:

Discharges 001, 002, and 003 (direct discharge)

There shall be no discharge from these outfalls except during the spring high flow period. Discharges shall not commence until written permission is given by the Department. Discharge shall be terminated when requested orally or in writing by the Department.

Specific discharge requirements following the granting of permission to discharge are as follows:

1. 96-hour TL_{50} - The combined rate of direct discharge shall not exceed the following formula:

   Rate of waste discharge = (96-hr TL_{50} of the wastewater expressed as a decimal) x River Flow x 0.02

   where rate of discharge and river flow are in the same units; if contribution is from more than one pond, discharge rate shall be proportioned according to TL_{50} results and contributing flow from the respective ponds.

2. In addition to the above requirements, the Department may require additional limitations as part of its written permission to discharge.

Discharge 004

Waste discharged through outfall 004 shall consist entirely of uncontaminated cooling water and shall be limited to a maximum flow of 6.0 mgd and shall not exceed 90 degrees F.

Seepage

Seepage shall achieve not less than 85 percent removal of BOD_5 in the wastewater seeping to the river.

Interim Effluent Limitations

During the period beginning July 15, 1975, and lasting through February 28, 1977, the permittee is authorized to discharge from outfalls serial number 001, 002, 003, and 004, and by seepage.

Such discharges shall be limited by the permittee as specified below:

Discharges 001, 002, 003, and Seepage

There shall be no discharges from outfalls 001, 002, and 003, except during the spring high flow period. Discharges shall not commence until written permission is given by the Department. Discharges shall be terminated when requested orally or in writing by the Department.

Specific discharge requirements following the granting of permission to discharge are as follows. Whichever limitation provides the most stringent control shall govern.

1. 96-hour TL_{50} - The combined rate of direct discharge shall not exceed the following formula:

   Rate of waste discharge = (96-hour TL_{50} of the wastewater expressed as a decimal) x River Flow x 0.02

   where rate of discharge and river flow are in the same units; if contribution is from more than one pond, discharge rate shall be proportioned according to TL_{50} results and contributing flow from the respective ponds.

2. The combined spring discharge shall not contain more than 2,000,000 pounds of total suspended solids.

3. Total annual discharge of BOD_5 in the direct discharge and seepage combined shall not exceed 2,250,000 pounds.

4. pH - pH of the discharge shall be within the range of 6.0 and 9.0.

5. There shall be no discharge of floating solids or visible foam in other than trace amounts.

6. In addition to the above requirements, the Department may require additional limitations as part of its written permission to discharge.

Discharge 004

Waste discharge through outfall 004 shall consist entirely of uncontaminated cooling water and shall be limited to a maximum flow of 6.0 mgd and shall not exceed 90 degrees F.

Final Effluent Limitations

During the period beginning March 1, 1977 and lasting through December 31, 1977 the permittee is authorized to discharge from outfalls serial number 001, 002, 003, and 004, and by seepage.

Such discharges shall be limited by the permittee as specified below:

Discharges 001, 002, 003, and Seepage

There shall be no discharges from outfalls 001, 002, and 003, except during the spring high flow period. Discharges shall not commence until written permission is given by the Department. Discharges shall be terminated when requested orally or in writing by the Department.

Specific discharge requirements following the granting of permission to discharge are as follows. Whichever limitation provides the most stringent control shall govern.

1. 96-hour TL_{50} - The combined rate of direct discharge shall not exceed the following formula:

   Rate of waste discharge = (96-hour TL_{50} of the wastewater expressed as a decimal) x River Flow x 0.02

   where rate of discharge and river flow are in the same units; if contribution is from more than one pond, discharge rate shall be proportioned according to TL_{50} results and contributing flow from the respective ponds.

2. Color - The combined rate of direct discharge shall also not exceed the following formula:

   $$D = \frac{(Q)\ (5)}{Cd-(Cr+5)}$$ where:

D is the rate of discharge in cfs
Q is the river flow in cfs
Cd is the color of the discharge in SCU
Cr is the background color of the river in SCU

3. BOD_5 - The combined rate of direct discharge shall also not exceed the following formula:

$$D = \frac{2.5Q}{Cp-5}$$ where:

D is the rate of discharge in cfs
Q is the river flow in cfs
Cp = concentration of BOD_5 in the discharge in mg/l

4. The combined spring discharge shall not contain more than 2,000,000 pounds of total suspended solids.

5. Total annual discharge of BOD_5 in the direct discharge and seepage combined shall not exceed 2,250,000 pounds.

6. pH - pH of the discharge shall be within the range of 6.0 and 9.0.

7. There shall be no discharge of floating solids or visible foam in other than trace amounts.

8. In addition to the above requirements, the Department may require additional limitations as part of its written permission to discharge.

Discharge 004

Waste discharge through outfall 004 shall consist entirely of uncontaminated cooling water and shall be limited to a maximum flow of 6.0 mgd and shall not exceed 90 degrees F.

Monitoring Requirements

1. During the non-discharge season, the permittee shall monitor each pond containing at least one-fourth of its capacity of stored wastewater once per month for BOD_5 and sodium. Ponds containing less than one-fourth of capacity of stored wastewater shall be reported as such. In addition, the remaining capacity of each pond at the end of each month shall be determined.

2. River flow shall be measured at U.S.G.S. Station 12-3530.

3. The 96-hour TL_{50} shall be determined as specified in Standard Methods for the Examination of Water and Wastewater (latest edition) for static bioassays. Test fish shall be rainbow trout or more typical species of fish if so ordered by the Department.

4. Flow measurements in the discharge pipes must indicate values within 10% of the true flow value. Adequate flow measuring devices, such as Venturi or orifice meters shall be installed in the outlet pipes no later than January 1, 1975, to achieve this degree of accuracy. Adequacy of the flow measuring equipment shall be determined by the Environmental Protection Agency and the Department.

5. During the discharge season, the permittee shall sample and test the contents of each pond containing waste in accordance with the following schedule:

Parameter	Frequency	Sample Type
96-hour TL_{50}	once not more than 14 days before discharge from each pond	Grab
BOD_5	"	Grab
Color	"	Grab
pH	"	Grab
Total Phosphorus (as p)	"	Grab
Ammonia (as N)	"	Grab
Nitrate-Nitrite (as N)	"	Grab
Total Organic Nitrogen	"	Grab

6. The permittee shall monitor each direct outlet discharging waste from two or more ponds prior to entry into the river in accordance with the following schedule:

Parameter	Frequency	Sample Type
Flow	Daily	Instantaneous
96-hour TL_{50}	Weekly	Grab
BOD_5	Weekly	Grab
Total Suspended Solids	Weekly	Grab
Color	Weekly	Grab
pH	Weekly	Grab
Total Phosphorus (as P)	Weekly	Grab
Ammonia (as N)	Weekly	Grab
Nitrate-Nitrite (as N)	Weekly	Grab
Total Organic Nitrogen	Weekly	Grab

7. The permittee shall note on a daily basis for each direct discharge outlet during the discharge period the ponds being discharged and estimated flow from each pond.

8. The permittee shall monitor test wells 1R, 2R, 4R, 5R, 404, 421, 423, and 514 once every two months for BOD_5, Color and Sodium. In addition, the elevation of the water level in each test well shall be determined once every two months.

9. Discharge #004 shall be monitored for flow and temperature by instantaneous sampling once a week in the drain ditch prior to entry into the river.

10. During the non-discharge season, the permittee shall monitor the Clark Fork River at monthly intervals at Harper Bridge and at the established monitoring points commonly referred to as Marcure Ranch and Six Mile Station. Grab samples shall be collected and analyzed for color and dissolved oxygen. Dissolved oxygen sampling shall occur during the one-hour period preceding sunrise.

    During the direct discharge season, the permittee shall monitor the Clark Fork River weekly at the above stations for the same parameters. Dissolved oxygen sampling shall occur during the one-hour period preceding sunrise.

11. Additional monitoring requirements may be included by the Department in the written permission for direct discharge.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

   The permittee shall submit to the Department in less than ninety (90) days after the issuance of this permit, an implementation plan for an abatement program designed to achieve the effluent limitations specified in this permit for discharge from outfall(s) 001, 002, and 003. The implementation plan shall consist of an outline of intended design, construction and operation, including a compliance schedule setting forth the dates by which compliance with the effluent limitations will be reached. The compliance schedule shall include, where appropriate, dates to accomplish the following:

   (a) completion of preliminary plans

   (b) completion of final plans

   (c) award of contract(s)

   (d) commencement of construction

   (e) completion of major construction phases

   (f) completion of all construction

   (g) attainment of operational level

   Upon approval of the implementation plan by the Department, the schedule of compliance shall become conditions of this permit.

2. In addition, the permittee shall provide a compliance schedule, in less than thirty (30) days including, where appropriate, dates to accomplish (a) through (g) above for installation and operation of the APS bleaching system by October 1, 1975.

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.

   Compliance and interim reporting dates shall be for periods not to exceed nine (9) months and to the extent practical shall fall in the last day of March, June, September, and December.

C. MONITORING AND REPORTING REQUIREMENTS

1. *Representative Sampling*

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

2. *Reporting*

Monitoring results obtained during the previous month shall be summarized and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on January 28, 1975. Duplicate signed copies of these, and all other reports herein, shall be submitted to the Department and the Regional Administrator at the following addresses:

(a) Montana Department of Health
and Environmental Sciences
Water Quality Bureau
Board of Health Building
Helena, Montana 59601

(b) Regional Administrator
U. S. Environmental Protection
Agency
Suite 900, 1860 Lincoln Street
Denver, Colorado 80203

Attention: Permits Branch

Note: If no discharge occurs during the reporting period, "no discharge" shall be reported, in letter form, to the above agencies. Data not adaptable to the above form shall be included as attachements.

3. *Definitions*

(a) The "Act" means the Federal Water Pollution Control Act Amendments of 1972, PL 92-500.

(b) The "Administrator" means the administrator of the United States Environmental Protection Agency.

(c) The "Department" means the Montana Department of Health and Environmental Sciences.

(d) The "EPA" means the United States Environmental Protection Agency.

(e) A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

(f) An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement using acceptable monitoring equipment.

(g) The "Regional Administrator" means the administrator of the region of EPA with jurisdiction over federal water pollution control activities in the state of Montana.

4. *Test Procedures*

Test procedures for the analysis of pollutants shall conform to regulations published in or subsequent revisions to the Federal Register, October 16, 1973, Vol. 38, Number 199, Part II. Sample collection and preservation shall be in accordance with the best methods technologically feasible, and shall be in a manner acceptable to the Department. (The EPA Region VIII Treatment and Preservation Guide should be consulted for acceptable sample collection and preservation techniques.)

All flow measuring and flow-recording devices used in obtaining data submitted in self-monitoring reports must indicate values within 10 percent of the actual flow being measured.

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 Discharge Monitoring Report Form (EPA No. 3320-1). 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 Department or the Regional Administrator.

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 MPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Department of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. *Noncompliance Notification*

If, for any reason, the permittee does not comply with or will be unable to comply with any effluent limitation specified in this permit, the permittee shall provide the Department and the Regional Administrator 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.

3. *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.

4. *Adverse Impact*

The permittee shall take all reasonable steps to minimize any adverse impact to state 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.

5. *Bypassing*

Any diversion from or bypass of treatment or control facilities or systems 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 Department and the Regional Administrator in writing of each such diversion or bypass.

If, for other reasons, a partial or complete bypass of the wastewater treatment facilities is considered necessary, a request for such bypass shall be submitted to the Department and to the Regional Administrator at least sixty (60) days prior to the proposed bypass. If the proposed bypass is judged acceptable by the Department and by the Regional Administrator, the bypass will be allowed subject to limitations imposed by the Department and the Regional Administrator.

If, after review and consideration, the proposed bypass is determined to be unacceptable by the Department and the Regional Administrator, or if limitations imposed on an approved bypass are violated, such bypass shall be considered a violation of this permit; and the fact that application was made, or that a partial bypass was approved, shall not be defense to any action brought thereunder.

6. *Removed Substances*

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering state waters.

7. *Power Failures*

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

(a) In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

(b) Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss of failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. *Right of Entry*

The permittee shall allow the head of the Department, 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 kept; 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 from which the authorized discharges 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 Department and the Regional Administrator.

3. *Availability of Reports*

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department 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 69-4823 (6), R.C.M. 1947.

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 "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

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. *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 any infringement of Federal, State or local laws or regulations.

9. *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 circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

OTHER REQUIREMENTS

Violation of Water Quality Standards

If river data resulting from the water quality monitoring program shows violation of established water quality standards, including the introduction of taste and odor problems, this permit may be modified to specify additional control measures to ensure compliance with water quality standards.

APPLICATION FOR RENEWAL OF

WASTE DISCHARGE PERMIT

NO. MT-0000035

Prepared by

HOERNER WALDORF DIVISION
CHAMPION INTERNATIONAL CORPORATION

MISSOULA, MONTANA

Submitted to

WATER QUALITY BUREAU

DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES

HELENA, MONTANA

JUNE 1977

Exhibit 9

INTRODUCTION

This application is submitted by the Hoerner Waldorf Division, Champion International Corporation, for the purpose of renewal of discharge permit MT-0000035 granting permission to discharge waste water into the Clark Fork River at the mill site, ten miles west of Missoula, Montana. The name, address and telephone number of the applicant are:

Hoerner Waldorf Division
Champion International Corporation
Drawer D
Missoula, Montana 59806
(406) 543-6681

It is requested to be permitted to discharge the following wastes:

1. Uncontaminated cooling water directly to the Clark Fork River at a temperature not to exceed 90°F.

2. Stored waste waters during spring runoff in compliance with the established discharge formulas and in compliance with the color requirement of not increasing background color more than 5 SCU at river flows in excess of 930 cfs.

3. Controlled seepage of wastes to the river via land disposal techniques as monitored by the test wells.

In addition to the above, it is also requested that:

1. The current cooling ditch maximum flow of 4167 gpm be eliminated.

2. The spectrophotometer method for measuring color be substituted for the Nessler method.

MILL PROCESS

The Missoula pulp and paper mill produces approximately 1000 tons of kraft linerboard and 150 tons of bleached market pulp per day. The kraft pulping process, utilizing sodium sulfide and sodium hydroxide, is used to chemically delignify waste wood chips in the digestion process. The cellulose fibers conveyed in a water medium are then processed into linerboard or further delignified in the bleach plant. The spent digestion chemicals together with the lignin compounds are concentrated and burned. The inorganic chemicals are recycled back to the digestion phase while the organic material is converted to carbon dioxide and water vapor.

Water is supplied to the mill by deep wells. The vast majority of the water entering the mill is used initially for cooling purposes. A large portion of this heated water is then used in the process throughout the mill. Effluent originates from a variety of sources throughout the pulp and paper making operations. Major contaminates include sodium compounds, dissolved lignins and cellulose fibers.

EFFLUENT TREATMENT

The mill effluent consists of two basic streams. The first stream is excess cooling water from various parts of the mill that is free of contamination. This is water that has passed through heat exchangers to remove heat from process streams. The water is approximately 100°F as it leaves the mill and is cooled by passing through a series of riffles, basins and ditches before entering the Clark Fork River.

The contaminated effluent stream is made up of process waters from the various operating areas. Three individual channels, or ditches, convey the effluent from separate operating areas of the mill. Each of these ditches has flow monitoring and sampling equipment. Daily chemical losses and total effluent flows are tabulated from these measurements.

The three effluent channels are combined in an intercept ditch. Effluent from the intercept ditch is pumped by three verti-line pumps to the 200 foot diameter Dorr-Oliver primary clarifier. Settleable solids are pumped continuously from the clarifier to landfill at approximately 1% consistency. The decant from the sludge pond is gravity fed back to the intercept ditch.

Effluent discharged from the clarifier flows to the secondary treatment system. The current discharge permit required installation of secondary treatment by July 15, 1975. Construction was completed and operation of the secondary treatment system began in the fall of 1974, about eight months ahead of schedule. The system was designed by Wesley Eckenfelder, Professor of Environmental and Water Resources Engineering at Vanderbilt University, Nashville, Tennessee. The aerated stabilization basin has two stages of equal volume with a total retention time of eight days. The first stage is totally mixed with ten 150 horsepower Eimco stationary mechanical aerators. The second

stage is equipped with two Eimco aerators. The system was designed using best available technology to handle a maximum load of 80,000 pounds of BOD per day with a discharge concentration of 30 mg/liter.

Operating experience has shown that the system will reduce 80,000 pounds per day of BOD on a consistent basis. The present mill operation exceeds the 80,000 pound inlet figure from time to time, resulting in discharge BOD concentrations greater than the design figure of 30 mg/liter. The Phase I mill expansion currently under construction, will reduce the BOD load from the mill by an estimated 20,000 pounds per day, resulting in a significant improvement in the discharge concentration of BOD from the treatment system. Nutrients in the form of phosphoric acid and anhydrous ammonia must be added to the treatment basin to achieve the design BOD reduction. Original estimates and initial addition rates of 19 tons per month ammonia and 42 tons per month phosphoric acid have been reduced to levels of approximately 4 tons per month ammonia and 7.5 tons per month phosphoric acid by close monitoring of nutrient residuals and BOD reduction.

The startup of the aeration basin in the fall of 1974 correlated with a very significant decrease in ambient concentrations of H_2S as measured by a gas chromatograph located north of the plant. As was predicted, the aeration system was responsible for converting our anaerobic ponding conditions towards an aerobic condition. The decrease in BOD load to the secondary treatment system with the completion of the Phase I expansion will result in further conversion of the ponding system to an aerobic condition and an additional reduction in ambient H_2S from this source.

In the fall of 1976, one of the aerator gearboxes developed a mechanical problem and had to be shut down. Upon close inspection of this gearbox

and the other eleven, it was found that all of the gearboxes had damaged gears to some extent. In discussions with the manufacturer, the problem was identified as a gear hardening problem. Because the gearboxes were still under warranty, the manufacturer requested that the gearboxes be sent back to the factory to be rebuilt with new gears. This was accomplished by sending the boxes back two at a time while still operating the remaining ten. As of May 25, 1977, eleven of the gearboxes have been completely rebuilt and returned to service. No significant reduction in secondary treatment efficiency was observed during the period of geargox rebuild.

The majority of effluent from the secondary treatment system is routed to land disposal. The original effluent disposal system using impoundment during normal operation included a form of land disposal by percolation of effluent through the pond bottoms. This percolate was partially renovated in the soil column before eventually reaching the river. The major problem encountered with this system was a continual reduction in the percolation rate.

A comprehensive study of this problem was initiated in 1973 with the assistance of Dr. A.T. Wallace of the University of Idaho. Dr. Wallace identified microbiological activity as the cause of the sealing on the bottom of continually inundated ponds. He proposed an alternate land disposal method called "rapid infiltration". This method consists of a dose-drain-dry cycle. Initial studies involved pilot plant work with various soil types. These studies showed that a gravel column would allow a significantly higher disposal rate than topsoil. In the fall of 1973, two large-scale rapid infiltration basins were constructed in virgin gravel areas where topsoil and overburden had been removed. Initial operation of these basins confirmed the results of the pilot plant lysimeter studies and showed that rapid infiltration could

achieve high percolation rates. Operation of these basins continued into the summer of 1974. Continuous operation during the initial period showed a slow decline in percolation rate and close inspection of the basins revealed a solids precipitation on the basin surface and a decrease in the depth of aerobic material. The basin surfaces were ripped with a catapillar and rested for approximately two months. When effluent doses were again applied, percolation rates increased to original levels.

Two additional basins were constructed in old storage pond areas. Operation of these two basins showed that initial percolation rates were lower than in virgin gravel areas. Operation of one basin was suspended because the groundwater level was so near the basin surface that an aerobic gravel layer could not be maintained. These findings were later used in planning future rapid infiltration basin locations.

Test wells were installed in the areas of the first rapid infiltration basins to monitor the renovation of effluent percolated from these basins. Initial testing was encouraging. Significant quantities of organic material from the effluent, including color bodies, were found to be removed by the soil column. Renovation takes place when the micro-organisms present in the soil oxide this organic material. Reductions in color, BOD, nutrients, phenolic type compounds and total suspended solids were found to be significant.

Rapid infiltration was then considered as a means of meeting the color standard. An implementation schedule was drawn up to meet the color standard including various phases of rapid infiltration construction and evaluation. Following this implementation schedule, the rapid infiltration system has been expanded to a total of 88.5 acres of basin area, disposing of 10.6 million gallons per day of effluent.

In order to gain comprehensive knowledge of the effects and efficiency of the rapid infiltration system, a research contract was initiated with the University of Montana Forest and Conservation Experimentation Station in early 1974. Early investigations involved tracer studies using sodium and chloride to locate groundwater flow patterns and to measure the degree of color removal. To date, the groundwater flow system in the area of the mill has been mapped and a conductivity analog model developed to predict groundwater flow patterns. Also, 60 test wells have been installed between the rapid infiltration system and the river and along property boundaries and are being monitored routinely to insure minimal impact on groundwater near property lines. A river balance has been established to most effectively determine the rapid infiltration color removal efficiency. This efficiency has been shown to have stabilized at a level greater than 70%. Hoerner Waldorf has just recently extended this monitoring program for an additional three years to gain further knowledge on the impact of our effluent disposal system.

MONITORING

Monitoring of effluent parameters begins as the effluent leaves the mill proper. The three ditches conveying effluent from the mill are equipped with both continuous flow monitoring devices and samplers that composite samples over 8 or 24 hour periods. Flow measurements at this point are used to determine the daily total effluent flow. Composite ditch samples are tested daily for sodium concentration to determine total chemical loss. As the effluent moves through the clarifier and on to the secondary treatment system, daily composite samples are used to determine color and BOD levels.

Monitoring of the secondary treatment system includes basin temperatures, pH, uptakes, nutrients, dissolved oxygen and BOD. During normal operation, the secondary treatment basin temperatures are well within the design range. During the mill shutdowns in 1975, it was learned that a minimum temperature in the range of 60°F is necessary to maintain desired levels of BOD reduction. To date, operating experience even during the coldest winter months has shown that the basin temperature remains above 60°F. Uptake rates serve as a quick monitor of basin biological activity and correlate on a general basis with BOD testing. Nutrient residuals are tested twice a week. Total organic nitrogen and total phosphorous test results are used to insure that minimum levels necessary for BOD reduction are present. BOD tests on inlet and outlet samples are run to measure overall basin efficiency.

Tests including BOD and sodium concentration are run monthly on stored effluent in the ponding system. In addition, before direct discharge during the spring runoff, toxicity, nutrient, BOD, color, pH, and total suspended solids tests are run on stored effluent.

Eight test wells are strategically located near the river along company property. Samples from these wells are tested routinely for BOD, color,

and sodium concentrations. During the discharge season, nutrient tests have also been included on test well samples. Test well concentrations serve as the best monitor of influence of the overall disposal system on the groundwater recharge on the river.

Samples from the Clark Fork River at locations above and below the mill site are taken routinely for measurements of dissolved oxygen and color. In addition, phenolic substance tests have been run during the direct discharge season and nutrient tests as well are being run during the 1977 discharge.

Testing for phenols in mill effluent before the installation of secondary treatment showed levels of 2000-3000 ppb in effluent leaving the mill and 300-400 ppb in stored effluent. Recent spot checks have indicated levels of 10-50 ppb leaving the secondary treatment system and 5-10 ppb in stored effluent. These are levels that were predicted by designers of the aeration basin. Concentrations of 10-50 ppb easily meet water quality standards of 1 ppb in the river when minimum dilution factors of 1:150 are applied to direct discharge rates.

The Institute of Paper Chemistry River Surveys have been completed yearly on the Clark Fork in the vicinity of the mill. These surveys have been made since 1956. While survey results during 1974, 1975 and 1976 showed similar effects to those of previous years including some staining of rock surfaces at the water interface and indications of localized response to nutrient enrichment, the overall conclusions have shown little to no significant impairment of the water quality in the river.

A gas chromatograph measuring ambient concentrations of H_2S was located north of the mill site during 1973 in conjunction with mill expansion

plans. This unit has been in continuous operation since that time except during brief periods of instrument malfunctions. Overwhelming evidence shows a drastic reduction in ambient H_2S levels correlating with the startup of the secondary treatment system in the fall of 1974. As predicted, the aeration system was responsible for converting the anaerobic ponding system towards an aerobic condition. These conditions have prevailed through the 1974, 1975 and 1976 seasons. Currently, the ambient testing program is being expanded to include three testing sites located south of the plant site in conjunction with the Phase I expansion in progress at the present time. As BOD loads to the secondary treatment system are reduced, it is expected that additional reductions in H_2S from the effluent system will occur.

NUTRIENTS

Nutrients in the form of phosphoric acid and anhydrous ammonia are added to the secondary treatment system. These nutrients are necessary to achieve design levels of BOD reduction. Initial addition rates were based upon nutrient requirements in other kraft mill treatment systems. By careful monitoring of BOD reduction and nutrient residuals, the nutrient addition levels have been reduced to less than 25% of the initial rates. Additions rates are adjusted to maintain residual levels from trace to ½ ppm total phosphorous and total organic nitrogen.

The use of nutrients and their eventual effects upon the river has been questioned by the Department of Fish and Game. While nutrient testing on stored effluent and on samples from the test wells have shown increases in phosphorous levels from the 1975 to the 1976 discharge seasons, the 1977 test results to date indicate a significant drop from the 1976 levels. The effect of nutrient addition to the treatment system has had little effect on the river as judged by the results of the Institute of Paper Chemistry surveys. Although some isolated areas of a minor enrichment response are present, the degree of such impairment conforms to that of past river data.

PRESENT PERMIT COMPLIANCE

The present discharge permit made stipulations with regard to construction, monitoring and reporting. All of these stipulations have been met. A new bioassay station was constructed adjacent to the Clark Fork River so that static bioassays using 1½ to 2 inch rainbow trout could be run. The secondary treatment system was completed eight months before the July 15, 1975 deadline. Signet flow measuring devices were installed in each of the direct discharge outfalls to measure discharge volume to within 10% of the true flow value. To meet the color standard, the antipollution sequence bleaching process was put into operation in August 1975, well before the October 1, 1975 deadline and a compliance schedule for construction and evaluation of rapid infiltration was submitted to the State and followed to completion.

BOD and total suspended solids limitations were met for the 1976 discharge season and the color standard has been met since the completion of the compliance schedule for rapid infiltration. In addition, the monthly monitoring tests both during the direct discharge and during the remainder of the year have been submitted before the 28th day of the following month.

COLOR STANDARD

The color standard has been the most restrictive requirement to meet. Not only has it been necessary to devise a system (rapid infiltration) for color treatment, it has also been necessary to reduce color load from the mill so that color concentrations exiting the treatment system will be low enough to meet the standard in the river at the 10-year, 7-day low flow of 930 cfs. Effluent color levels of 3000 standard color units (SCU) were reduced to approximately 2000 SCU by modification of the bleach plant to a bleaching sequence that prevents formation of a high level of color bodies. The antipollution sequence was put into operation in August 1975. In March 1977, a spill collection system was completed to recover highly colored streams from equipment upsets in a 500,000 gallon tank for return to the process. This system was designed to reduce effluent color by another 500 SCU. Presently under construction is an expanded pulp washing system. This system will improve the pulp washing efficiency and as a result, reduce effluent color by approximately 500 SCU.

Emphasis on color measurement and color removal the past few years has focused attention on color measurement methods and procedures. The accepted Nessler method of color measurement was first scrutinized during initial color investigations. The Nessler method has many inadequacies, the larger being the human element since the method relies upon color comparison by the naked eye. It was found by experimentation that color measurements by the Nessler method could be in error by as much as several hundred percent depending on the individual running the test and the color concentration of the sample being tested. A more accurate and reliable method was deemed necessary. Investigations in house and within the kraft industry led to the development

of the spectrophotometer method of color measurement by the National Council for the Paper Industry for Air and Stream Improvement. This method, cited by EPA in its Guidelines and Development Document for New Source Performance Standards for the Kraft Industry, eliminates the human judgment aspect of the test by utilizing a UV Spectrophotometer. This method has been requested for approval in the past and request for its use is respectfully made again.

The 1977 direct discharge is the first made in compliance with the color standard. Discharge flow rates are being established using the formula stipulated in our permit.

$$D = \frac{Q(5)}{C_d - (C_r + 5)}$$

D = discharge rate (cfs)
Q = river flow (cfs)
C_d = effluent color (SCU)
C_r = river color

Allowance is made for the color contribution to the river from rapid infiltration. Readings from the USGS gauging station above the mill are taken each day. The discharge rate is calculated and flow rates set using the Signet meters at the outfalls. Our limited experience has shown that a four to six hour time lag exists before the discharge rate adjustment reaches full equilibrium at the six-mile full mixing zone below the mill. River samples are taken at Harpers Bridge and Six-Mile after the time lag for color measurement to insure that the standard is met.

During periods of increasing river flow, this procedure has given good results. During periods of sharp decreasing river flow, it has been necessary to reduce discharge rate below the formula calculation to compensate for the time lag. Anticipation of river flow increases and declines plays a part in adjusting discharge rate. If necessary, multiple adjustments and subsequent

testing are made during each day to insure compliance with the standard.

In anticipation of the low river flow this year due to below average snow pack and in conjunction with the current Phase I expansion, a program of effluent reduction has been implemented within the mill. Several water reuse projects have been completed which have reduced the average effluent flow by approximately 800 gpm. This emphasis together with expansion of the rapid infiltration system, has resulted in a significantly lower volume of effluent in storage for discharge during the discharge season of 1977. In addition, two more projects are due for completion during 1977 that will further reduce effluent volume by an estimated 2500 gpm. A white water filtration system has been designed which will allow recycle of process water as shower water on the paper machines. Also, existing direct coolers on the evaporators will be replaced with indirect heat exchangers.

The recycle and reuse projects within the mill replace warm cooling water with process water. The effect of this replacement is to increase the volume of clean, warm water routed to the cooling ditch. The magnitude of these reuse projects is such that resultant flow in the cooling ditch will exceed the current permit level of 4167 gpm. Because it is extremely beneficial to our contaminated effluent treatment system to institute these reuse projects, it is requested that the current cooling ditch maximum flow of 4167 gpm be lifted.

FUTURE EXPANSION

Effluent volume increases projected from the current Phase I mill expansion will be offset by water reuse and recycling projects currently underway. The increase in discharge volume will come in the form of clean, uncontaminated flow in the cooling ditch.

The future Phase II expansion of the mill will incorporate maximum reuse and recycle schemes to keep effluent volume to a minimum. It is projected that average contaminated effluent flows will be 16.2 MGPD. The majority of this volume will undergo disposal by rapid infiltration and evaporation (75%) with direct discharge of the remainder (25%) at river flows greater than 4000 cfs. Average cooling ditch flow rates with maximum water reuse are projected to be 14.5 MGPD.

STATE OF MONTANA)
) ss: AFFIDAVIT
County of Lewis and Clark)

NOW COMES ROY E. COUNTRYMAN who, being first duly sworn, upon oath says:

1. That I am a Senior Vice President of Hoerner Waldorf Division of Champion International Corporation, a New York corporation, and the officer of said corporation with overall responsibility for operations of the Hoerner Waldorf Mills, which includes the pulp and paper mill located near Missoula, Montana.

2. That Hoerner Waldorf Corporation, a Delaware corporation, was merged with and into Champion International Corporation on February 24, 1977.

3. That Hoerner Waldorf Corporation was issued Permits by the Air Quality Bureau of the Department of Health and Environmental Sciences of the State of Montana.

4. That according to the Plan and Agreement of Merger between Hoerner Waldorf Corporation and Champion International Corporation dated December 13, 1976, said Champion International Corporation shall possess all rights, privileges, immunities, powers, franchises and purposes of Hoerner Waldorf Corporation; all the property, real, personal and mixed, including subscriptions to shares, causes of action and all and every other asset and interest of Hoerner Waldorf Corporation shall vest without further act or deed in Champion International Corporation; and said Champion International Corporation shall become liable for all debts, liabilities, obligations and penalties of Hoerner Waldorf Corporation.

5. That Champion International Corporation as successor in interest to Hoerner Waldorf Corporation hereby ratifies and acknowledges the accuracy of the information contained in the applications for the permits and renewals heretofore issued to Hoerner

Exhibit 10

comply with the conditions of the permits, the modifications thereto and the renewals heretofore issued to Hoerner Waldorf Corporation.

FURTHER Affiant sayeth not.

DATED: July 22, 1977

HOERNER WALDORF DIVISION OF
CHAMPION INTERNATIONAL CORPORATION

Roy E. Countryman
Senior Vice President

The foregoing instrument was acknowledged before me this 22nd day of July, 1977, by Roy E. Countryman, Senior Vice President of Hoerner Waldorf Division of Champion International Corporation, on behalf of the Corporation.

Dianne Shultz
NOTARY PUBLIC for the State of Montana
Residing at Helena
My commission expires 12-3-78

(SEAL)

Department of Health and Environmental Sciences
STATE OF MONTANA HELENA, MONTANA 59601
A.C. Knight, M.D.
Director

LEGAL DIVISION
1400 Eleventh Avenue
Helena, MT 59601
Phone 449-2630

Mr. Bob Fogarty
Counsel
Champion International Corporation
2250 Wabash Avenue
St. Paul, Minnesota 55114

Dear Mr. Fogarty:

Enclosed is the legal memorandum indicating the effect of the merger of Hoerner Waldorf Corporation and Champion International Corporation in view of the rule prohibiting the transfer of permits, MAC 16-2.14(1)-S1400(4). To complete our files, would you please submit a copy of the certificate of authority which has been issued to Champion International pursuant to the Montana Business Corporation Act.

I was informed by Dr. Knight that the Company has made a request to be scheduled on the agenda of the Board of Health and Environmental Sciences meeting scheduled for September 30, 1977. I call your attention to the provisions of the Montana Clean Air Act, Title 69, Chapter 39, and the rules promulgated pursuant thereto, as well as the Montana Administrative Procedure Act, Title 82, Chapter 42, and the rules promulgated pursuant thereto. Since no petition or application for hearing before the Board has been filed by the Company, it is not possible to schedule an appearance on September 30, 1977.

It has also been called to my attention that condition no. 7 of the renewal permit, #R792-013075, has not been satisfied. Condition no. 7 states specifically:

7. Hoerner-Waldorf shall fund, in whole or part, a study of the meteorology and air quality of the Missoula Valley. The purpose of the study will be the collection and analysis of a minimum of 12 months of meteorological data that can be used to determine to the extent possible the effect of Hoerner-Waldorf's emissions on pollutant levels in the Missoula Valley. The study will be conducted by a mutually acceptable third party at a cost to Hoerner-Waldorf not to exceed $50,000.

I would appreciate your contacting Mike Roach, Chief of the Air Quality Bureau, about this matter at your earliest convenience. If you have any questions regarding the other matters discussed in this letter, please contact me.

Sincerely,

Sandra R. Muckelston

Sandra R. Muckelston
Chief Counsel

SRM/mc
Enclosure

Exhibit 11

Office Memorandum

STATE DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES

TO : Dr. A. C. Knight and the Board of Health and Environmental Sciences

DATE: September 9, 1977

FROM : Sandra R. Muckelston, Legal Division SRM

SUBJECT : The effect of the merger of the Hoerner Waldorf Corporation (hereinafter referred to as Hoerner Waldorf) and the Champion International Corporation (hereinafter referred to as Champion) in regard to the prohibition against transfer of permits under MAC 16-2.14(1)-S1400(4)

FACTS: Hoerner Waldorf, incorporated under the laws of Delaware, and Champion, incorporated under the laws of New York, merged on February 24, 1977, in accordance with the laws of New York. The surviving corporation from that merger is Champion. Prior to the merger, Hoerner Waldorf was granted a construction permit, #792-013075, in 1974 pursuant to the Clean Air Act of Montana and MAC 16-2.14(1)-S1400. This permit was renewed in 1976 as permit #R792-013075. In March 1976 another permit, #978, was issued to Hoerner Waldorf by the Department for additional construction work not covered by permit #792-013075.

The issue presented for resolution is whether Champion may utilize the construction permits issued to Hoerner Waldorf prior to the merger in view of MAC 16-2.14(1)-S1400?

HELD: It appears that, by operation of law, Champion may utilize the construction permits.

MAC 16-2.14(1)-S1400(4) provides: "Permits issued shall not be transferable either from one location to another, from one piece of equipment to another or from one person to another." This rule was adopted by the Board of Health and Environmental Sciences pursuant to legislative authorization in the Clean Air Act of Montana which provides that the Board shall "adopt, amend, and repeal rules implementing and consistent with this act." R.C.M., 1947, §69-3909 as amended.

The Clean Air Act of Montana defines person as "an individual, partnership, firm, association, municipality, public or private corporation, a subdivision or agency of the state, trust, state, or any other legal entity and includes persons resident in Canada." R.C.M., 1947, §69-3906(4) as amended. (Emphasis added) Thus, MAC 16-2.14(1)-S1400(4) prohibits the transfer of a permit from one corporation to another.

The effect of a merger of two corporations, however, is governed by statute. Hoerner Waldorf and Champion merged in accordance with the laws of New York, which define the effect of the merger, N.Y. Bus. Corp. Law §906, 907 (McKinney 1962). Section 906 provides in part:

(b) When such merger or consolidation has been effected:
(1) Such surviving or consolidated corporation shall thereafter, consistently with its certificate of incorporation as altered or established by the merger or consolidation, possess all the rights, privileges, immunities, powers and purposes of each of the constituent corporations.
(2) All the property, real and personal, including subscriptions to shares, causes of action and every other asset of each of the constituent corporations, shall vest in such surviving or consolidated corporation without further act or deed.
(3) The surviving or consolidated corporation shall assume and be liable for all the liabilities, obligations and penalties of each of the constituent corporations. . . .

Case law recognizes that the surviving corporation enjoys all the rights, privileges and franchises possessed by the constituent corporations. In Re New York Water Service Corporation, 67 N.Y.S.2d 850, 853 (1946); Tennessee v. Whitworth, 117 U.S. 129, 147 (1885).

There is not a Montana statute which specifically defines the effect of a merger between two foreign corporations such as Hoerner Waldorf and Champion. However, a foreign corporation which has received a certificate of authority under the Montana Business Corporation Act may "enjoy the same, but no greater, rights and privileges as a domestic corporation organized for the purposes set forth in the application pursuant to which such certificate of authority is issued; and, except as in this act otherwise provided, shall be subject to the same duties, restrictions, penalties and liabilities now or hereafter imposed upon a domestic corporation of like character." R.C.M., 1947, §15-22-100. The Montana Secretary of State office indicated, on July 14, 1977, that Champion is a foreign corporation in good standing in the State of Montana.

The effect of the merger of domestic corporations in Montana is governed by R.C.M., 1947, §15-2269, which provides in part:

When such merger or consolidation has been effected:
* * * *
(d) Such surviving or new corporation shall thereupon and thereafter possess all the rights, privileges, immunities, and franchises, as well of a public as of a private nature, of each of the merging or consolidating corporations; and all property, real, personal and mixed, and all debts due on whatever account, including subscriptions to shares, and all other choses in action, and all and every other interest of or belonging to or due to each of the corporations so merged or consolidated, shall be taken without further act or deed; and the title to any real estate, or any interest therein, vested

in any of such corporations shall not revert or be in any way impaired by reason of such merger or consolidation.

(e) Such surviving or new corporation shall thenceforth be responsible and liable for all the liabilities and obligations of each of the corporations so merged or consolidated; . . .

A permit is considered a license, R.C.M., 1947, §82-4202(4); 51 AmJur 2d, Licenses and Permits, and a license has been held to be a right which falls within the purview of "rights, privileges or franchises" passing to the surviving corporation upon merger, Diamond Parking, Inc. v. City of Seattle, 78 Wash.2d 778, 479 P.2d 47 (1971). Therefore, R.C.M., 1947, §15-2269 would allow the transfer of construction permits issued pursuant to the Clean Air Act of Montana and MAC 16-2.14(1)-S1400 to the surviving corporation.

There is apparent conflict between the provisions of the Montana Business Corporation Act and MAC 16-2.14(1)-S1400(4) with regard to the transfer of construction permits to the surviving corporation. The statutes allow the transfer and the rule prohibits it. If the rule is given effect, the legislative purpose expressed in the statutes is thwarted.

In Diamond Parking, Inc. v. City of Seattle, supra, the court held that a municipal ordinance prohibiting the transfer of licenses was in irreconcilable conflict with the Washington statute, which is similar to Montana's, providing that upon merger the surviving corporation possesses all rights, privileges and franchises possessed by each of the former corporations, and the provisions of the statute prevailed. The court recognized that a license is a right included in the rights, privileges and franchises of the merging corporations which passed to the surviving corporation. In reaching its determination, the court concluded that municipalities did not have the authority to enact measures which conflict with state law governing corporations.

In Montana, the legislature expressly reserved its authority to prescribe regulations, provisions, and limitations over business business corporation. R.C.M., 1947, §15-22-138. There is no delegation of such authority to any administrative board. Furthermore, the Montana Supreme Court has ruled that no board " can exercise the power of limiting the scope of enactments of the Legislature." State ex rel. Lewis and Clark County v. Board of Public Welfare, 141 Mont. 209, 212, 376 P.2d 1002 (1962). See also California State Restaurant Ass'n. v. Whitlow, 129 Cal.Rptr. 824, 58 C.A.3d 340 (1976).

Therefore, it is my opinion that the construction permits issued to Hoerner Waldorf passed to Champion upon merger,and that Champion may utilize these permits until their expiration dates and is subject to and liable for the conditions attached to these permits. This liability is further evidenced by the attached affidavit.

September 12, 1977

Ms. Sandra Muckelston
Chief Counsel
Legal Division
Department of Health and
Environmental Sciences
1400 Eleventh Avenue
Helena, Montana

Dear Sandra:

I am in receipt of your letter and legal opinion dated September 9, 1977. I have requested a certified copy of the Certificate of Authority for Champion International Corporation and I will forward it to you upon receipt. I also note your concern with respect to condition no. 7 of the renewal permit. I am not aware of any facts regarding condition no. 7, but I am investigating and will respond to you either directly or through someone who has the responsibility for such compliance.

Thank you again for the time you spent on this matter. We all appreciate your cooperation and professionalism.

Yours very truly,

Robert E. Fogarty

/ra

Exhibit 12

ENGINEERING CONTRACT

PROJECT: Missoula Phase II Expansion
ARA #77-05
Champion International-Hoerner Waldorf Div.

Owner's Purchase Order Number MEP 101

This contract is made and entered into as of this _____ day of _____ by and between CHAMPION INTERNATIONAL-HOERNER WALDORF DIVISION and SANDWELL INTERNATIONAL INCORPORATED, Consulting Engineer.

I. GENERAL

A. Definitions

1. The term "Owner" refers to Hoerner Waldorf Division, Champion International, located at Missoula, Montana.

2. The term "Engineer", unless otherwise particularly noted, refers to Sandwell International, Incorporated, Consulting Engineer, located at 500 N. E. Multnomah St., Portland, Oregon 97232.

3. The term "Project Manager" refers to Owner's engineering representative. The Project Manager for this project is designated as Herman Effenberger, located at Hoerner Waldorf Division, Drawer D Missoula, Montana 59801. The Project Manager shall approve all preliminary and final designs, sketches and layouts on behalf of Owner.

Exhibit 13

4. The term "Contract Administrator" refers to Owner's Purchasing Representative located at Hoerner Waldorf, Drawer D, Missoula, Montana 59806. The Contract Administrator for this contract is designated as Robert E. (Gene) Griffith. The Project Manager or Contract Administrator may be changed by written notice to Engineer by Owner.

5. The term "project" referred to herein, shall mean all new construction, improvements, additions and/or modifications, including layout drawings, flow sheets, detail engineering drawings, material lists, equipment lists, instrumentation lists, loop sheets, inquiry specifications, equipment and material specifications, bid specifications, bid comparisons, engineering and construction schedules, time-money and manpower schedules for engineering and construction, engineering and construction budget reports and any other material or services required to prepare a completely engineered package achieving the Owner's objectives as listed in Exhibit "A" attached hereto and the established design criteria.

6. The term "work" or "service" referred to herein includes the rendering of professional engineering work and advice by the engineer; the application of accepted and up-to-date engineering practices and know-how in the design of all project elements; the production of all drawings, specifications and whatever other descriptive information and material is necessary to allow the project to be executed; the rendering of all other administrative or non-technical services incidental to carrying out the project; e.g. purchasing, accounting, reproduction of documents, secretarial, etc. The work and service is to be completed in meeting and achieving the Owner's project objectives and of sufficient detail to permit Lump Sum or Cost Plus Fixed Fee Guaranteed Maximum Cost construction bidding.

II. SCOPE OF WORK

A. General

1. The Engineer shall provide complete engineering services, including but not limited to the preparation of final detailed drawings, plans, specifications and special conditions conforming with good practice, complying with all applicable codes and laws and compatible with Owner's existing facilities and their continuous operation and complete in detail and in form appropriate for obtaining Lump Sum or Cost Plus Fixed Fee Guaranteed Maximum Cost competitive bids from contractors, equipment, machinery, services, and material vendors for the complete installation and erection ready for operation of Owner's machinery, systems, buildings, site and support equipment in the Owner's Missoula, Montana Plant, more specifically described in Exhibit "A" attached hereto.

SCOPE OF ENGINEERING SERVICES

Complete engineering service covering all facets of work related to the project and including:

- Construction budget estimate
- Process design
- Equipment specification
- Purchasing assistance
- Detailed design and engineering in all disciplines
- Scheduling

a. Construction Budget

A detailed construction budget based on design concept decisions shall be prepared to provide detailed departmental cost estimates for direct equipment and labor costs and overall estimates for construction overhead and engineering. Additionally, allowances

for contingencies, escalation and premium time shall be provided. The budget shall be issued within the first four to five months, subject to significant decisions arising out of concept development work being made. This budget shall then form the basis for all cost control, recording and forecasting throughout the project. Normally, actual costs against the budget shall be reported monthly and forecasts shall be updated every four months or so, depending on the wishes of the Owner.

b. Process Design

Process design criteria have been developed and agreed to with Owner and are recorded in a memorandum and being part of Exhibit "A". This memorandum will serve as the basis for development of detailed process flow diagrams, equipment specifications and detailed design.

c. Equipment Specifications

Engineer retains on Mag Cards, standard inquiry specifications for virtually all equipment and material required for a pulp and paper mill. These standard specifications are modified for each project to suit the specific needs of the project simply and quickly with the Mag Card system. The result is that most equipment inquiry specifications can be submitted for review and issued within a few weeks after starting a project and agreeing on design criteria.

d. Purchasing

Engineer will assist the Owner's purchasing department by preparing inquiries, comparing bids and making recommendations and assist in the preparation of documentation for issue of purchase orders by Owner. Engineer will prepare purchase requisition for the owner's approval and issuance of the purchase order.

e. Detailed Design and Engineering

Engineer will prepare drawing lists, master equipment lists, preliminary departmental arrangement drawings and structural steel drawings as quickly as possible after starting the project, and plans to concentrate on freezing the overall arrangement and basic departmental arrangements first.

Each section leader in the project team works to detailed drawing issue schedules, manhour estimate projections and key target dates. Design and drawing production is normally to accommodate lump sum bids for construction. Because of time advantage, unit price contracts for initial building construction work may be utilized.

f. Schedule

Scheduling is a most important facet of any project and shall be treated accordingly. Normally, preliminary simple bar chart schedules accompanying the engineering proposal are expanded somewhat into modified time precedence schedules which show at a glance whether each important aspect is ahead or behind schedule and by how much. A computer programmed schedule update is to be available if desired by Owner.

2. With the erection of manufacturing facilities, additions to existing manufacturing facilities and the installation of new or replacement of existing systems, the Engineer shall design the project and specify equipment for incorporation therein capable of sustained operations, 24 hours a day, 7 days a week, at production capacities, in quantities and with quality and economic performance characteristics and capabilities equal to or greater than those specified or referred to in scope of the work without excessive outages or maintenance.

The Owner will continue to operate the existing facility during the construction and installation of the project. The Engineer will design the project for installation and erection with a minimum of interference with the continued operation of the existing facility or the work of the Owner's employees operating the same.

The Engineer will prepare for Owner's approval and eventual inclusion with the drawings and specifications, a recommended schedule for all work requiring tie-ins with the Owner's existing facility.

B. Engineering Procedure

1. The Engineer will have conferences with the Owner to review the scope of the project, including visits to the site of the project, to familiarize himself with local codes, ordinances, customs and practices and with conditions peculiar to the site, the operations of Owner's existing facilities and the locality. Access to the project site will be permitted to Engineer on request for necessary field surveys and measurements. Engineer shall be responsible for making all necessary field measurements.

   Owner shall make all applications for applicable permit and approval required of jurisdictional agencies.

2. The engineer shall prepare preliminary designs, drawings and layouts based upon design criteria established for the project by the Owner, and set forth in Exhibit "A".

3. The Engineer shall submit the preliminary design and layouts, drawings and specifications to the Owner for review and approval by the Project Manager. The Engineer shall supply prints of the preliminary drafts of all drawings and specifications as required and also shall supply copies of all final engineering calculations and other pertinent design information for review and approval by the Project Manager. The Project Manager shall inform the Engineer immediately in writing of any changes

required. If such advice is not received within seven days of the issue of such information by the Engineer, the Engineer may assume that the work is approved and Engineer shall proceed with and shall prepare the final documents referred to below.

Bid release date shall be indicated on the drawings. Revisions shall be recorded in the drawing "Revision" column. Notwithstanding any review, approval or acceptance by the Owner, the Engineer is responsible for the accuracy of the design, engineering calculations, drawings and specifications and other work hereunder.

C. Documents

1. From the preliminary designs, layouts, drawings and specifications, and after approval of Owner, the Engineer shall prepare and deliver to Owner one set of original final working drawings, specifications, special conditions and all other documents to completely describe the construction, machinery, material, equipment, workmanship and procedures to be followed for the complete construction of the project.
2. Drawing numbers shall be assigned by the Engineer in conformance with the Owner's filing system. Engineer's signature of approval on drawings shall be sufficient certification for the work to be installed.

Standard drawing sizes required for the project are:

E - 30" x 42"
D - 22" x 34"
B - 11" x 17"
A - 8 1/2" x 11"

3. The following is a description of the drawings that will be required for the project Any additional drawings or specifications required for a Lump Sum or Cost Plus Fixed Fee Guaranteed Maximum Cost bid package shall also be included.

Mechanical Drawings:

Flow sheets and PI drawings
General arrangements
Site departmental general arrangements
Equipment arrangements
Tank basic dimension drawings
Master equipment list
Pump data sheets
Piping plan sections and details
Miscellaneous construction details
HVAC drawings
Tie-in details and lists (no shop drawings)

Structural Drawings:

Standards
Site preparation
Railroads and roads layouts
Floor loading drawings
Foundation drawings
Structural steel framing
Concrete outline and reinforcement
Concrete sections & supports
Platforms equipment supports
Architectural drawings

Electrical Drawings:

Single line drawing
Grounding layouts
Electrical room layouts
Feeder layouts
MCC layouts
Construction wiring diagrams
Schematics
Conduit layouts
Lighting layouts
Cable & conduit schedule
Protective device coordination
Substation design
Machine & equipment electrical system design & control

Instrumentation Drawings:

Instrument lists
Instrument specifications sheets
Panel arrangements
Location drawings
Installation details
Loop diagrams (no graphic detail)

Construction Schedule:

NOTE: All drawings to be identified by assigned account number.

4. Owner will provide a draft of the General Conditions, Instructions to Bidders, Bid Form, Contract Form and Performance Bond for incorporation in the documents to be submitted in soliciting bids. Engineer will review these documents for conformity with the materials being prepared by Engineer hereunder.

III. TIME COMPLETION

All work to be performed by the Engineer under this contract shall be prosecuted regularly and continuously in a manner which will permit completion of the project within the time frame dictated by the construction schedule.

Start Engineering design	- Dec. 1977
Order major equipment	- Dec/Feb 1978
Start site work, demolition, services	- March 1978
Start building construction	- May 1978
Start major equipment installations	- Jan 1979
Start-up mill	- May 1980

Such schedule could entertain the calling of unit price on Lump Sum or Cost Plus Fixed Fee Guaranteed Maximum Cost bids for most construction work, provided commitments for equipment purchase are made sufficiently early to permit the regular and timely flow of information from vendors to the Engineer.

IV. ENGINEER'S COMPENSATION

A. Compensation and Estimated Cost

For the work and services performed hereunder, Owner shall compensate Engineer for the cost of the work as set forth below, provided, however,

Engineer shall not incur any expenses, make any expenditures for which it intends to be reimbursed, or perform any work or service hereunder which will result in the sum of the aggregate cost of time charges for the work hereinafter referred to, exceeding $6,047,000 (referred to as the estimated cost) and Owner is not obligated to pay or reimburse Engineer for any amount in excess of $6,047,000, unless Owner has authorized in writing in advance an increase in such estimated cost which specifically refers to such increase as an increase in such estimated cost. The basis for the estimated cost is set forth in Exhibit "B" and any increase or decrease shall be calculated fro data included therein.

B. Cost of the Work

The cost, referred to under item IV-A, of the work for which the Engineer shall be reimbursed or paid, shall consist of the followng items:

1. Engineer shall be paid by Owner for labor actually chargeable to work under the contract in accordance with good accounting practice consistently applied, of the Engineer's project manager, project engineers, staff engineers, engineers, chief designers, designers and draftsmen and other support personnel at the principal office of the Engineer, or at any office or plant of the Owner or any other location approved by the Owner. Such charges shall be in accordance with the following: Base Salary Rates as shown in Exhibit "B" multiplied by the factor 1.90. All rates set forth in Exhibit "B" are subject to escalation but such escalation shall be limited to a maximum escalation of 6% per annum. Requests for increases in base salary rate shall be submitted and approve by the Contract Administrator prior to being applicable to this contract. All invoicing shall be broken down in accordance with Owner's cost code of accounts as set forth in Exhibit "D".

2. Prior written approval of any proposed premium time and rates will be obtained by the Engineer from the Contract Administrator prior to the working of any such premium time. Premium time and rates are defined in Exhibit "B". It is contemplated that the work hereunder will be accomplished within the Engineer's regular work week and any premium time necessary would only be of an emergency nature or to accelerate the completion of work as might be requested by the Owner. Copies of all requests for premium time shall be sent to the Project Manager. Owner shall reimburse Engineer for the actual amount of any premium time incurred in the performance of the work which has been approved as herein provided.

A schedule of job classifications, together with current regular time base salary rates for time applicable and chargeable to the work, is attached to and is incorporated herein as a part of this contract. Engineer's employees shall be assigned to and perform work under this contract in their customary and regular job classifications.

3. Engineer shall be reimbursed by Owner for reasonable transportation, traveling and hotel expenses of the Engineer's officers or employees incurred in the discharge of duties connected with the work.

4. Engineer shall be reimbursed by Owner for actual expenses for telegrams, telephone service, expressage and other petty cash items directly chargeable to the project.

5. Engineer shall be reimbursed by Owner for all sales, use and/or excise taxes when applicable and for insurance premiums on supplementary professional liability insurance specific to the project requested and approved by the Owner.

6. Engineer shall be reimbursed by Owner for permit fees and royalties, but only in the event and to the extent that the Owner has given specific written approval for such fees and royalties in advance to the engineer.

7. Engineer shall be reimbursed for the cost of subsurface drilling and exploration, land or topographic surveys or similar undertakings, material tests and the cost of specialized consulting services in the event a problem warranting them is encountered, and with prior written approval from the Owner.

8. Charges for reproduction of drawings and other documents will be as set forth in Exhibit "C". Charges will not exceed standard commercial rates for reproductions.

9. All work related expenses incurred by the Engineer and to be reimbursed by the Owner as listed under IV-B 3, 4, 5, 6, 7, 8, shall be presented to the Owner for approval on a monthly basis and be supported by the necessary vouchers and receipts.

V. CHANGES

The Engineer shall advise the Contract Administrator, with a copy to the Project Manager, of the amount of the estimated addition to the estimated cost, time requirements and effect on completion schedules as a result of any changes requested by the Owner or proposed by the Engineer. The Engineer will not proceed with such changes until authorized by the Contract Administrator in writing. The provisions of this contract shall apply to any such changes and the estimated cost in IV above and the time for completion in III above shall be changed in accordance with such estimated costs and time requirements as have been approved in writing by Contract Administrator. Any changes which are performed without prior written authorization and which will cause the cost to exceed the "Not to Exceed Estimate" shall be for the Engineer's account.

VI. PAYMENT

A. Monthly Reimbursement

The Engineer shall, as soon as possible at the end of each calendar month, mail to the Contract Administrator a statement in triplicate showing the total cost of all manhours expended by their personnel during the previous month, including separately and in detail money expended for other items included in the cost of work. Upon such verification as the Owner deems necessary of the cost of work set forth in the monthly statement, the Owner will pay to the Engineer 100 per cent of the amount of the cost of the work as set forth in such statements.

B. Final Payment

The final payment of any sums due to Engineer shall be made to the Engineer upon the completion of the work and the acceptance thereof by the Owner and after an audit and adjustment, if any, of the cost of work satisfactory to the Owner and after the submission by the Engineer to the Owner of a final detailed statement supported by such evidence, affidavits and documents as are requested.

C. Payment - Not Approval

The monthly reimbursements of the cost of work and the final payment shall not be construed as the Owner's approval of the costs of the work as set forth in such statements or approval or acceptance of the work.

D. Withholding Payments

The Owner may withhold payment to such an extent and for so long, as may be necessary in the opinion of the Project Manager and Contract Administrator to protect the Owner from loss on account of:

1. Engineering drawing errors or design errors or deficiencies not corrected by the Engineer.
2. Nonpayment by Engineer of money due (failure of the Engineer to make payments properly) for services by others related to the project and requested by the Engineer.

3. Any liens against the Engineer.

E. Documentation

All statements are to be referenced to Owner's Purchase Order Number MEP 101 .

VII. RIGHT TO AUDIT

A. Books and Records

Engineer agrees to maintain records, books, documents and other supporting evidence pertaining to the cost of the work to the extent and in such detail as will properly reflect on a consistent basis all costs of materials, labor and services. Engineer agrees to preserve such records, books, documents and other supporting evidence until two years after final payment is made by the Owner.

B. Inspection

Owner, through such of its employees as it shall from time to time designate, shall have the right at any reasonable time to enter upon the premises of the Engineer and to inspect the records necessary to audit the Engineer's cost of the work to verify that such costs have been computed and allocated in accordance with good accounting practice. Engineer agrees to cooperate with the Owner of the rights herein granted.

VIII STATUS REPORTS

A. Schedules

The Engineer shall promptly, after the execution of this contract, submit a report of estimated progress indicating dates for the starting and completion, the number of manhours and costs for various stages of the work in form satisfactory to the Owner to enable the Owner to compare such estimated progress, costs and manhours with Engineer's monthly progress as required below.

B. Reports

The Engineer will submit monthly engineering progress reports of the

following information. Such information and reports shall incorporate any changes or modifications to the work which have been authorized by the Owner.

1. Engineering Progress - by 5th of each month

   a. Bar charts, illustrating the actual progress as related to the scheduled progress for the date of report per drawing categories established for the contract.

   b. List actual percent completed to date versus scheduled percent complete that date.

   c. Show projected completion date if other than that scheduled.

2. Cost Status - by 20th of each month

   a. Note cost of work incurred to date.

   b. Note estimated cost of work scheduled to date.

3. Manhours - by 5th of each month

   a. Note actual manhours expended to date.

   b. Note estimated manhours scheduled to date.

4. Problem Areas and Major Area of Activity

   a. Note all problem areas and action required to eliminate same.

IX LIAISON AND COMMUNICATIONS

A. Technical Communications

All technical liaison correspondence such as engineering specifications, drawings, etc. for Owner are to be sent to the Project Manager at the address set forth in the "Definition" above.

B. Commercial Communications

All notices and any questions and correspondence relating to the commercial aspects of the contract for Owner or any other notice or communication not otherwise specifically provided for shall be sent to the Contract Administrator at the address set forth in the "Definition" above with copy to the Project Manager.

C. Communication with Engineer

All correspondence and notices from the Owner relating to the engineering aspects of the contract shall be sent to the Engineer as follows: Sandwell International Inc., Attention T. C. Valo.

D. Purchase Order Reference

All correspondence between the Engineer and the Owner is to be referenced to Owner's purchase order number MEP 101.

X OWNERSHIP OF WORK

The title to all work completed and in the course of design or detailed engineering shall be in the Owner. Drawings, original tracings, equipment specifications and any and all other reports prepared by the Engineer under this contract shall be turned over to the Owner (for self-protection) at the time the work is completed or upon termination of this agreement, whichever occurs earlier. The Engineer shall be entitled to retain one copy of all such documents turned over to the Owner, and shall be free to refer to such documents in the course of executing any and all work on which the Engineer might be later engaged.

XI ENGINEER'S STATUS AND EMPLOYEES

A. Independent Contractors

The Engineer shall perform the work as an independent contractor and all of its employees engaged in the performance of the work shall be supervised and controlled exclusively by the Engineer.

B. Compliance with Owner's Rules

The Engineer and its employees shall comply with the rules and regulations of the Owner regarding their personal conduct on the premises of the Owner.

C. Compliance with Rules, Laws and Regulations

During and in the performance of the work, the Engineer will comply with all rules, regulations, ordinances, and laws relating to such

Engineering work, including professional licensing or registration requirements, provisions of any social security or unemployment insurance laws, state or federal, EEOC regulations, and the provisions of applicable workmen's compensation laws and will indemnify and hold Owner harmless against any liability, contribution or taxes payable under any of said laws.

XII INSURANCE HOLD HARMLESS

The Engineer indemnifies owner from any and all costs, liabilities, or claims whether on account of bodily injury or death, and/or property damage to any person or thing including employees of Engineer and Owner caused by the negligence of Engineer's employees, its subcontractors or their employees, and at Engineer's sole expense will defend any and all actions based thereon and pay all attorney's fees, costs and expenses arising therefrom, and Engineer will supply certificates of insurance that it carries:

Worker's Compensation and Employer's Liability Insurance at the statutory limit for the state in which work is performed, and in conformity of applicable law for its employees; Comprehensive Public Liability Insurance covering injury or death to persons and to property with limits of $1,000,000 per occurrence; Automobile Liability Insurance covering injury or death to persons or property with limits of $1,000,000 one person and $1,000,000 per occurrence. The liability insurance coverage shall be on an occurrence basis rather than on an accident basis. Engineer shall maintain current existing Professional Liability Insurance in the amount of $2,000,000 and shall arrange for additional supplemental specific coverage for the project of $2,000,000.

The above insurance is for the intent and purpose of holding the Owner harmless. The Engineer's liability shall be limited to the amount of actual coverage by insurance.

In no event shall the Engineer be liable for loss or damage occasioned by delays beyond the Engineer's control, changes to designs or operating methods by the Owner, loss of earnings or other consequential damages.

XIII PATENT INDEMNIFICATION

The Engineer will indemnify and hold the Owner harmless against any and all demands and claims on account of infringements or alleged infringements of patented or allegedly patented articles or inventions used on or for the work or specified or called for in any construction drawings and at its own cost and expense defend any and all suits which may be brought against the Engineer or the Owner on account of such infringements or alleged infringements and pay any and all expenses (including attorney's fees) and costs and damages resulting therefrom. The Engineer shall not, however, assume any liability for patent infringements with respect to any articles or invention which is specifically required to be used by the Owner's instructions or with respect to any article to be supplied by an equipment vendor if the design and specification for such article is prepared by such vendor and not the Engineer unless the Engineer has knowledge of the infringing nature for such use.

XIV CORRECTION OF ENGINEERING

The Engineer shall perform all necessary work to correct all drawing errors, omissions and deficiencies in its work at its own expense, not as a cost of the work.

XV TERMINATION

If at any time the Owner shall determine that it is inadvisable or impossible to continue the execution of the Project, the Owner shall have the right to terminate the services of the Engineer hereunder by giving the Engineer one clear calendar month's notice in writing of its

intention to do so. In the event of the services of the Engineer being so terminated, the provisions of paragraph IV in regard to payment shall continue in force throughout the termination period.

XVI CONSTRUCTION OF CONTRACT - WAIVER

This contract shall be construed according to the laws of the State of Oregon. The waiver by the Owner of any term or condition of any performance required of Engineer hereunder shall not be construed as the waiver of future performance, either of the same or of a dissimilar obligation of the Engineer.

XVII ASSIGNMENT

Neither the contract nor the right to receive any monies due to the Engineer under this contract is assignable by the Engineer without the written consent of the Owner.

XVIII ENTIRE AGREEMENT

No changes or modifications shall be made to this contract unless reduced to a writing which clearly states it is an amendment or change to this contract and which is signed by both parties hereto.

XIX HEADINGS

The headings and titles of the various sections or paragraphs are used in this contract only for the purpose of convenient reference.

EXECUTED IN TRIPLICATE by authorized representatives of the parties hereto as of the date first set out above.

CHAMPION INTERNATIONAL CORPORATION

By Robert Eugene Griffith

Title Contract Administrator

Date Signed 6-16-78

SANDWELL INTERNATIONAL INCORPORATED

By [illegible]

Title PRESIDENT.

Date Signed 16 Jun '78

ENGINEERING CONTRACT

PHASE II EXPANSION

Between

CHAMPION INTERNATIONAL - HOERNER WALDORF DIVISION

and

SANDWELL INTERNATIONAL INCORPORATED

EXHIBIT A

SCOPE OF WORK

The owner intends to increase the production at the existing plant facilities near Missoula in the State of Montana to 1970 FTPD of liner board from purchased wood waste chips and sawdust by installing new production equipment and reactivating and modifying existing equipment which generally consists of:

-Chip Handling Modifications
-Brown Stock Washing and Screening Additions
-Evaporation - 335,000 #/hr.
55,000 #/hr. concentrators

-400 ton Recovery Boiler and Precipitator
-Causticizing Plant Additions
-Lime Kiln - 160 TPD Lime Product
-Waste Wood/combination Fuels Boiler with Related Fuel Handling Equipment and Scrubber
-Linerboard Machine and Stock Preparation Equipment - 1020 FTPD on 42 lb. Linerboard
-Warehouse and Shipping Facilities
-Site and Plant Service Additions

The above work is more specifically described in two following documents prepared in joint effort by Hoerner Waldorf and Sandwell:

1. "Phase II Expansion Capital Cost Estimate" dated 1 November 1977, 237 pages.

2. "Design Criteria - Phase II Expansion" dated 28 October 1977, 100 pages.

The above documents contain the detail scope, estimates, drawings, expansion schedule and mill design data which shall be considered part of this engineering contract.

ENGINEERING CONTRACT

PHASE II EXPANSION

Between

CHAMPION INTERNATIONAL - HOERNER WALDORF DIVISION

and

SANDWELL INTERNATIONAL INCORPORATED

EXHIBIT B

GROUP AVERAGE BILLING RATES AND

ESTIMATED TIME CHARGES

Category	Description	Est. Total Man Hours	Current Avg. Hourly Salary Cost Rates Effective 1 Jan 78	Current Avg. Project Billing Rates Effective 1 Jan 78 @ 1.90 Multiplier	Current Estimated Staff Charges
02	Senior Supervisor	17,000	$ 22.10	$ 42.00	$ 714,000
03	Supervisor & Sr. Specialist	31,000	17.35	33.00	1,023,000
04	Sr. Design Engr. & Specialist	29,000	14.30	27.20	789,000
05	Design Engineer	20,000	13.00	24.70	494,000
06	Intermediate Engr. & Sr. Technician	43,000	11.65	22.15	952,000
07	Junior Engineer	7,000	11.00	20.90	146,000
08	Sr. Draftsman & Technician	40,000	10.05	19.10	764,000
09	Intermediate Draftsman & Jr. Technician	36,000	7.70	14.60	576,000
10	Junior Draftsman	45,000	5.75	11.00	495,000
11	Stenographer & Clerk	12,000	6.35	12.00	144,000
TOTALS:		280,000			$ 6,047,000

Note: Premium time rates are same as project billing rates above.

ENGINEERING CONTRACT

PHASE II EXPANSION

Between

CHAMPION INTERNATIONAL - HOERNER WALDORF DIVISION

and

SANDWELL INTERNATIONAL INCORPORATED

EXHIBIT C

SCHEDULE OF EQUIPMENT AND REPRODUCTION RATES

EFFECTIVE 1 JANUARY 1978 UNTIL FURTHER NOTICE

1. Automobiles

All reimbursable mileage will be charged at the rate of 20 cents per mile.

2. U-Drive Automobiles, Commercial Airlines, Chartered Sea and Air Craft

All reimbursable expenses will be charged at cost.

3. Xerox Copies

All reimbursable expenses will be charged at 08 cents per copy.

4. Blueprints

All reimbursable expenses will be charged at rates not to exceed commercial rates. Present rates charged per copy are:

	A-Size (8-1/2" X 11")	B-Size (11" X 17")	D-Size (24" X 30")	E-Size (30" X 42")
Blueline	$ .10	$ .15	$ .40	$ .60
Sepia - Paper	$ .35	$ .75	$ 2.10	$ 2.70
Sepia - Mylar	$ .50	$ 1.00	$ 2.85	$ 4.25

5. Computer Services

Computer Services will be billed at two times the hourly charges incurred.

1:30 pm
TUES.

VOLUME I

SECTION 1 - AGREEMENT

Exhibit 14

SANDWELL

PROJECT W4221
PHASE II EXPANSION

SPECIFICATION 9701-1004
GENERAL CONTRACT

HOERNER WALDORF DIVISION
CHAMPION INTERNATIONAL CORP.
MISSOULA MONTANA

DATE 24 AUGUST 1978

VOLUME I - CONTRACT DOCUMENTS
SECTION 1 - AGREEMENT

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AGREEMENT

FIXED FEE (COST REIMBURSABLE-GUARANTEED MAXIMUM COST) BASIS

THIS AGREEMENT, made on the 30th day of June, 1978 by and between Champion International Corporation, a New York Corporation, hereinafter referred to as the "Owner", and Hoffman-Wallace, a Joint Venture, hereinafter referred to as the "Contractor".

WITNESSETH, that the Owner and the Contractor for and in consideration of the mutual promises and agreements, receipt herewith acknowledged, hereinafter set forth, agree as follows:

ARTICLE 1 - SCOPE OF WORK

The Contractor, under the direction and to the satisfaction of the Owner, shall furnish all of the supervision, labor, equipment, materials, supplies, transportation, tools, facilities, and incidentals not furnished by the Owner, meet all tests and guarantees, and do all things as required by this Agreement to complete the work shown on the existing drawings and described in existing plans and specifications and other documents and written instructions forming a part of the Contract Documents listed or referred to in ARTICLE 2 hereof and forming a part hereof, and such subsequent drawings, plans, specifications and written instructions as are hereafter issued in extension and development of the details of the project entitled Hoerner Waldorf Division, Champion International Corporation, Missoula, Montana; Phase II Expansion.

ARTICLE 2 - DEFINITION OF CONTRACT DOCUMENTS

Documents Included

The following enumerated documents are incorporated herein by reference and made a part hereof as fully as if set forth at length herein; such documents, together with this Agreement, constitute Contract Documents and they form the entire contractual relationship as agreed upon by the parties.

a. Contractor's Engineering and Construction Schedule, Volume I, Section 4.

b. General Conditions entitled General Conditions of Cost Reimbursable Construction Contract, Volume I, Section 2.

c. Special Conditions, Volume I, Section 5.

d. Detailed Technical Specifications entitled Specification 9701-1004, Revision 1, dated 24 August 1978.

e. Form for Acceptance by Owner of Work Completed, Volume I, Section 3.

f. Addenda numbered 1 to 5, inclusive, Volume II, Section 9.

g. Minutes of Meetings No. 112, 158 amd 173, Volume II, Section 9.

Amendments hereto and Change Orders issued hereunder, as well as detailed specifications and drawings hereafter issued, shall, upon execution or issue, be considered as incorporated in this Agreement and will be contained in Volume VI.

ARTICLE 3 - TIME OF COMMENCEMENT AND COMPLETION

The work to be performed under this Agreement shall be started on or about July 1, 1978, and shall be completed on or before July 30, 1980.

ARTICLE 4 - COMPENSATION

4.1 Total Compensation

A total compensation for complete performance under this agreement and other Contract Documents unless otherwise specified herein, the total compensation shall be comprised of a FIXED FEE in the sum of One Million Eight Hundred Ninety Six Thousand Dollars ($1,896,000.00) and reimbursement for the cost of the work and rental of construction plant and equipment as provided in ARTICLES 5 and 6 of the Agreement, all with a Guaranteed Maximum Cost of not to exceed Thirty Nine Million Four Hundred Sixty Six Thousand Dollars ($39,466,000.00).

4.2 Adjustment for Electrical Bid

The Fixed Fee of $1,896,000.00 and the Guaranteed Maximum Cost of $39,466,000.00 set forth in Article 4.1 are based upon an electrical subcontract guaranteed maximum price of $7,071,000 plus cost of sub bonds at $49,000.00.

10/26/78 Letter Griffith to Dunkelmann

Inasmuch as there is no certainty that electrical work will be completed according to the bid, and the electrical cost could be increased as a result, if such increases are unavoidable, the parties agree that the GMC will be increased in the amount of 55% of such excess cost up to $8,000,000 and the Fixed Fee will be reduced by 45% up to $8,000,000 as a result of unanticipated increases in the electrical subcontract cost. If the excess cost goes above $8,000,000, the GMC will be increased by 100% of the excess cost with no reduction in Fixed Fee.

ARTICLE 5 - REIMBURSEMENT FOR COST OF WORK

5.1 Reimbursement Details

The Owner shall reimburse the Contractor in the manner hereinafter provided for such of its actual expenditures made in good faith and reasonably necessary in the performance of the work as approved by the Contract Administrator as specifically provided in Contract Documents and as are included in the following items or as provided in the Contract Documents.

5.1.1 Labor, Equipment and Materials

All labor, equipment, materials, and supplies necessary for either temporary or permanent use for the benefit of the work; but this shall not be construed to relate to the rental of construction plant and equipment which is covered in Paragraphs 5.1.3 - 5.1.6 of this Article.

5.1.2 Subcontracts

All subcontracts shall be made and approved in accordance with the provisions of the Contract Documents.

5.1.3 Rental for Contractor Owned Equipment

Contractor owned construction equipment at a rate equal to 75% of the latest Associated Equipment Distributors Rental Schedule. (Rental rates are without an operator.) Repairs included in these rates are those for normal wear and tear as described in the AED Rental Schedule.

5.1.4 Rental for Non-Owned Equipment

Rental rates for non-owned equipment used by Contractor shall be paid for at Contractor's cost.

5.1.5 Rental Limitation

For Contractor owned construction equipment, Owner shall pay rental on each item of equipment until such rental equals the replacement value of that item of equipment. Thereafter, no rental shall be charged for that item of equipment and in lieu thereof, Owner shall pay costs of all repairs.

5.1.6 Equipment Insurance

The Contractor shall carry insurance against loss or damage to such of its construction plant and equipment as it uses in the prosecution of the work and the cost of such insurance shall not be reimbursable as it is included in the rental rate.

5.1.7 Owner Supplied Equipment

If the Owner furnishes or supplies any construction plant and equipment, the Contractor shall not be allowed any rental therefor and shall receive no fee for the use of such plant and equipment, but the Contractor shall be reimbursed for the actual cost of necessary maintenance and repairs actually made thereon during the course of the work.

5.1.8 Small Tools

Contractor shall supply all small tools with a replacement value of less than $400 and be paid an allowance of 4% of all job site salary and labor costs including all ADD-ONS. Above labor costs shall not include that of direct or referred subcontractors.

5.1.9 Loading and Unloading of Equipment

Loading and unloading construction plant and equipment, owned by the Contractor or others, the transportation thereof to and from the place or places where it is to be used in connection with the work, and the installation and dismantling thereof.

5.1.10 Transportation of Employees

Transportation and expenses to and from the work of the necessary field forces for the economical and successful prosecution of the work, procuring labor, and expediting the production and transportation of materials and equipment. Expenses incurred in transporting employees to and from the work shall have the advance approval of the Construction Manager.

5.1.11 Salaries of Field Employees

Salaries of resident engineers, superintendents, timekeepers, foremen and other field employees of the Contractor employed at the job site to prosecute the work. In case the full time of any such field employee of the Contractor is not applied to the work under this Contract but is divided between this and other work, his salary shall be included in this item only in proportion to the actual time applied to this work.

5.1.12 Subsistence/Relocation

Cost of relocating Contractor's regular employees, which are assigned full time to the prosecution of the work, in accordance with Contractor's standard moving policy. At Contractor's option, in lieu of relocating an employee, Owner will pay cost of employee travel and subsistence in accordance with Contractor's standard policy.

5.1.13 Employee Fringe Benefits

In lieu of Owner paying actual cost of social security contributions, unemployment and payroll taxes, worker's compensation insurance, medical, sick pay and life insurance, vacation pay, employee benefit plans and other fringe benefits for Contractor's salaried and non-craft hourly employees, Owner will pay 48% of such employee's salary to cover the cost of the foregoing items.

Actual cost of social security contributions, unemployment and payroll taxes, worker's compensation insurance, vacation pay, and other taxes, assessments and benefits as required by law or labor agreements for Contractor's laborers and craft employees at the job site and for that proportion of time spent on the project.

5.1.14 Field Offices and Services

Cost of constructing, leasing or rental of buildings required for field offices, tool rooms and crew shacks and cost of operating such facilities, including utilities, telephone, expressage, postage, office supplies, and office equipment as well as warehousing. If such expenditures are not incurred exclusively in support of the work covered by this Contract, they shall be included in this item only to the extent of that proportion therof properly allocable to the work under this Contract.

5.1.15 Home Office Costs

In lieu of paying actual costs incurred in connection with the work by the Contractor at its home office in keeping personnel and employee earnings records; in making payrolls, taxable wage and government reports, payroll checks and bank reconciliations; and in rendering accounting and auditing services; Owner will pay 1.25 percent of all job site salary and labor costs including all ADD-ONS. Above labor costs shall not include that of direct or referred subcontractors.

5.1.16 Unprotected Losses

Such fire, liability, worker's compensation and other insurance, as well as bonds, as hereinafter provided or as the Contract Administrator may approve or require; and such losses and expenses, not compensated by insurance or otherwise, as are found and certified by the Contract Administrator to have been actually sustained (including settlements made with the written consent and approval of the Contract Administrator) by the Contractor in connection with the work, and to have clearly resulted from causes other than the fault or neglect of the Contractor. Such losses and expenses shall not be included in the cost of the work in determining whether the Contractor's Fixed Fee should be increased because of alleged increase in the scope of the work or in determining whether the Guaranteed Maximum Cost of the work has been exceeded. The cost of reconstructing and replacing any of the work destroyed or damaged, by causes in no way flowing from the fault or neglect of the Contractor,

shall be included in the cost of the work for the purpose of reimbursement to the Contractor, but not for the purpose of determining the Contractor's Fixed Fee or whether the Guaranteed Maximum Cost of the work has been exceeded.

5.1.17 Taxes, Duties and Tariffs

To the extent properly allocable to the cost of the work under this Agreement and approved by the Contract Administrator, all privilege, business, payroll, occupation, gross receipts, sales, use, consumer and similar taxes; all duties and tariffs imposed by applicable law; and all assessments or charges for social security, medical, retirement, and unemployment benefits imposed by applicable law, except as otherwise stated herein.

5.1.18 Incidental Expenses

Permit fees, deposits, royalties, and other similar items of expense incidental to the performance of the work, and necessarily incurred. Expenditures under this item must be approved in advance by the Contract Administrator.

5.1.19 Special Staff Expenses

Such proportion of the transportation, travel and hotel expenses of officers, engineers, and other key employees or agents of the Contractor as is approved by the Contract Administrator and as is actually and appropriately incurred in connection with the work and properly allocable thereto.

5.1.20 Incidental Overhead

Without duplicating any cost provided for under this ARTICLE 5, Owner will pay the reasonable and necessary charges for job photographs, reproduction of drawings, first aid, and temporary fire protection, sanitation and temporary utilities.

ARTICLE 6 - SPECIAL CIRCUMSTANCES EFFECTING COSTS

6.1 Owner's Right to Pay or Purchase Directly

The Owner reserves the right to purchase direct from suppliers or manufacturers any equipment, materials, tools, supplies or services necessary for the completion of the work. Also, it reserves the right to pay direct to subcontractors and suppliers for work, equipment, materials, tools and supplies of all kinds procured by the Contractor for installation or for consumption in the course of the work under this Contract, as well as pay direct to common carriers freight thereon.

6.2 Contractor's Reimbursement and Approvals

The Contractor shall be reimbursed under ARTICLE 5 for such payments and charges of this character (as noted in Article 6.1 above) as it shall pay; provided that charges for transportation of construction plant and equipment, owned by the Contractor or third parties, over distances in excess of 500 miles shall require the special advance approval of the Contract Administrator. Subcontracts and orders for equipment, materials or supplies involving more than $10,000, construction plant and equipment rental agreements covering third-party equipment involving rental of more than $3,000, and arrangements for placing Contractor-owned construction plant and equipment on the work

where more than $3,000 of rental may accrue to the Contractor, as well as other expenditures, transactions and subcontracts involving more than $5,000, shall be approved in advance by the Contract Administrator, in which case such approval shall constitute approval of such expenditures.

6.3 Conflict of Interest

Expenditures by the Contractor for equipment, materials, tools, supplies or services, as well as those for the rental of contruction plant and equipment, purchased or rented from a company, firm or organization in which the Contractor, or any of its officers, engineers, superintendents or other key employees have any interest, directly or indirectly through members of their immediate families or otherwise, shall not be reimbursable under this Contract, unless each such purchase or rental shall have been approved in advance in writing by the Contract Administrator following receipt by him of a written report by the Contractor setting forth the essential details and nature of such direct or indirect interest.

6.4 Salaries of Executives and Interest on Capital

No salaries of the Contractor's executive officers, no part of the expenses incurred in conducting the Contractor's main office, or regularly established branch office, and no overhead expenses of any kind, except as specifically stated herein shall be included in the cost of the work. Interest on capital employed or on borrowed money, shall not be included in the cost of the work.

6.5 Discounts and Rebates

The Contractor, to the extent of its ability, shall take advantage of all discounts, refunds and rebates available, and when unable to take such advantage shall promptly notify the Contract Administrator of its inability to do so and its reasons therefor. Cash discounts if any will accrue and be retained by Contractor.

6.6 Salvaged Materials

Materials salvaged from temporary or permanent installations, to the extent practicable and as directed by the Construction Manager after consultation with the Contractor, shall be used in new construction to reduce reimbursable costs. Scrap developed in the demolition of or in making alterations in temporary or permanent installations shall be sold and disposed of by the Contractor, at the direction of and with the prior general or specific approval of the Construction Manager as to each item or items as a category as he may require. The proceeds therefrom shall be reported to the Contract Administrator as a reduction of reimbursable costs.

6.7 Reimbursement-Use and Occupancy by Owner

If Owner takes use or occupies any part of the work under SECTION 42 of General Conditions and if such use or occupancy results in any increase in cost and/or delay in completion Guaranteed Maximum Cost and/or Fixed Fee and/or time for completion will be equitably adjusted accordingly.

ARTICLE 7 - REIMBURSEMENT-OWNER'S TERMINATION FOR CONVENIENCE

In the event this Contract is terminated under the provisions of SECTION 31 of the General Conditions:

7.1 The Owner shall reimburse the Contractor for all costs which are reimbursable under ARTICLE 5 for which payment has been made by the Contractor after the date of this Agreement and prior to the effective date of the notice of termination and which have not previously been reimbursed; and the Owner shall also reimburse the Contractor for such of its costs, as the Contract Administrator may approve, in connection with the termination, including, but not limited to, those incurred in negotiating settlements of orders and subcontracts, and storage of property.

7.2 The Owner shall reimburse the Contractor for amounts paid, with the approval of the Contract Administrator, to terminate obligations and commitments directed to be terminated by the Contract Administrator.

7.3 The Owner shall also pay to the Contractor such proportionate part of the Contractor's Fixed Fee as is then due and unpaid and such further amount as is estimated would have been due the Contractor, had the work proceeded, on the 20th day of the month next following the month in which the Contract is terminated.

7.4 Upon the payment of the amounts provided in this ARTICLE, the Owner shall have no further obligation to the Contractor under this Agreement.

ARTICLE 8 - GUARANTEED MAXIMUM COST

8.1 Guaranteed Maximum Cost Defined

Notwithstanding the provisions of ARTICLES 4 and 5, the Contractor guarantees that the maximum amount to be paid by the Owner, including the Contractor's Fixed Fee, reimbursable costs of the work and rental for use of the Contractor's construction plant and equipment, hereunder referred to as "Contract Costs", shall not exceed Thirty Nine Million Four Hundred Sixty Six Thousand Dollars ($39,466,000.00), which figure is referred to in this Agreement as the "Guaranteed Maximum Cost". If changes in the work are ordered under ARTICLE 9 of this Agreement which increase or decrease the cost of the work in an amount as determined in accordance therewith, or the parties hereto by supplemental agreement increase or decrease the work with resultant increase or decrease in the cost of the work in an amount agreed upon in such supplemental agreement, the Guaranteed Maximum Cost shall be increased or decreased accordingly, and which adjusted figure shall then become the Guaranteed Maximum Cost under this Agreement.

8.2 Incentive Compensation

The Contractor shall be entitled to receive as incentive compensation from the Owner, within 30 days after final acceptance of the work, an amount equal to 45% of the difference between the total actual costs and the Guaranteed Maximum Cost as finally adjusted.

ARTICLE 9 - CHANGES IN SCOPE OF PROJECT AND GMC

9.1 Changes in Scope

9.1.1 The Contractor and Owner acknowledge that the Guaranteed Maximum Cost set forth under ARTICLE 4 of this Agreement was developed based upon the drawings and specifications set forth in the bid documents and as set forth in the Minutes of Meeting 158 (June 26 and 27, 1978). The parties further acknowledge that such drawings and specifications are not adequate in every respect to allow for the construction of the Project. Accordingly, the Engineer with Owner's approval will as necessary issue additional drawings and specifications to clarify the work required and missing details. Neither Owner nor Contractor will seek an adjustment in the Guaranteed Maximum Cost due to such clarifications or details so long as the work required by such clarifications and details could have been reasonably contemplated by the parties and is consistent with industry standards for a construction project of this type located in the States of Washington, Oregon, Idaho and Montana.

9.1.2 The Construction Manager may order minor changes in the work so long as such minor changes do not materially increase the number of manhours or cost of material required to the Contractor and can be performed in the normal course of the job. The Contractor will not request an adjustment in the Fixed Fee or the Guaranteed Maximum Cost (GMC) specified under ARTICLE 4 for performing minor changes.

9.1.3 Extra work is defined as any of the following:

9.1.3.1 Any work required by clarifications or details that could not have been reasonably contemplated by the parties as set forth in Article 9.1.1 above.

9.1.3.2 Any changes in the work which materially increase the number of manhours or cost of material or cannot be performed in the normal course of the job.

9.1.4 A substitution is defined for the purposes of this Article as a replacement of equipment, manhours or material previously specified and changed to a like or substantially similar nature to that which was previously specified.

9.2 Extra Work

The Contract Administrator, without invalidating the Contract Documents and without notice to the sureties, may order extra work as defined above, a substitution as defined above or make changes therein by altering, adding to or deducting from the work; provided, however, that the Contract Administrator shall not order any such change until he has requested of and received from the Contractor a detailed engineering estimate showing the increase or decrease in costs which would result from such proposed change in the work. The work as altered, added to or reduced by such change order shall be executed under the terms and conditions of this Agreement. Except in an emergency endangering life or property, the Contractor shall not comply with nor perform any work whatsoever in pursuance of a purported Change Order by the Construction Manager, unless issued by

him in writing; and, except in the case of such emergency, the cost of any work done in advance of the receipt of a Change Order so issued in writing and in accordance with all the procedure set forth in this Article shall not be reimbursable to the Contractor. No claim for an adjustment in the GMC, for an extension of time for completion, or for an increase in the Fixed Fee shall be considered or allowed by the Contract Administrator unless based on a Change Order so issued in writing.

The Construction Manager shall have authority to issue with finality only field orders directing minor changes within the scope of the work and which do not involve an adjustment in the GMC, an extension of time for completion, or an increase in the Fixed Fee.

9.3 Procedure for Adjustment of GMC and/or Fixed Fee

There shall be an adjustment in the Guaranteed Maximum Cost, up or down as the case may be, only where there is a demonstrable enlargement or reduction in the cost of the work resulting from a Change Order. If a Change Order effects a change in the scope of the work by requiring a demonstrable amount of "extra work", as that phrase is defined in Article 9.1.3, there shall be an adjustment in the GMC and/or Fixed Fee as provided in 9.3.1 below.

9.3.1 Adjustment of GMC and/or Fixed Fee

If the Contractor performs extra work, change order work or substitution work as set forth in this Article, the GMC and/or Fixed Fee will be adjusted as follows:

9.3.1.1 If any extra work, change order work or substitution results in a net increase in costs to Contractor, the

GMC will be increased by the total of the following: (a) total estimated additional costs plus (b) 10% of such costs for overhead plus (c) 5% of such costs for fee. The Fixed Fee will be increased accordingly.

9.3.1.2 If any change order or substitution results in a net decrease in costs to Contractor, the GMC will be decreased by the estimated costs saved by Contractor with no adjustment in the Fixed Fee.

9.4 Contractor Application for Increased Compensation

If the Contractor believes it is entitled to an increase in the Guaranteed Maximum Cost or in the Fixed Fee or to an extension of time for completion as a result of a Change Order, extra work or substitution, it shall delay compliance therewith, pending instructions by the Contract Administrator, and shall with all deliberate speed prepare and file with the Contract Administrator, with a copy to the Project Manager, its request, signed by the designated representative of the Contractor, for appropriate relief, together with a copy of its detailed engineering estimate theretofore filed with the Construction Manager, setting forth the basis with complete supporting evidence of its claim for an increase in the GMC and/or in the Fixed Fee and/or for an extension of time for completion, as the case may be.

Pending consideration of the request, the Contractor will proceed in compliance with the Change Order, extra work or substitution only if ordered so to do by the Contract Administrator in writing.

ARTICLE 10 - EXTENSION OF TIME

10.1 Beyond Control of Contractor

The period of time for completion set forth in this Agreement shall be extended in an amount equal to the time lost due to causes which could not have been foreseen or were beyond the control of the Contractor, and which were not the result of its fault, negligence or deliberate act. Extension of time for completion shall also be allowed for delays in the progress of the work caused by an act or omission on the part of the Owner, its officers, agents or employees and for any other cause which in the opinion of the Project Manager entitles the Contractor to an extension of time, including but not restricted to acts of God, acts of the public enemy, acts of any government in either its sovereign or proprietary capacity, acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, freight embargoes, unusually severe weather, or labor disputes. If the cost of the work is increased by any cause which entitles Contractor to any extension of time and is caused by an act or omission of Owner, Contractor will be entitled to an equitable adjustment in the Guaranteed Maximum Cost and/or Fixed Fee as well as the extension of time.

10.2 Contractor's Request

The Contractor shall notify the Project Manager within seven days of any occurrence, other than a Change Order requiring extra work which is governed by ARTICLE 9, which in the Contractor's opinion entitles it to an extension of time for completion. Such notice shall be in writing and no extension of time shall be considered or allowed for such alleged delays occurring more than seven days before a claim therefor is made in writing to the Project Manager.

ARTICLE 11 - LABOR RATES AND OVERTIME PAY

11.1 Premium Pay for Labor Shortage

In the event that circumstances of the local labor market cause a labor shortage of skilled crafts or other manpower necessary to keep the project on schedule and it becomes necessary to schedule overtime or make other incentive payment to alleviate the shortage of crafts, the Contractor shall notify the Contract Administrator after advising the extent of his efforts to secure personnel and shall give an estimate of additional premium costs and if approved by Contract Administrator such premium costs shall be paid by Owner and shall not be included in Guaranteed Maximum Costs.

11.2 Casual Overtime

Casual overtime is defined as incidental, non-scheduled overtime necessary in the normal course of the job to complete daily activities. Casual overtime is a reimbursable labor cost under ARTICLE 5 and does not require prior approval. Casual overtime will not result in an increase in the Guaranteed Maximum Cost.

11.3 Scheduled Overtime

If the Project Manager desires to accelerate the final completion of the work by scheduling overtime, the Contractor shall, at the request of the Contract Administrator, prepare a detailed estimate of the increased labor cost of such proposed acceleration and submit it to the Contract Administrator. Following consideration of such estimate, if the Contractor and the Contract Administrator agree to accelerate the completion date of the work, the extent of the acceleration and the amount by which the Guaranteed Maximum Cost should be increased, the

Contractor shall accelerate the completion date of the work accordingly and the Guaranteed Maximum Cost shall be increased by the agreed amount. Such additional costs shall be referred to as Scheduled Overtime. The Fixed Fee shall be increased because of acceleration as provided herein.

11.4 Overtime Due to Negligence

If prosecution of the work falls behind the operations schedule approved by the Contract Administrator due to the fault or neglect of the Contractor, nothing contained in the Contract Documents shall be construed as entitling the Contractor to reimbursement for any payment whatsoever for the cost of the premium portion of such overtime as the Contractor may necessarily incur or pay in order to fulfill its obligation to complete the work within the requirement of such operations schedule.

ARTICLE 12 - TITLE TO WORK AND ITEMS PURCHASED

Title to all work completed and in the course of construction shall be in the Owner and title to all equipment, materials and supplies for which the Contractor shall be entitled to reimbursement under the terms of the Contract Documents shall vest in the Owner when delivered to the Owner's premises at the site of the work. Title to equipment, materials and supplies removed from existing locations, whether or not specified for use in the performance of the work, shall remain in the Owner. All equipment and materials shall be neatly placed by the Contractor at locations as directed by the Construction Manager. In the event the Contractor shall be reimbursed with the special written of the Contract Administrator as provided in Article 15.2 for payments actually made for equipment and materials as delivered to the Contractor at locations other than the site of the work, title thereto shall vest in the Owner at the time of such reimbursement.

See 5.1, Same language

ARTICLE 13 - SUBCONTRACTORS

13.1 Advance Notice of Subcontractors

As soon as practicable and before going out for bids for any subcontract, the Contractor shall submit to the Contract Administrator, for approval, pursuant to SECTION 40 fo the General Conditions, a list of proposed bidders for each phase of the work to be subcontracted.

13.2 Cancellation of Subcontracts

If during the course of the work the Contract Administrator finds the continued presence of a subcontractor on the job site to be inimical to the best interests of the Owner and so notifies the Contractor in writing, the Contractor shall cancel its contract with the subcontractor and direct it to remove all of its employees, construction plant and equipment, and materials and supplies from the job site within such specified time as may be mutually agreed upon by the Contractor and the Contract Administrator. Upon a similar direction by the Contract Administrator, the Contractor shall cancel any subcontract or order for performance or fulfillment at another location. Any cost, loss or damage incurred by Contractor in complying with such directons shall be paid by Owner and shall not be included in the Guaranteed Maximum Cost.

ARTICLE 14 - RECORDS AND AUDITING

14.1 Contractors Accounting Procedures

The Contractor shall check all materials and labor entering into the work and shall keep, during the progress of the work and preserve for one year after final settlement, such records and books of account as may be

necessary to proper financial management providing accurate and detailed accounts of all materials and labor entering into the work and all disbursements made in the performance of the work, and the Contractor shall give all of the Owner's representatives aiding in the administration of this Contract, including its auditors, timekeepers and clerks access at any and all times to all books, accounts, documents, vouchers, receipts, memoranda and correspondence of the Contractor which pertain to the execution of this Contract. The system of accounting employed by the Contractor shall be such as is satisfactory to the Contract Administrator and shall be consistent with the Owner's property accounting methods and procedures.

14.2 Owner Audit

If the Project Manager so desires, he shall have the right to place competent employees in any position of accounting, timekeeping or checking; provided that such employees shall perform their respective duties in accordance with the Contractor's plans for handling the work, and in cooperation with the Contractor's employees.

14.3 Delivery of Documents

Within six months after final payment and acceptance of the work, the Contractor shall deliver to the Contract Administrator all, or such portion as the Contract Administrator may specify, of the papers and documents referred to in this ARTICLE.

ARTICLE 15 - PAYMENTS DURING WORK

15.1 Contractor's Payment of Obligations

The Contractor shall pay promptly all bills and obligations of every kind and character for labor, materials, supplies and services obtained or procured in the performance of the work. The Contract Administrator may require reports and specially prescribed evidence establishing the promptness of such payments.

15.2 Invoicing and Payment of Owner's Obligations

Contractor will submit weekly invoices for labor costs, material, subcontractor and all other costs. The Owner will pay the invoice in full within ten days subject to post-payment review. In the event the post-payment review results in the determination by Owner that a portion of the payment was made without the proper substantiation, the amount not properly substantiated will be withheld from future progress payments until the proper substantiation has been received and approved by the Contract Administrator.

15.3 Payment of Fixed Fee

On or before the 10th of each month, the Owner shall pay a proportion of the Fixed Fee based upon 1/24 of 85% of the total Fixed Fee. In the event the Fixed Fee is increased, 85% of the increased fee will be paid as the work resulting from the increased fee is performed.

15.4 Payments Withheld

Notwithstanding the other provisions of this Contract, the Project Manager may withhold any payments otherwise due the Contractor, to such extent as may be reasonably necessary in the opinion of the Contract Administrator, for the Owner's protection because of the Contractor's failure to correct defective work or replace defective equipment or materials, to remove liens, to make payments due laborers, subcontractors, or suppliers of equipment, materials or supplies, or because of any other default under this Contract.

ARTICLE 16 - LIENS

The Contractor hereby specifically waives all vendors' liens and rights of rescission given by the law of the place of the work, and specifically waives any and all rights, which the Contractor may have under any statute of the State in which the work is performed or any applicable law, to file or assert a lien against real or other property of the Owner. The Contractor specifically agrees not to file this Contract in any public office. The Contractor shall immediately report to the Contract Administrator the existence of or assertion of and shall secure the prompt discharge of any lien or liens which may arise out of or in connection with the prosecution of the work under this Contract and which are filed on, attached to or are asserted against property of the Owner. The Contractor's expenditures in connection with any such discharge shall be reimbursable hereunder, except when the lien or asserted lien arises in whole or in part as a result of the fault or neglect of the Contractor.

ARTICLE 17 - FINAL ACCEPTANCE AND PAYMENT

17.1 Final Acceptance

Upon the Contractor's written notice to the Project Manager that the final portion of all the work in the project is completed and is ready for final inspection, testing (if there are items of material or equipment included in the work) and acceptance, accompanied by copies of receipts, not theretofore submitted, for payment of materials, equipment and supplies and for all work of subcontractors, and written waivers of liens in connection with all materials, equipment and supplies furnished and all work performed hereunder, whether by the Contractor or subcontractors, and affidavits of the Contractor and subcontractors that all materials, equipment and supplies furnished and labor performed hereunder have been paid for (all of such receipts, waivers and affidavits being subject to approval as to form and content by the Contract Administrator and clearly identifying their relation to the work performed and materials, equipment and supplies furnished hereunder), the Construction Manager shall make such inspections and tests within 30 days following the receipt of such notice and supporting documents and, if the work has been satisfactorily completed and operates in conformity with the Contract Documents, it shall be accepted by the Construction Manager and the Contract Administrator shall issue an acceptance form per Volume I, Section 3.

17.2 Partial Acceptance

The Owner may accept the work and commence using the work performed without making final payment, if satisfactory receipts, waivers and affidavits mentioned above are not provided; but the final payment shall be made

promptly after they are provided. Neither the final acceptance of the work nor the use by the Owner of all or any part of the work shall constitute a waiver of any default or constitute an acceptance of any work not in conformance with the Contract Documents.

17.3 Payments Delayed

Within 30 days after final acceptance of the work, the Owner shall make payment of all balances due for reimbursable expenditures, the retained percentage of the Fixed Fee and the incentive compensation if any under Article 8.2, provided, however, that if at that time there are mechanics' or other liens against the Owner's property which arose out of or in connection with the work, if there are pending claims by subcontractors, laborers, artisans or suppliers which arose out of or in connection with the work, or if the Contractor has failed to furnish affidavits, certificates, lien waivers or other documents requested by the Contract Administrator, the Owner may withhold all unpaid Fixed Fee and all moneys otherwise due for reimbursable expenditures, or such lesser sum as it may determine, until all such documents have been furnished, and all such liens or claims or possible liens or claims have been removed, disposed or barred, or until the Owner shall have been indemnified to the Contract Administrator's satisfaction against such liens and claims.

ARTICLE 18 - GOVERNING LAW

The law of Montana shall govern this Agreement.

ARTICLE 19 - CAPTIONS AND HEADINGS

Captions and headings throughout this Agreement are for convenience and reference only and the words contained therein shall in no way be held or deemed to define, limit, describe, explain or modify the construction or meaning of any provision of this Agreement.

ARTICLE 20 - JOINT VENTURE PARTNERS

It is understood for determination of cost resulting from the work that invoices will be submitted in the name of Hoffman-Wallace, a Joint Venture (Contractor), however supporting documents for such may be costs from Sam Wallace Industrial Constructors or Hoffman Construction Company, as appropriate.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written, in four counterparts, each of which shall, without proof or account for other counterparts, be deemed an original.

CHAMPION INTERNATIONAL CORPORATION

By Gene Griffith
Gene Griffith

Title Contract Administrator

Attest: K. L. Sovereign
K. L. Sovereign
Assistant Secretary
Champion International Corporation

HOFFMAN-WALLACE, A JOINT VENTURE

By C. W. Drinkward
C. W. Drinkward

Title Authorized Representative

Attest: R. W. Perry
R. W. Perry
Assistant Secretary
Hoffman Construction Company

VOLUME I

SECTION 2 - GENERAL CONDITIONS

HOFFMAN-WALLACE, A JOINT VENTURE
(Name of Contractor)

JUNE 30, 1978
(Date of Agreement)

City MISSOULA State MONTANA
(Location of Project)

HOERNER WALDORF DIVISION/CHAMPION INTERNATIONAL CORPORATION - PHASE II EXPANSION
(Name of Project)

PROJECT W4221 - SPECIFICATION NUMBER 9701-1004
(Project Number, Reference Number, If Any, Etc.)

CHAMPION INTERNATIONAL CORPORATION

GENERAL CONDITIONS OF COST REIMBURSABLE CONSTRUCTION CONTRACT

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SECTION 1 - DEFINITIONS

The terms used in these Contract Documents are defined as follows:

1.1 The "Agreement" is the document executed by the Owner and the Contractor for the completion of the project, and a part of the Contract Documents referred to in ARTICLE 2 of the Agreement.

1.2 General Conditions of Cost Reimbursable Construction Contract shall mean this document.

1.3 The "Contract Documents", which form the Contract, consist of the Agreement and the other documents listed or referred to and incorporated by reference in ARTICLE 2 of the Fixed Fee (Cost Reimbursable-Guaranteed Maximum Cost) Agreement.

1.4 The term "Owner" refers to Champion International Corporation.

1.5 The term "Contractor", unless otherwise particularly noted, refers to Hoffman-Wallace a Joint Venture.

1.6 The term "Project Manager" refers to the person who has total responsibility for the project for compliance and enforcement of all Contract Documents. Project Manager is Herman Effenberger.

1.7 The term "Contract Administrator" refers to the person under direction and supervision of Project Manager who is responsible for proper administration, purchasing and financial aspects of the project. Contract Administrator will have authority to change the scope of the work, the time for its completion, and to increase or decrease the Guaranteed Maximum Cost or the Fixed Fee. Any changes made or additional costs incurred in

connection with alleged extra work, without his specific written authorization, shall be for the Contractor's account. The Contract Administrator for this Contract is Eugene Griffith. The designation may be changed by giving written notice to the Contractor.

1.8 The term "Construction Manager" refers to the Owner's Representative at the site of the work. He shall be designated in writing and is empowered to act for the Owner in administering the Contract. Unless specifically provided otherwise, all matters required by the Contract to be directed to the Owner shall be routed to the Construction Manager. The designation may be changed by the Project Manager by giving written notice thereof to the Contractor. The Construction Manager for this project is William Murray.

1.9 The term "Designated Representative" refers to a person or persons who the Project Manager or Contract Administrator designates as their representative in a specific capacity.

1.10 The term "Subcontractor" includes one having a direct contract with the Contractor for completion at the job site of a part of the work covered by this Contract, or one having a direct contract with the Contractor for the furnishing of equipment, supplies, or materials worked to a special design according to plans and specifications, but does not include merely furnishing equipment, materials or supplies not so worked. It does not cover a contract for work of a personal nature at the job site.

1.11 The term "Referral Subcontractor" means a subcontractor engaged by the Owner and referred to the Contractor by the Owner for certain responsibilities as defined under Paragraph 13, Special Conditions, of the Contract Documents.

1.12 The words "project" or "work" mean the furnishing of all labor, supervision, tools, equipment, materials, supplies, transportation and all other things of every kind and character including, unless otherwise specified, water, light and power, not furnished by the Owner, and the doing of all work and the completion of all tasks and the meeting of all tests and guarantees necessary for the completion of the work described in the Contract Documents.

1.13 The term "surety" means any person, firm or corporation that has executed, as surety, the Contractor's performance and payment bond, if one is required, securing the performance of this Contract.

1.14 All references to standard specifications shall, unless otherwise specifically stated, be construed as referring to the latest edition of such specifications.

1.15 The terms "run-in" and "start-up" are used herein strictly in accordance with their respective meanings for the purposes of this Contract as defined in the specifications.

1.16 The term "Construction Superintendent" refers to the Contractor's Representative. He shall be designated in writing and is empowered to act for the Contractor in administering the Contract. Unless specifically provided otherwise, all matters required by the Contract to be directed to the Contractor shall be routed to the Construction Superintendent. The designation may be changed by the Contractor as provided in Section 14 of these General Conditions.

1.17 "Owner-furnished" denotes any item or service which is a part of the work and is to be provided by the Owner. If not clearly specified as Owner-furnished, all items and services are to be provided by the Contractor.

1.18 All time limits stated in the Contract Documents are of the essence of this Contract.

1.19 The term "Engineer" refers to Sandwell International Incorporated, Portland, Oregon, its officers, agents and employees acting in its behalf.

1.20 "Guaranteed Maximum Cost" refers to that cost as defined in ARTICLES 4 and 8 of the Agreement.

1.21 Fixed Fee refers to that amount defined in ARTICLE 4 of the Agreement.

SECTION 2 - CONTRACTOR FAMILIARITY

2.1 Contractor Familiarity

The Contractor represents that, prior to submitting its bid, it visited the site to ascertain the nature and location of the work, character and accessibility of the site, available facilities, location and character of existing work on or adjacent to the site, ground and soil conditions and all other general and local conditions including labor which might affect the work or the cost thereof.

2.2 Owner Familiarity

The Owner represents that it made known to the Contractor, prior to the receipt of its bid, all information that it has as to subsurface conditions at the site of and in the vicinity of the work, topographical maps, and other information that might assist the Contractor in properly evaluating the amount and character of the work that might be required. Such information was given, however, as being the best factual information available to the Owner. The Owner neither made nor makes any representation as to the accuracy or validity

of any such information furnished the Contractor. The Contractor, nevertheless, shall be fully responsible for all aspects of site conditions and, by careful examination, for satisfying itself as to the nature and location of the work, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which may in any way affect the work under this Contract.

2.3 Work Performed at Owner's Facility as Herein Provided

Work performed at Owner's facilities as herein provided is to be performed at the Owner's existing and operating facilities and it is undersood that such facility will continue in operation during the performance of such work, the Contractor represents that it familiarized itself with all special conditions in this respect which may affect such work and the cost thereof prior to the submission of its bid.

SECTION 3 - CORRELATION AND INTENT OF DOCUMENTS

3.1 Contract Documents Binding

The Contract Documents are binding upon the parties and what is called for by any one shall be as binding as if called for by all. The intent of the Documents is to include, as the responsibility of the Contractor, unless otherwise stated, the furnishing of all work, supervision, labor, equipment, materials, tools, supplies and transportation as necessary for the proper and complete execution of the work (whether or not mentioned, described or referred to in the drawings, plans and specifications now available); provided, however, that all incidental labor and materials, even though not specifically mentioned in the drawings, plans and

specifications but reasonably necessary to complete the work, shall be provided as a part of the Contract Documents for the Fixed Fee and reimbursable cost therein provided. Materials or work described in words which, so applied, have a well-known technical or trade meaning shall be held to refer to such recognized standards.

3.2 Where Documents Not Complete

If, at the time of the execution of the Agreement, the drawings and specifications are not final or complete as to some aspects of the work, the final detailed drawings and specifications as to such aspects of the work shall be supplied as provided in the Contract Documents and become a part hereof.

SECTION 4 - CONFLICTS IN DOCUMENTS

4.1 If there are conflicts between the drawings and the specifications or other Contract Documents, the Contractor shall advise the Contract Administrator for resolution of the conflict.

4.2 If the resolution by the Contract Administrator results in an increased cost to Contractor and Contractor can show that such additional cost was not included in its bid, Contractor shall be entitled to a Change Order pursuant to ARTICLE 9 of the Agreement.

4.3 If there are conflicts in the Contract Documents, the documents shall control in the following order:

4.3.1 Amendments to the Agreement, if any, signed by both parties.

4.3.2 Change Orders.

4.3.3 The Agreement (Section 1 of Volume I).

4.3.4 Special Conditions.

4.3.5 General Conditions.

The Contractor shall advise the Contract Administrator if he becomes aware of any conflicts in the Contract Documents.

SECTION 5 - DISCREPANCIES

The Contractor represents that, prior to submitting its bid for the work or submitting any part of the work for a bid to a prospective subcontractor, it visited the site and carefully studied the drawings and specifications and other Contract Documents provided by the Owner and any discrepancies found between the drawings and specifications, or between them and the site conditions or other Contract Documents, and any errors or omissions in the drawings and specifications and other Contract Documents were immediately reported to the Contract Administrator. Also, to the extent it was in doubt as to meaning of any provisions of the Contract Documents, it called such questions to the attention of the Contract Administrator and obtained his interpretations. The Contractor shall continue such studies after the execution of the Agreement and the Construction Manager shall promptly correct or cause to be corrected such errors or omissions in writing. Any work done by the Contractor after its discovery of such discrepancies, errors or omissions and before their correction, shall be done at the Contractor's risk and at its expense. Without limiting the generality of the foregoing, the Contractor shall be responsible for checking and reporting inconsistencies or errors in dimensions on the drawings to the Construction Manager. The Contractor shall in no case attempt to determine a dimension by scaling a drawing.

SECTION 6 - ADEQUACY OF DRAWINGS AND SPECIFICATIONS

Responsibility for adequacy of the design and for sufficiency of the drawings and specifications shall be borne by the Owner. The complete requirements of the work to be performed under the Contract shall, as far as practicable, be set forth in the drawings and specifications to be supplied by the Owner through the Construction Manager. Drawings and specifications furnished shall be in accordance with the Contract Documents and shall be a true and accurate development thereof.

SECTION 7 - DRAWINGS AND SPECIFICATIONS

7.1 Drawings Furnished to Contractor

After the execution of the Agreement, the Contractor shall be furnished, without charge, one reproducible sepia of each drawing, or amendment thereof, and a reasonable number of copies of the specifications. Such documents as are prepared following the execution of the Agreement shall be furnished as soon as they are available. One complete set of all drawings and specifications shall be maintained at the job site and shall be available to the Construction Manager and his designated representatives of the Owner at all times.

7.2 Drawings Remain Property of Owner

All drawings and specifications shall remain the property of the Owner and shall be returned to the Owner upon completion of the work. They shall not be reused on other work and shall not be duplicated or copied, except as needed in connection with the work, without the Project Manager's

written permission. Any information indicated on the drawings or in the specifications, or reasonably inferable from either or both, shall apply the same as if included in both. Upon completion of the work, the Contractor shall, if requested to do so by the Construction Manager, furnish the Owner up to two sets of reproducible "as built" drawings or sepias. Such drawings shall accurately and completely show the work as installed and shall show all deviations of any type from the original drawings.

SECTION 8 - SHOP DRAWINGS

8.1 Review of Shop Drawings

The Contractor shall submit to the Construction Manager or his designated representatives for review five copies of all shop and setting drawings and schedules required for the work of the various trades. These drawings shall have been checked by the vendors and the Contractor, and shall bear the Contractor's stamp of approval before submission. The Construction Manager's review shall be for general arrangement, compliance with the specifications and fitness only and shall not include quantities, shop practice or detail dimensions. The Construction Manager's review shall not relieve the Contractor from responsibility for errors of any sort in shop drawings or schedules. The Contractor is responsible for dimensions to be confirmed at the job site and for information that pertains solely to the fabrication processes or to techniques of construction.

8.2 Approved Drawings Returned

When drawings are returned to the Contractor stamped "Approved as Noted" or "Returned for Correction", the drawings shall be corrected and returned to the Construction Manager or his designated representatives for approval.

When drawings are returned stamped "Approved", the Contractor shall furnish one full sized sepia transparency of each sheet to the Construction Manager.

8.3 Where Cost is Not Reimbursable

The Contractor shall be responsible for distribution of shop and setting drawings and schedules within its organization and to its subcontractors. If work is performed by the Contractor prior to the receipt of final approved drawings and the work later requires correction, the cost of such correction shall be for the Contractor's account and not reimbursable.

SECTION 9 - ADDITIONAL INSTRUCTIONS

Further instructions may be issued by the Construction Manager during the progress of the work by means of drawings or otherwise as necessary in developing the details of the project to make more clear or specific the drawings and specifications or as may be necessary to explain or illustrate changes in the work to be done.

SECTION 10 - VERBAL AGREEMENTS

No verbal agreement or conversation with any officer, agent or employee of the Owner, either before or after execution of this Contract, shall affect or modify any of its terms or any of the obligations contained in any document or instrument comprised in the Contract Documents.

SECTION 11 - SCHEDULE AND SEQUENCE OF WORK

11.1 Progress Schedules

The date of beginning, rate of progress and the time of completion of the Contract work to be done under the Contract are essential conditions thereof. The Contractor agrees to commence the work on the date specified in ARTICLE 3 of the Agreement and to prosecute it regularly, diligently and uninterruptedly at such rate as to ensure completion of the work by the date stipulated in ARTICLE 3 of the Agreement. Within two weeks after the execution of the Agreement by both parties the Contractor shall submit a schedule of work to the Contract Administrator for approval, with a copy to the Project Manager and Construction Manager in which schedule the Contractor shall set forth the dates it proposes to start and complete each part of the work. The Contractor shall obtain the approval of the schedule by the Contract Administrator and such approved schedule shall supersede the Contractor's Engineering and Construction Schedule, Volume I, Section 4. The schedule drawing shall be on reproducible paper. From time to time, but not more often than once each month, Contractor shall submit schedule update reports showing actual progress of the work and the current work schedule. The schedule update reports shall be made in a form approved by the Contract Administrator. Contractor shall submit one copy of each report to the Project Manager, Contract Administrator and Construction Manager. Schedule updated reports, for the following period shall be submitted by the 25th of the month preceding the period. The Contractor shall notify the Contract Administrator in advance as soon as it has knowledge thereof of any probable interference of the work with the Owner's operations, stating

the location and length of time the probable interference will exist. The Contractor shall also submit a schedule of such work to the Contract Administrator with copies to the Project Manager and Construction Manager and obtain approval from the Contract Administrator before proceeding with such work.

11.2 Work to be Done in Definite Sequences

The Contract Administrator has the right to require work done or material assembled on the job in definite sequences. The sequences shall be followed unless the Contractor proves that to do so would entail additional cost or delay to the Contractor. If it should appear to the Contractor that a sequence required by the Owner will entail extra cost or a delay in the completion of the work, the Contractor, prior to doing the work in the sequence ordered by the Contract Administrator, shall so notify the Contract Administrator in writing setting forth the Contractor's recommendations including amount of additional cost or extent of delay.

11.3 Planning and Control of Project Manager

Timing, planning and coordination of the connecting of new work with the Owner's existing and operating manufacturing plant or other facility shall be subject to the control of the Project Manager.

SECTION 12 - LINES AND LEVELS

12.1 Main Grades and Base Line Established by Contractor

The Contractor, through the services of a registered professional engineer or a licensed surveyor, shall establish main grades and center lines from

existing base lines or bench marks, or from existing structures and equipment as approved by the Construction Manager. The maintenance of existing base lines and bench marks and the determination of any further lines and grades required by the Contractor shall be done by it and the cost of such work shall be reimbursable. The Contractor shall check all base lines and bench marks before commencing work. The Owner retains the right to make any surveys or measurements for inspection purposes.

12.2 Contractor Responsible for Maintenance

The Contractor shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, it shall be charged with any resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

SECTION 13 - USE OF PREMISES

13.1 Conformity to Applicable Laws

The Contractor shall confine its equipment, the storage of materials and the operations of its workmen to limits indicated by applicable state, federal and local laws, ordinances or permits, or by directions of the Construction Manager and shall not unreasonably encumber the premises with materials. The Contractor shall enforce all of the Owner's regulations regarding outside workers and vendors, as well as the Construction Manager's instructions regarding advertising signs, safety, fire, parking, sanitation and smoking. The Contractor's employees shall be limited to the immediate area of the work to be performed.

13.2 No Interference with Operating Facility and Plant Site

Section 2.3 of the General Conditions provides for the performance of the work at the existing and operating manufacturing plant site of the Owner. The Contractor stipulates that it realizes it is essential that the plant continue to operate during the construction period as provided in ARTICLE 3 of the Agreement. The Contractor and its employees, as well as its subcontractors, shall perform the work as far as possible in such manner as to reduce to a minimum any interference with the continued operation of the Owner's manufacturing plant or the work of the Owner's employees operating the same.

SECTION 14 - SUPERINTENDENCE

14.1 Construction Superintendent as Approved

The Contractor shall give efficient supervision to the work, using its best skill and attention. It shall maintain at the site of the work, to direct its progress and assure efficient performance of this Contract, a competent Construction Superintendent and necessary assistants, all satisfactory to the Contract Administrator. The Construction Superintendent shall not be changed except by written notice to the Contract Administrator and with his written consent, unless the Construction Superintendent proves to be unsatisfactory to the Contractor and ceases to be in its employ.

14.2 Construction Superintendent Represents Contractor

The Contract Administrator may require the Contractor to change its Construction Superintendent if, in the opinion of the Contract Administrator,

the Superintendent is unsatisfactory. The Construction Superintendent shall represent the Contractor and all directions given to him shall be as binding as if given to the Contractor. Important directions by Owner's representatives shall be confirmed in writing to the Contractor. Other directions shall be so confirmed on written request in each case. The Contractor shall coordinate the work of all subcontractors, vendors and all of the trades. The Construction Superintendent or one of his assistants shall be at the job site at all times during the performance of the work.

14.3 Efficient Supervision Assured

The Contractor recognizes the special relationship of trust and confidence established between it and the Owner by the Contract Documents and it shall furnish efficient business administration and superintendence at all times, compatible with such relationship of trust and confidence and its unusual responsibility to the Owner, to ensure the execution of the work in the best and soundest way and in the most expeditious and economical manner consistent with the best interest of the Owner.

SECTION 15 - SAMPLES

The Contractor shall furnish for approval, with such promptness as to cause no delay in its own work, all samples as directed by the Construction Manager. The Construction Manager shall check and approve such samples, with reasonable promptness, only for conformance with the design concept of the project and for general but not specific compliance with the provisions of the Contract Documents. The work shall be in accordance with approved samples.

SECTION 16 - ROYALTIES AND PATENTS

The Contractor shall pay all applicable royalties and license fees. It shall defend all suits or claims for infringement of any patent rights on account of the use of any patented invention, process, article or appliance, and shall indemnify and save harmless the Owner, its offices, agents and employees from liability, costs, expenses or loss of any kind or character on account thereof. There shall be no obligation to thus indemnify when due, diligent and effective inquiry would not have revealed the probability of such suits or claims or when a particular process or product of a particular manufacturer is specified by the Owner. However, if the Contractor has information that the use of an article or process specified would be an infringement of a patent, it shall be responsible for all loss or damage resulting from use thereof unless it gives timely notice thereof to the Project Manager with a copy to the Contract Administrator.

SECTION 17 - PERMITS, LICENSES, LAWS AND REGULATIONS

17.1 Permits, Licenses Secured by Contractor

Permits and licenses of a temporary nature necessary for prosecution of the work shall be secured and paid for by the Contractor. Those for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. Permits and license fees are reimbursable items. The Contractor shall give all required notices and comply with all applicable federal, state and local laws, ordinances, rules and regulations. If the Contractor observes that a drawing or specification is at variance therewith, it shall promptly

notify the Construction Manager in writing, with a copy to the Contract Administrator. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules or regulations and without such notice to the Construction Manager, with a copy to the Contract Administrator, the Contractor shall bear all costs arising therefrom. Neither the cost thereof nor the cost of replacement or corrective work as required shall be reimbursable under this Contract.

17.2 Contractor Indemnifies for Failure to Comply

The Contractor shall pay all assessments, penalties and other charges which may be imposed upon it or the Owner because of failure of the Contractor, its officers, agents, or employees in the course of the work to adhere to applicable federal, state or local laws, ordinances, rules and regulations; shall defend all litigation against it, the Owner, its officers, agents or employees arising in any manner whatsoever out of the prosectuion of the work, and unless such assessments, penalties or other charges, liability, loss, damage or expenses result from fault or neglect on the part of the Owner, its officers, agents or employees, the Contractor shall indemnify and hold the Owner, its officers, agents and employees harmless from all liability, loss, damage and expenses, including reasonable attorneys' fees, which may arise from such failure to adhere to such laws, ordinances, rules and regulations or which may arise from such suits or from negligence on the part of the Contractor, its officers, agents or employees provided, however, that, if such assessments, penalties or other charges, liability, loss, damage or expenses in no way result in whole or in part from the fault or neglect on the part of the Contractor,

its officers, agents or employees, the Contract Administrator shall certify the same as reimbursable as "losses and expenses" under ARTICLE 5 of the Agreement and the Guaranteed Maximum Cost shall be adjusted accordingly.

SECTION 18 - TAXES

All privilege, business, payroll, occupation, gross receipts, sales, use, consumer and similar taxes; all duties and tariffs imposed by federal, state or local laws; and all assessments or charges for social security, medical, retirement or unemployment benefits imposed by applicable law as may relate to and be properly allocable to the work shall be paid by the Contractor. Such payments are reimbursable, except penalties due to the fault or neglect of Contractor.

SECTION 19 - MATERIALS, WORKMANSHIP AND EMPLOYEES

19.1 Materials Used Must be Satisfactory

Substitution for a specified product is not permitted, unless approved in writing in accordance with SECTION 25 of these General Conditions by the Project Manager. All materials used in the work, unless particularly otherwise specified, shall be new, the most suitable grade for the intended purpose of the several kinds which may be specified, and free from flaws or imperfections. The Contractor shall furnish such evidence of those facts as may be required by and is satisfactory to the Construction Manager. Defects or deviations from the plans and specifications shall be cause for rejection of worked or unworked material. The Contractor shall remove, rework and replace such materials at no expense to the Owner. All workmanship shall be in accordance with the best field and shop practices.

19.2 Workmen Skilled

All workmen shall be skilled in the work to which they are assigned, and all work shall be performed under the direct supervision of an experienced and competent foreman.

19.3 Workmanlike Manner Assured

All work shall be constructed true to lines and surfaces indicated in a neat, substantial and workmanlike manner and in such way as properly to serve the purpose intended. Without limiting the generality of the foregoing and if applicable to the work, all members and parts, upon installation, shall be properly framed, secured together and anchored in place.

19.4 Discipline Enforced

The Contractor shall keep sufficient workmen on the work at all times, and shall enforce strict discipline and good order among its employees. The Project Manager may in writing require a reduction in the work force, if in his judgment the number placed on the work is so large as to militate against effective and economical prosecution of the work.

19.5 Dismissal of Objectionable Workers

The Contractor shall not employ on the work any person, in any capacity, who may be unskilled in or incompetent for his position, intemperate, disorderly, or otherwise objectionable. The Contractor, if requested in writing by the Construction Manager, shall dismiss any such objectionable person from the work.

SECTION 20 - PROTECTION OF WORK AND PROPERTY AND SAFETY OF EMPLOYEES

20.1 Adequate Protection of Work Progress

Until final acceptance of the work under this Contract, the Contractor shall continuously maintain adequate protection of the work and work in progress from damage, and shall protect from damage and from theft, pilferage or other loss Contractor-Furnished and Owner-Furnished equipment, materials and supplies being handled or stored, and all property paid for and delivered to the Contractor, whether on the job site or other locations.

20.2 Adequate Protection of Property

It shall also adequately protect private and public property, including property of the Owner, on or adjacent to the Owner's premises, from loss or damage as provided by law and the Contract Documents. The Contractor shall at its expense make good all such loss or damage, except such as may be due to errors in the drawings or specifications or wrongful or negligent acts or omissions of officers, agents or employees of the Owner. The Contractor shall not be obligated to make good such loss or damage as may result solely from causes other than fault or neglect on the part of the Contractor, its officers, agents or employees.

20.3 Overloading Prohibited

The Contractor shall not load or permit any part of any structure to be loaded with a weight that would endanger its safety.

20.4 Protection from Freezing

The Contractor shall provide protection of the work from freezing and from other elements which would be harmful to it. The Contractor shall furnish heat or protective shelters or temporary buildings as required for the prosecution and protection of the work.

20.5 Safety of Employees

The Contractor shall take all necessary precautions for the safety of employees on the work and Owner's plant and construction employees as well as vendors or others on the job site, and shall comply with all applicable provisions of Champion International's latest Safety Manual and federal, state and local Occupation, Health and Safety Laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the work is being performed. It shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards and barricades for the protection of employees on the work site and the safety of others employed near the work site, and the public, and shall post danger signs and warning lights warning against the hazards created by, but not limited to, such features of the construction as protruding nails, hoists, excavations, elevator hatchways, scaffoldings, window openings, stairways and falling materials. It shall designate a responsible member of its organization on the work, whose duty shall be the prevention of accidents. The name and position of the person so designated shall be reported in writing to the Project Manager, with a copy to the Contract Administrator and Construction Manager.

20.6 Report of Accidents or Damage

The Contractor shall immediately report in writing, giving full details, to the Project Manager or his representative all serious accidents which arise out of or in connection with the performance of the work, whether on or adjacent to the site. In addition, if death or serious injury or substantial property damage is caused, the accident shall be reported immediately by telephone or messenger to the Construction Manager. If a claim is made or suit is filed by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Construction Manager with a copy to the Contract Administrator, giving full details thereof. Loss or damage to tools owned by Contractor's employees or to construction plant and equipment, machinery, scaffolding, staging towers or forms or other property owned or rented by the Contractor, its subcontractors or others shall not be reimbursable under this Contract. However,, the Contractor shall not be responsible for the loss of or damage to, equipment, materials and supplies, which are procured to be incorporated into the work or for consumption in the course thereof, unless such loss or damage results in whole or in part from the fault or negligence of the Contractor, its officers, agents or employees.

20.7 Work Performed in Compliance with Owner's Safety Manual

All work shall be performed in accordance with Owner's latest Safety Manual and local safety rules and regulations. Copies of this manual are available to the Contractor for reference. The Contractor shall be responsible for informing each of its subcontractors of all applicable

rules and regulations and for their compliance therewith. Owner's safety manuals are supplied as an aid to the Contractor and compliance therewith will not relieve the Contractor of its obligations under this Contract.

SECTION 21 - PROTECTION OF FLOORS

No work shall be done on any new or existing floors unless due precautions have been taken to prevent damage (i.e., mar or deface surface, cutting, and lubricating oil absorbed by floor, etc.) to the floor.

SECTION 22 - CUTTING, PATCHING AND FITTING

22.1 Work According to Drawings

The Contractor shall do all cutting, fitting and patching as may be required or necessary to assure that all components of the work fit properly, one with the other, and that work completed or partially completed is ready to properly receive or be received by the Contractor's work or the work of other contractors shown on or reasonably inferable from the drawings or from the specifications for the completed structure and it shall make good after them as the Construction Manager may direct.

22.2 Defective Work

Any cost caused by defective or ill-timed work shall be borne by the Contractor unless it results solely from causes other than the fault or neglect of the Contractor, its officers, agents, or employees.

22.3 Alterations of other Contractor's Work

The Contractor shall not endanger any work by cutting, digging or otherwise, and shall not cut or alter the work of any other contractor except with the permission of the Project Manager.

SECTION 23 - ACCESS TO WORK

The Construction Manager and other representatives of the Owner shall at all times have access to the work at the site or wherever it is in preparation or progress, and the Contractor shall provide proper means and facilities for such access so that they may perform their functions in administering this Contract.

SECTION 24 - INSPECTION AND TESTING OF WORK

24.1 Contractor Responsible for Finished Work

The Owner shall provide sufficient competent personnel, working under the supervision of the Construction Manager, for the inspection of the work while such work is in progress to ensure that the completed work will comply in all respects with the standards and requirements set forth in the Contract Documents. Notwithstanding such inspection, the Contractor shall be held responsible for the acceptability of the finished work.

24.2 Testing Under Applicable Laws

If the Contract Documents, applicable laws or ordinances or rules or regulations of governmental authorities require any work to be specially

tested or approved, the Contractor shall give the Construction Manager timely notice of its readiness for testing or approval. Inspections and testing, where practicable, shall be made at the source of supply. If any work is covered up contrary to the request of the Construction Manager, it must, if required by him, be uncovered for examination and properly restored by the Contractor and the cost of such uncovering and restoration shall be at its expense.

24.3 Re-examination Ordered

Re-examination of any work may be ordered by the Construction Manager. If so ordered, the work must be uncovered by the Contractor. If such work is found to be in accordance with the Contract Documents, the cost of re-examination and replacement shall be reimbursable under ARTICLE 5 of the Agreement and the Guaranteed Maximum Cost adjusted accordingly. If such work is not in accordance with the Contract Documents, the cost of such re-examination and replacement shall not be reimbursable hereunder.

24.4 Approval in First Instance not Acceptance

Any approval by the Construction Manager of work in the first instance or after correction shall only be construed to mean that the Owner accepts such work as being, at that time, consistent with the Contract Documents as to workmanship, materials and equipment; provided, however, any such approval is not in any case to be construed as an acceptance by the Owner of such portion of the work as meeting any design or performance criteria required to be met by the Contractor under the Contract Documents, nor shall such approval relieve the Contractor of its responsibilities in this regard.

24.5 Testing Utilities

To the extent that such of the following items are involved and as may be directed by the Construction Manager, the Contractor shall test all water, power and service lines, pumps, valves, switches, motors, instruments and all other items of machinery and equipment to assure that each is correctly installed and operable prior to "start-up", check out sequencing of installed electrical circuitry and check instrument control circuitry and sequencing to assure proper operation and calibrate instruments to correct points; check all pipe lines for leaks by means of hydrostatic testing before "run-in"; clean all pumps, vessels, and pipe lines and flush with water or other appropriate liquid preparatory to "start-up"; and shall check all electric motors to assure proper rotation and operation.

start up sequence

24.6 Equipment Records upon Request

If required by the Construction Manager, the Contractor shall prepare equipment servicing and lubricating charts, permanent equipment records, equipment tags, receiving reports, motor and instrument cards and other similar documents, as to designated items of systems and equipment.

24.7 Owner Testing Before Acceptance

Upon completion of the foregoing checking and testing work and when the work covered by this Contract is completed or is ready for "start-up" and final testing by the Owner, the Contractor shall notify the Construction Manager in writing to that effect, with a copy to the Contract Administrator. The Owner shall undertake such testing as it deems necessary to determine whether the work is acceptable and meets

such design and performance standards as are required to be met under the Contract Documents. If during such testing period defects or deficiencies appear, the Construction Manager shall notify the Contractor and it shall promptly correct any such defects of deficiencies necessary to cause the work and all of its component parts and systems to meet, to the Construction Manager's satisfaction, the quality and performance criteria required by the Contract Documents.

SECTION 25 - APPROVAL OF "OR EQUAL" MATERIAL

25.1 Approval in Advance

Where any machine, equipment, material, article or product, etc., is specified by manufacturer's name together with the phrase "or equal", it is intended to establish a standard of quality, type and characteristics but not to limit competition. Similar systems, products or materials of other manufacturers are acceptable, if their use is in the Owner's interest and they are approved in advance by the Project Manager; however, the particular system, product or material named is considered the standard.

25.2 Where No Advance Approval

The Contractor shall make written requests to the Contract Administrator for and obtain his written approval of the use of equipment and materials other than those particularly specified or indicated on the drawings or in the specifications, before ordering the same. The Contract Administrator may reject the use of any such unspecified items which the Owner has not approved in advance and the Contractor may be required to replace such items, at its expense, with specified items. Subcontractors shall make

all requests for such approvals through the Contractor. Requests for approval shall be supported, at the Contractor's expense which may be reimbursed, by all data and information of every kind, including samples, as the Contract Administrator may prescribe in considering the requests. The furnishing of such data by subcontractors shall be at their expense.

SECTION 26 - EXPEDITING

26.1 Report to Contract Administrator

The Contractor, if requested in writing by the Contract Administrator, shall be responsible for expediting the delivery of all equipment, materials and supplies, including Owner-Furnished items, to meet the Contractor's construction schedule. The Contractor shall submit a written report to the Contract Administrator, with a copy to the Project Manager and Construction Manager as to the results of each vendor inquiry once each week, and submit a composite up-to-date report of all orders once every two weeks.

The Contractor shall submit, at such intervals and in such form as the Contract Administrator may prescribe, reports reflecting the status of planning, control, execution and other designated aspects of the work.

SECTION 27 - CORRECTION OF WORK

27.1 Removal From Premises

The Contractor shall promptly remove from the premises materials or work condemned by the Construction Manager as failing to conform to the Contract

Documents, whether incorporated in the work or not, and the Contractor shall promptly again perform such portion of the work in accordance with the Contract Documents and without expense to the Owner and without right of reimbursement hereunder, and shall bear the expense of making good without right of reimbursement under this Contract, all work of other contractors destroyed or damaged by such removal or replacement. If the Contractor does not remove such materials and condemned work within a reasonable time as fixed in written notice by the Construction Manager, the Owner may remove them or have them removed and may store them at the expense of the Contractor. If the Contractor does not pay the expenses of such removal and storage within 10 days time thereafter, the Owner may, upon 10 days written notice by the Construction Manager, sell such materials and condemned work at auction or at private sale. The costs, if any, over and above the net proceeds from the sale shall be deducted from the balance due on the Contract. If the Contract Administrator deems it to be inexpedient to correct defective or damaged work, not performed in accordance with the Contract Documents, the Contract Administrator shall make a proportionate reduction in the Guaranteed Maximum Cost and equitable reduction in the Fixed Fee.

27.2 Final Acceptance as to Rights of Parties

Final acceptance of the work shall be decisive and conclusive concerning the rights of the parties on the matter covered thereby, except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guarantee that may survive the Contract.

SECTION 28 - DEFECTIVE OR DAMAGED WORK

28.1 Failure to Correct

If the Contractor fails to correct any deficient, defective or damaged work or neglects or fails to promptly begin and diligently and continuously prosecute the work properly or fails to perform any provision of the Contract Documents, the Owner, after three days written notice by Construction Manager to the Contractor, may, without prejudice to any other right or remedy the Owner may have, make good such defects, deficiencies or damaged work by doing the work itself or contracting with others for the work, or otherwise. The cost of such work shall be borne by the Contractor and may be deducted from payments then or thereafter due on the Contractor's Fixed Fee or as reimbursements.

28.2 Right to Stop the Work

The Construction Manager is authorized to stop portions of the work whenever the Construction Manager deems such stoppage necessary to ensure the proper execution of the Contract.

SECTION 29 - MAJOR SUSPENSION OF WORK

The Project Manager or his designated representative may, for the convenience of the Owner, at any time suspend major portions of the work by giving at least seven days written notice to the Contractor stating that the notice is given under this Section and the period of time during which the work is to be suspended. The work shall be resumed by the Contractor within 10 days after the date fixed in a written notice to do so by the Contract Administrator to

the Contractor. The Contract Administrator shall make an equitable adjustment of the construction schedule for completion of the work because of suspension under this Section, if in his judgment such is warranted by the attendant circumstances as well as an equitable adjustment in the Guaranteed Maximum Cost and Fixed Fee.

SECTION 30 - OWNER'S RIGHT TO TERMINATE CONTRACT FOR DEFAULT

30.1 Termination if Bankrupt

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of its creditors, or if a receiver is appointed on account of the Contractor's insolvency or if an assignment is made of any money due or to become due under the Contract, then the Owner may, without prejudice to any other right or remedy of the Owner, immediately terminate this Contract.

30.2 Fails to Prosecute the Work-Payment to Subcontractors - Violates the Laws

If the Contractor refuses or fails, except in cases for which an extension of time for completion is provided, to prosecute the work in accordance with the work schedule approved by the Project Manager or to supply enough properly skilled workmen or proper materials for the prompt and continuous performance of the work, or if the Contractor fails to make prompt payment to subcontractors, or for materials or labor, or disregards applicable laws, rules or ordinances or the instructions of the Project Manager or otherwise is in violation of any provision of the Contract, the Project Manager may, without prejudice to any other right or remedy of the Owner and after giving the Contractor seven days written notice, terminate the Contractor's right to proceed with the work.

30.3 Owner Takes Possession

In the event of any such termination, the Owner may take possession of the premises and of machinery, equipment, materials, tools and supplies including construction plant and equipment, thereon and finish the work by whatever method it may deem expedient. The Contractor shall not be entitled to receive any further payment until the work is completed. If the total cost to the Owner to complete the work plus reimbursement and Fixed Fee payments made to the Contractor prior to termination of the Contractor's work exceed the Guaranteed Maximum Cost, such excess shall be paid to the Owner by the Contractor.

30.4 Owner Entitled to Damages

The Owner shall also be entitled to damages resulting from the breach of the Contract, including those incurred through delays occasioned by the Contractor's default. These may be adjusted against any payments which may be due to the Contractor. Should such damages exceed the payments found to be due the Contractor, such excess shall be paid to the Owner by the Contractor. The expense incurred by the Owner in completing the work and damages incurred through the Contractor's default shall be certified by the Contract Administrator to the Contractor.

SECTION 31 - OWNER'S RIGHT TO TERMINATE AND ASSIGNMENT OF TITLE

31.1 Beyond Contractor's Control

If the Contractor is delayed in the progress of the work by strikes, lockouts, fire, unusual delays in transportation, unavoidable casualties

or any cause beyond the Contractor's control for an aggregate period of more than 30 days, then the Owner may terminate this Contract upon written notice by the Project Manager to the Contractor, stating the effective date of such termination and that the notice is given under Section 31.2 of the General Conditions.

31.2 Termination for Convenience

The Owner, acting through the Project Manager, shall have the right to terminate this Contract for its convenience at any time during the progress of the work by giving the Contractor written notice, stating the effective date of such termination and that the notice is given under this Section.

31.3 Assignment of Title

In the event of a termination of this Contract under this Section, the Contractor shall stop work under this Contract on the date specified in the notice, place no further orders or subcontracts and, if so required by the Contract Administrator, terminate all orders and subcontracts to the extent that they relate to the work, and subject to such conditions, concerning settlement and otherwise, as the Project Manager may prescribe, or shall assign to the Owner, as required by the Contract Administrator all of the right, title and interest of the Contractor under any or all of such orders and subcontracts; and, as to all orders and subcontracts which are thus terminated or assigned, the Owner shall have the right, in its discretion, to settle or pay direct to those entitled any or all claims arising out of the termination of such orders and subcontracts.

The Contractor shall, as the Project Manager may direct, transfer title, to the extent title has not already been so transferred, to the Owner and deliver to the Owner (i) the fabricated or unfabricated parts, work in process, completed work, as well as equipment, materials and supplies made a part thereof, or acquired in respect of the performance of the work terminated by the notice, (ii) the completed or partially completed plans, drawings, information and other property which, if the Contract had been completed, would be required to be furnished to the Owner. The Contractor shall take such action as may be necessary, or as the Contract Administrator may require, for the protection and preservation of the property related to this Contract in which the Owner has or may acquire an interest.

SECTION 32 - CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

Should the work be stopped by any governmental authority for a period of 90 days or more through no fault of the Contractor, or should the work be stopped through act or neglect of Owner for a period of 30 days or more, or should Owner fail to pay the Contractor any substantial sum of money within 30 days after it is due, then the Contractor, following ten days written notice to the Project Manager with a copy to the Contract Administrator, may stop work or terminate the Agreement and recover from Owner payment for all work executed and any additional costs incurred by termination of the Agreement and a reasonable proportion of the Fixed Fee and incentive compensation if any.

SECTION 33 - REMOVAL OF EQUIPMENT

If this Contract is terminated before completion for any cause whatever, the Contractor, if notified to do so by the Project Manager, shall promptly remove any part or all of its equipment, tools, materials and supplies from the premises of the Owner, failing which the Owner shall have the right to remove such equipment, tools, materials and supplies at the expense of the Contractor.

SECTION 34 - PAYMENTS WITHHELD

34.1 Protection of Loss

The Owner may withhold payment, or nullify on the basis of subsequently discovered evidence the whole or part of any certificate theretofore issued, to such extent as may be necessary in the opinion of the Contract Administrator to protect the Owner from loss on account of:

34.1.1 Defective or damaged work not remedied by the Contractor.

34.1.2 Claims or liens filed or reasonable evidence indicating the probable filing of claims or liens.

34.1.3 Failure of the Contractor to make payments properly to subcontractors or for materials or labor.

34.1.4 Damage to another contractor, the Owner, one of its officers, agents or employees or the public.

34.2 Bond Provided by Contractor

When such grounds are removed or the Contractor provides a surety bond satisfactory to the Contract Administrator which will protect the Owner from loss, payment shall be made for amounts withheld because of such enumerated grounds. No moneys shall be withheld because of grounds enumerated in 34.1.2 or 34.1.3 above, if the Contractor has furnished a payment bond.

SECTION 35 - INSURANCE

35.1 Contractor Coverage Required

The Contractor shall provide and maintain policies with companies and in a form satisfactory to the Contract Administrator, insurance of the type and with limits as indicated below:

35.1.1 Worker's Compensation and Occupational Diseases according to Montana statutory limits.

35.1.2 Employer's Liability in the amount of $500,000.

35.1.3 Comprehensive General Liability - Single limit per occurrence for combined bodily injury and property damage liability.

$10,000,000 per occurrence

$10,000,000 per aggregate

Comprehensive General Liability includes:

1) Operations
2) Elevators
3) Independent contractors

4) Contractual liability covering liability assumed under the indemnification provision contained in SECTION 45 of the General Conditions and deleting any third party beneficiary exclusion.

5) Broad form property damage liability insurance including coverage for liability arising from explosion, collapse and underground damage.

6) Personal injury coverages, including coverage for liability arising from false arrest, malicious prosecution, willful detention, libel, slander, defamation of character, invasion of privacy and wrongful egress or entry.

7) Employees of Owner and representatives of the Owner are included as insureds but only as respects negligent acts or omissions of Contractor.

8) Coverage for products and completed operations for an additional period equal to the total length of the construction project.

35.1.4 Comprehensive Automobile Liability Insurance covering the use of all owned, non-owned, or hired automobiles with limits of liability of not less than:

1) Bodily injury including death resulting therefrom:

$500,000 per person

$1,000,000 per occurrence

2) Property Damage $1,000,000 per occurrence.

35.1.5 Contractor Equipment Floater covering the Contractor's owned, non-owned and rented equipment, (exclusive of cars and pickup trucks and small tools) with limits of liability of:
(See 5.1.6 of Agreement as to premiums)

1) $300,000 as respects any piece of equipment.
2) $1,000,000 as respects any one loss, disaster or casualty involving more than one piece of equipment.

35.1.6 Copies of all insurance policies provided above or certification thereof satisfactory to the Contract Administrator shall be furnished to the Contract Administrator forthwith. Each such policy or certificate shall contain a provision that it is not subject to change or cancellation until 60 days' prior written notice shall have been given to the Contract Administrator by the insurer.

35.1.7 The provisions of this Section are not intended to, and shall not, relieve or excuse Contractor from any of its other obligations under this Contract, including its obligation to hold Owner harmless in the manner and to the extent provided in SECTION 45 of the General Conditions.

35.1.8 The Contractor shall be responsible for assuring that all subcontractors carry appropriate insurance, and, if requested by Owner, performance and payment bonds.

35.2 Limits on Contractor-Furnished Insurance

Owner has elected to be responsible for and bear all losses in excess of Contractor-Furnished insurance set forth in Sections 35.1 - 35.1.8,

above, in an amount equal to the full replacement value of the existing mill and other improvements, including the work itself. Accordingly, Contractor shall not be responsible or liable for any losses, damage or expenses not covered by Contractor-Furnished insurance.

35.3 Builder's Risk Insurance

35.3.1 The Owner shall, at no cost to Contractor, purchase and maintain Builder's "All Risk" Insurance covering the work itself and materials, equipment and supplies on hand, in transit or stored off-site, including materials, equipment and supplies furnished by Owner and damage to the existing mill and other on-site improvements. Such insurance shall be in a form acceptable to Owner and Contractor but shall provide coverage, at least, as broad as provided under A.L.S. 1967 Builder's Risk form. Owner, Contractor and subcontractors shall be named insureds and such insurance shall contain a waiver of subrogation as to all named insureds. The Owner may select such deductibles as are acceptable to Owner but such deductibles shall be for Owner's account and not charged to Contractor.

35.3.2 Owner may elect not to purchase the insurance called for under Section 35.3.1 above and self insure the risks which would have been covered under such insurance. If Owner elects not to purchase such insurance, Owner shall be responsible for, bear all loss and indemnify Contractor and subcontractors from all loss which would have been covered under the insurance called for under Section 35.3.1.

SECTION 36 - BOND

The Contractor shall furnish a surety bond through its broker in an amount equal to the Guaranteed Maximum Cost and in such form as the Contract Administrator may prescribe covering the faithful performance of the Contract and the payment of all the obligations arising thereunder.

The Owner shall pay the premium for the bond.

SECTION 37 - ASSIGNMENT

Neither party to this Contract shall assign this Contract without the prior written consent of the other, nor shall the Contractor sublet it as a whole or assign any money due or to become due to it hereunder without the prior written consent of the Contract Administrator.

SECTION 38 - OTHER CONTRACTORS

38.1 Owner May Provide Other Contracts

If during the progress of the work, the Owner, in its sole discretion, finds it necessary or expedient for the Owner to furnish and erect, or cause to be furnished and erected by third parties, other than Referral Subcontractors, any additional facilities, machines or equipment not covered by the Contract Documents, then the Contractor shall afford the Owner or such third parties every reasonable means and facility for so doing, working jointly if desired by the Contract Administrator. The Contractor shall provide the maximum amount of cooperation with the Owner or such third parties and the work of each shall be conducted so as to

cause the least hindrance or delay to any party. Such furnishing and erection shall not be construed as acceptance by the Owner of any part of the work covered by this Contract, or as in any way entitling the Contractor to an extension of time for completion nor to an increase in the Guaranteed Maximum Cost or in the Fixed Fee, so long as no substantial interference or delay in its execution is caused thereby and so long as there is no demonstrable increase in the scope of the work.

38.2 Fixed Fee or Guaranteed Maximum Cost not Affected

If during the progress of the work the Contract Administrator finds it necessary or expedient for the Owner or others to perform a part of the work, other related work or any work whatsoever at the site or adjacent thereto, then the Contractor shall afford them every reasonable opportunity for so doing, working jointly if desired by the Contract Administrator. Such work shall be performed with the maximum amount of cooperation and with the least possible hindrance or delay to either party, and such arrangements shall not be construed as acceptance by the Owner of any part or portion of the work covered by this Contract. Similarly, such arrangements shall not be construed as in any way entitling the Contractor to an extension of time for completion, so long as no demonstrable delay in the execution of the work is caused thereby; to an increase in the Fixed Fee so long as there is no demonstrable increase in the scope of the work; or to an increase in the Guaranteed Maximum Cost, so long as there is no demonstrable increase in the cost of the work.

38.3 Responsibility of Contractor to other Contractors

If any part of the work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report to the Construction Manager any defects in such work of the other contractor that render it unsuitable for such proper execution of the Contractor's work. Its failure so to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of the Contractor's work, except as to latent defects not susceptible to identification upon thorough inspection and defects which may develop in the other contractor's work after the execution of the Contractor's work.

38.4 Work Already in Place

To assure the proper execution of its subsequent work, the Contractor shall measure work already in place and shall at once report to the Construction Manager any discrepancy between the work already in place and the drawings.

SECTION 39 - DAMAGE TO OTHER CONTRACTORS

Should the Contractor cause damage to another contractor on or in close proximity to the Owner's premises, the Contractor shall, upon written request by the Contract Administrator, promptly attempt to settle with such other contractor by agreement all being subject to the Project Manager's approval, but the cost of settlement shall not be reimubrsable under this Contract if the damage resulted in whole or in part from the fault or negligence of the

Contractor, its officers, agents or employees. The settlement shall be at the expense of the Contractor, and it shall continue to pursue in good faith the goal of prompt settlement as long as such other contractor is willing to continue in good faith to do so. If such other contractor sues the Owner or one of its officers, agents or employees on account of any damage alleged to have been so sustained, the Owner or such officer, agents or employee shall notify the Contractor, which shall defend such proceedings and, if any judgment against the Owner or such officer, agent or employee arises therefrom, the Contractor shall pay or satisfy it and pay all costs incurred by the Owner or such officer, agent or employee. If such judgment is based in whole or in part upon the fault or negligence of the Contractor, its officers, agents or employees, expenditures to satisfy the same and pay such costs shall not be reimbursable to the Contractor.

SECTION 40 - SUBCONTRACTS

40.1 Contractor Accepts Full Responsibility

The Contractor agrees that it is as fully responsible to the Owner for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by them as it is for the acts and omissions of persons directly employed by it.

40.2 Prior Approval of Subcontractors

Prior to going out for bids for subcontracts, the Contractor shall furnish to the Contract Administrator the names of proposed bidders. The Contract Administrator will promptly advise Contractor whether or not he

has reasonable objection to any proposed bidder. Failure of the Contract Administrator to reply promptly shall constitute notice of no reasonable objection.

40.3 Not Required to Subcontract

The Contractor shall not contract with any proposed subcontractor to whom the Contract Administrator has made reasonable objection under the provisions of Section 40.2. The Contractor shall not be required to contract with any subcontractor to whom he has a reasonable objection.

40.4 Approval of Subcontractor

If the Contract Administrator rejects in writing any subcontractor proposed by Contractor, the Guaranteed Maximum Cost shall be adjusted for any additional costs which Contractor can show was occasioned by such rejection unless it can be shown that the rejected proposed subcontractor was grossly irresponsible.

40.5 Referral Subcontractors

Nothing in this section or SECTION 41 shall be construed to include Referral Subcontractors.

SECTION 41 - RELATION OF CONTRACTOR TO SUBCONTRACTORS

41.1 Subcontractor Bound by Contract Documents

The Contractor agrees to bind each subcontractor engaged by him and each subcontractor shall agree to be bound, by the terms of the Contract Documents insofar as such terms are applicable to the subcontractors work.

Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the Owner, or any obligation on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

41.2 Subcontractor Must Agree With Contractor

Without limiting the generality of the foregoing, each subcontractor shall agree with the Contractor to be bound to the Contractor by the terms of the Contract Documents and to assume toward it all the obligations and responsibilities that the Contractor assumes toward the Owner, including obligations as to the performance and quality of the work to be performed and the time of such performance.

41.3 Protection of Owner

All subcontracts entered into by Contractor shall fully protect the rights and obligations of the Owner.

SECTION 42 - USE AND OCCUPANCY BY OWNER

42.1 Owner Possession Before Completion

Before the Contract completion date: the Owner, upon written notice by the Project Manager, shall have the right to occupy and use any completed or partially completed portions of the work, notwithstanding that the time for completing the entire work or such portions may not have expired. However, such use and occupancy shall not be deemed an acceptance of any work not completed in accordance with the Contract Documents.

SECTION 43 - RUBBISH AND CLEANING UP

The Contractor and its subcontractors shall at all times keep the premises free from accumulation of waste materials or rubbish resulting from any cause whatsoever. Good housekeeping shall be maintained at all times and all materials and equipment shall be maintained in a neat and orderly manner. At the completion of the work, the Contractor shall remove from the site all of its construction plant and equipment, temporary buildings, scaffoldings, fences, waste material and rubbish, shall fill to original grade, unless otherwise specified, all excavations made for its convenience in the course of the work and shall leave the entire site in good order and proper condition.

SECTION 44 - DAMAGES

Should either party to the Contract suffer damages not otherwise provided for in this Contract because of any wrongful act or neglect of the other party or its officers, agents or employees, claim shall be made in writing by the aggrieved party against the offending party within a reasonable time after the first observance of such damage and not later than the final payment, except as expressly stipulated otherwise in the case of deficient or defective design, workmanship or materials.

SECTION 45 - INDEMNITY

The Contractor agrees to indemnify and hold harmless the Owner, and Engineer and their officers, agents and employees from and against all suits, actions, loss, liability, expenses, attorney's fees, claims or demands arising from an injury to or death of any person, or because of damage to or destruction of

property of any person, firm or entity including any property of Owner, insofar as same shall arise out of or relate to the performance of the work under this Contract, except when actually caused by the sole active negligence of the Owner, the Engineer or any of their respective officers, agents or employees. Contractor shall not be required to indemnify the Owner or Engineer for any suit, action, loss, liability, claim or demand resulting from the risks insured or borne by Owner in accordance with Sections 35.2 and 35.3 of the General Conditions or which would be outside of and otherwise beyond the coverages of Contractor provided insurance in Section 35.1.

SECTION 46 - GENERAL CONDITIONS

46.1 Warranty Period

Unless provided otherwise in the Contract Documents the Contractor warrants all work furnished by him for a period of one year from the date shown on executed Acceptance Forms. Such Acceptance Forms shall be in a form as set forth in Volume I, Section 3, which is hereby made a part of the Contract Documents. Provided, however, if Owner takes possession of or operates any completed or partially completed portion of the work prior to the date shown on an executed Acceptance Form, the warranty provided herein shall be for a period of one year from the date Owner takes possession of or operates such completed or partially completed portions of the work.

Where a greater warranty period is granted by the manufacturer of equipment or material supplied by Contractor, that warranty period will prevail.

46.2 Warranty

Said warranty provided herein shall be against any defective workmanship, equipment or materials and damage to any other portion of the work or to property nearby or adjacent to the work, regardless of ownership, resulting from Contractor's negligent action. All defective workmanship, equipment, or materials shall be replaced by the Contractor and it shall assume all expense of such replacement. Any resulting damage to any other portion of the work, or to property nearby or adjacent to the work, regardless of ownership, shall be repaired or replaced by the Contractor and it shall assume all expense of such replacement. All guarantees and warranties on equipment or materials shall be obtained by the Contractor in the Owner's name and evidence thereof shall be promptly delivered to the Contract Administrator.

46.3 Contractor shall be responsible for all injuries to persons resulting from defective workmanship or resulting from Contractor negligence.

46.4 Warranties Limited to Manufacturers and Suppliers

The Contractor's warranties against defects or deficiencies in equipment or materials furnished by other manufacturers or suppliers, under such manufacturers' or suppliers' own warranties, either expressed or implied, shall be limited to the warranties given by the respective manufacturer or supplier of each item of equipment or materials and the Contractor shall not be obligated to correct any defects and deficiencies in such equipment or materials or to bear the cost thereof to a greater extent than the manufacturer or supplier of such equipment or materials is obligated under its warranties. However, if there is a reasonable indication that such defect or deficiency is due to faulty installation or to defects or

deficiencies in other parts of the work, then the Contractor shall be obligated to correct such defects or deficiencies and bear the cost thereof. If there is a dispute between the Contractor and any subcontractor or between the Contractor and any manufacturer or supplier or between any or all of them as to whether a defect or deficiency in the work is due to the equipment or materials or its installation or work performed by either the Contractor or his subcontractors, the Contractor shall correct, repair or replace the work at its expense without regard to and without waiting for the ultimate resolution of such claims and disputes.

46.4 Contingent Upon Use

All warranties contained in this section shall be contingent upon normal operations, maintenance and use of the respective items of equipment and materials in accordance with the manufacturer's or supplier's recommendations using raw materials as specified.

46.5 Reimbursable to Contractor Under Certain Conditions

The Contractor's costs and expenses in making good any warranty set forth in meeting any of its obligations under this section shall, however, be reimbursable by the Owner to the Contractor, if the Contractor proves to the satisfaction of the Contract Administrator that the defect in workmanship, equipment or materials in no way results in whole or in part from failure on the part of the Contractor to prosecute all aspects of the work, including without limitation the selection and assignment of qualified personnel throughout, as well as the performance of purchasing, managerial

and supervisory services, and engineering and technical functions, with the skill requisite to a project of this complexity and importance and also shows that the defect in no way in whole or in part results from fault or neglect of any kind whatsoever on the part of the Contractor, its officers, agents or employees.

SECTION 47 - DISPUTES

47.1 Governing Law

These Contract Documents shall be construed and enforced according to the laws of the State of Montana.

47.2 Arbitration

47.2.1 In the event there shall be a dispute between the parties arising out of or relating to this Contract or any part or parts thereof or concerning an alleged breach thereof, or an alleged wrongful cancellation of the same, then such dispute shall initially be submitted to and decided by arbitration. The decision of said arbitrators shall be final and binding on the parties unless such decision is appealed in accordance with Section 47.3 below. Notice of demand for arbitration shall be filed in writing with the other party and with the American Arbitration Association within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such claims, disputes or other matter in question would be barred by the applicable

statute of limitations. Arbitration shall take place in the City of Missoula, Montana at such time and place as may be designated by the arbitrators. The arbitration shall be conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. The parties agree that judgment may be entered upon the award rendered by the arbitrators in any court having jurisdiction thereof. This section shall survive the termination or completion of the Contract.

47.2.2 Notwithstanding the right under Section 47.3 to appeal the arbitration Award, the Award rendered by the arbitrators shall be paid within thirty (30) calendar days after the date of Award by the party against whom the Award is assessed. Accordingly, the prevailing party under arbitration shall be entitled to payment of the Award even though such party appeals the Award.

47.3 Appeal of Arbitration

Either party may appeal the decision rendered by the arbitrators under Section 47.2.1 provided that the party so appealing (the "appellant") within thirty (30) calendar days after the date of the Award rendered by the arbitrators shall take the following actions:

47.3.1 If applicable, appellant shall make payment as called for under Section 47.2.2 above.

47.3.2 Appellant shall pay all Administrative Fees, Expenses and Arbitrators' fees assessed against appellant as a result of the arbitration.

47.3.3 Appellant shall file an appropriate action in a court having jurisdiction of the matter.

47.3.4 Appellant shall notify the other party in writing of the appeal by certified or registered mail.

47.3.5 Failure to take any action as required above shall result in the decision of the arbitrators becoming final and binding on the parties.

47.4 Trial on Appeal

47.4.1 The trial on appeal shall be a trial de novo and the applicable court rules, rules of discovery and rules of evidence shall apply. Provided, however, it is agreed and stipulated by the parties that any Findings of Fact, the Award and other matters decided by the Arbitrators may be received by the Court and considered as other evidence; however, the submission of the Arbitrator's Award shall not be an admission of either party as to its validity. The court shall give such weight to the Award as it may deem appropriate in accordance with applicable law.

47.4.2 The Court may grant any remedy or relief which it deems appropriate and in accordance with the applicable rules of law.

47.4.3 Should the decision of the Court result in a repayment of all or a part of the monies paid pursuant to Section 47.2.2 above, such repayment shall be made with interest at six percent (6%) from date of payment to date of repayment.

47.5 Appeal of Court Decision

The judgement or decision of the trial Court under Section 47.4 may be appealed only as and to the extent provided by law.

SECTION 48 - SUCCESSORS AND ASSIGNS

The Contract Documents shall be binding upon the heirs, executors, administrators, successors and assigns of Champion International Corporation, Hoffman Construction Company, Sam P. Wallace Company, Inc. and Hoffman-Wallace, a Joint Venture, including without limitation those arising from merger, consolidation, sale of assets or otherwise.

SECTION 49 - NOTICES

Written notices shall be considered as served when delivered in person or sent by registered or certified mail in accordance with the Contract Documents to the individual, firm or corporation at the address indicated below. It shall be the duty of each party to inform the other party to the Contract of any change in its business address until completion of the Contract. The Contractor's and the Owner's address to be used, unless otherwise specified in writing, is Hoerner Waldorf Division, Champion International Corporation, Drawer D, Missoula, Montana 59801, to the attention of the Contract Administrator. Copies of notices to the Contractor shall be addressed to

Hoffman-Wallace, A Joint Venture, Georgia-Pacific Building, Suite 2400, Portland, Oregon 97204, to the attention of Mr. C. W. Drinkward. The Owner and the Contractor may, in writing, designate additional persons to whom such notices shall be directed.

SECTION 50 - GOVERNING LAW

The law of Montana shall govern this Contract.

SECTION 51 - TITLE TO WORK

The title to all work completed and all work in the course of construction including all materials, permanent plant equipment and supplies shall vest in the Owner when placed on site or otherwise accepted by the Owner.

SECTION 52 - TERMINATION

Unless otherwise provided, all Contract Documents shall terminate upon final acceptance of the work and all adjustments have been agreed upon.

SECTION 53 - CAPTIONS AND HEADINGS

Captions and headings throughout this Contract are for convenience and reference only and the words contained therein shall in no way be held or deemed to define, limit, describe, explain or modify the construction or meaning of any provision of this agreement.

A F F I D A V I T

STATE OF MONTANA)
: ss.
County of Missoula)

LARRY WEEKS being first duly sworn, states:

I am presently serving as Missoula Mill Technical Director for the Hoerner-Waldorf unit of Champion International, and have served in this position for 10 years. As such, I am responsible for some of the operation and control of the pollution-control systems at Hoerner-Waldorf, and particularly for the liquid effluent treatment and disposal systems. I am personally familiar with the events on January 17 and 18, 1979, when there was a spillage of effluent into the Clark Fork River from rapid infiltration Basin B at Hoerner-Waldorf. The purpose of this statement is to give the facts with respect to that spillage.

Basin B was first put into use in 1974 for rapid infiltration purposes. It is a large, flat gravel area about 1600 feet long, 400 feet wide, and 6-8 feet deep, containing about 15 acres. It holds approximately 41 million gallons of effluent at one filling, and is surrounded by a dirt dike about twice as high as the depth of water it holds in one filling. It has been used about 212 times prior to the date of the spillage, and has never failed to function in any respect before.

There are 11 such basins in the Hoerner-Waldorf system, and they are all used similarly, by means of rotation from one basin to another. By this means, the color in the water effluent is reduced and what drains into the Clark Fork River eventually adds a very small and legally permissible amount of color to the river water. The authorities of the State Department

Exhibit 15

of Environmental Science have examined this system, have approved it in principle, and monitor it regularly for proper function. The entire system has never failed in any respect before, out of about 1384 basin fillings altogether. I estimate that the total volume of the spillage here involved is 6.5 million gallons, compared to a total of 4800 million gallons for just one year, so that the proportion of failure would be a minimal 0.13% figured on a yearly basis only.

The failure of the dike around Basin B was entirely due to the unprecendented severely cold weather experienced during the three weeks immediately preceding the failure, and I shall endeavor to explain how this occurred. Prior to the last filling of Basin B, a large depth of ice, about three to four feet, formed a high bottom in the basin. This had never occurred before. Consequently, when the effluent water was turned into Basin B in the normal quantity as it had upon all previous occasions, the water level was lifted up by the existing ice to the point where it began to overflow the top of the dike around Basin B. As the water overflowed, it cut a gash in the dike, creating an increasing leak at that one point, so that eventually the water drained from the basin, leaving the ice cake in the bottom.

The spillage was discovered late in the afternoon of January 17, 1979. The water had by that time mostly drained away. The temperature was on that day at an average of eight degrees above zero, or 24 degrees below freezing. The snow was so deep no machine could reach the area to close the leak in the dike until the next day, when this was commenced.

I have obtained the official and correct temperature records for the period between December 28, 1978 and January 18, 1979. Without detailing all the figures for each day, it is sufficient to state that

the average temperature for the entire period, daytime and nighttime, was zero degrees. This is totally unprecedented in its severity. For the same period the year earlier, the average was 22 degrees above zero, and for the year prior to that, 18 degrees above zero. While the earlier averages are still below freezing, our experience has been that the water retains sufficient temperature that not more than a few inches of ice ever forms, and it has presented no problem whatever in any previous winter season.

The degree of color that was spilled into the river was really not very great. Our permit limits Hoerner-Waldorf to a discharge of water not more than five standard color units above the water color upstream from the entrance of Hoerner-Waldorf water. The measuring point for our color limit below the plant is at Six Mile. The limit is that the color at Six Mile shall not be more than five units above the color measurement above the mill. On January 18, we measured the color limits both above and below the mill, and have reported these measurements to the State. On only one out of four occasions on January 18 and 19 was a measurement of color found below the spill that was in excess of the permit limit, and this was at 10:35 a.m. on January 18, where the extent of the excess above the permit limit was 1.8 color units. By 3:15 p.m. the difference in color had receded to 4.1 units (below the permit level of five units) and it never again exceeded the limit. Therefore it is my opinion that the color quantity was very slight in its overall effect on the river, and since it was all under the surface ice on the river, it was observed by no one, so far as I know. Also, I should state that the excess of 1.8 units, or, for that matter, even of the entire 6.8 difference, would be so slight that to the naked eye, in water glasses side by side, a normal person would not be able to detect a color difference of either of those quantities.

As to whether the spillage contained chemical toxicity sufficient to harm either the plant or organism environment, I have analyzed this problem and make this statement of the facts. The effluent had already passed through both our first and second stages of treatment and detoxification. In substance, my opinion is that from this point on in the total processes, the limitation on color is harder for us to meet than the limitation on toxicity, and based on previous measurements and findings, our very slight excess in the color limit would not have produced any violation whatever of the toxicity limit if allowed to discharge. Color in the water is not toxic at all--the limitation on color is purely an aesthetic one. The limit of toxicity which I have referred to is that established by the State, and it has a 50 to one safety factor incorporated into it. In other words we are limited to a toxicity quantity that is 50 times less than the amount believed to be actually toxic to the environment. For these reasons I believe it is perfectly clear that the spillage did not cause any toxic consequences to the river, while the color consequence was very transitory, and quickly disappeared. In the above statements, I have in mind that our permit prevents any discharge at all when the river flows at low winter levels, but I am saying that even at those low levels, the consequences are as I have stated.

All of the above occurred without the expenditure of any State funds for either discovery or correction. This was voluntarily reported by me to the State, first by telephone on January 18, 1979, and later by letter on January 22. The correction was almost completed before any representative of the State inspected the site, and no additional correction or requirement has been made, up to this date.

DATED this 26 day of April, 1979.

Larry E. Weeks

LARRY WEEKS

SUBSCRIBED AND SWORN TO BEFORE ME this 26 day of April, 1979.

NOTARY PUBLIC for the State of Montana
Residing at Missoula, Montana
My Commission Expires January 1, 1982

Pauline L. Garner

NOTARY PUBLIC FOR THE STATE OF MONTANA
Residing at Missoula, Montana
My commission expires: _____

AGREEMENT MODIFICATION

THIS MODIFICATION, made this 12th day of May 1980, by and between Champion International Corporation ("Owner") and Hoffman-Wallace, a Joint Venture ("Contractor").

RECITALS:

A. Under date of June 30, 1978, Owner and Contractor entered into an agreement in connection with the development of Owner's project entitled Hoerner Waldorf Division, Champion International Corporation, Missoula, Montana; Phase II Expansion.

B. Under the agreement of June 30, 1978, the Contractor is paid certain reimbursable costs and a fixed fee, all with a Guaranteed Maximum Cost, plus incentive compensation and other additions as set forth therein. Said agreement together with all modifications, amendments, change orders, and other documents which have been executed by the parties hereto and relate to said agreement, are collectively referred to in this Modification as the Contract documents.

C. The parties desire to modify the Contract documents as set forth herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants between the parties, the parties agree as follows:

1. The Guaranteed Maximum Cost (GMC) is hereby established at $56,875,000.

2. The Contractor's Fixed Fee is hereby established at $2,336,435. Said fixed fee is included in the GMC set forth in Paragraph 1 above.

3. The GMC does not include any costs or fee for performing the following work:

(a) Painting of any piping.

(b) Any piping work in the old mill (Reference: Drawing No. 9701-373).

(c) The ash handling system, storage silo, structure and outside conveyor. Foundations previously included in change orders and the inside conveyor are included in the GMC set forth in Paragraph 1 above.

(d) Air Preheater work in No. 3 and 4 Recovery Boiler Areas.

(e) Any Field Change Order work as defined in Paragraph 6 below except work previously identified and included in Field Change Order Nos. 1 through 125.

***

Exhibit 16

4. Owner shall not request and Contractor will not be required to perform any Changes in Scope, Extra Work, additional work, including work identified in Paragraphs 3(a), (b), (c) and (d) above, or Change Order work except Field Change Order work as defined in Paragraph 6 below. Changes in Scope include, but are not limited to, any change which requires an addition to the contract drawings and specifications issued as of the date of this Agreement. The Owner shall have the right to contract with any separate contractor for any work. Such separate contracts may be with, but not limited to, Hoffman Construction Company, Sam Wallace Industrial Constructors or other subcontractors of the Contractor. The Owner shall assume responsibility for ensuring that work by such separate contractors does not interfere with or delay the work of the Contractor.

5. Prior to the date of this agreement, Owner has issued Field Change Orders through No. 680. Representatives of the Owner and Contractor shall meet to negotiate the increase in the GMC and Fee for Field Change Order Nos. 126 through 680. For all Field Change Orders between Nos. 126 and 680, where work has not commenced, the GMC, including Fee, will be adjusted on the basis of actual cost pursuant to Paragraph 9 below, unless otherwise agreed. The GMC, including Fee, shall be adjusted for all other Field Change Orders between 126 and 680 as agreed upon between representatives of Owner and Contractor. If the representatives can not agree upon the adjustment to the GMC and fee by June 13, 1980, such adjustment shall be referred to Jerry Ballengee and C. W. Drinkward for resolution. For Field Change Orders subsequent to No. 680, Contractor will establish separate cost accounts for the accumulation of actual costs. Contractor will not proceed with the work of a Field Change Order until approved in writing by Owner's representative.

6. Field Changes shall consist of the following and shall result in an increase in the Guaranteed Maximum Cost:

(a) Interferences or misalignments, not Contractor caused, occurring in the field requiring revisions to equipment and/or materials in order to correct the problem. This shall include correction of misfabricated Owner furnished equipment and material including piping, structural steel, miscellaneous iron, electrical panels, etc.

(b) Revisions to equipment and/or materials resulting from errors or omissions in the drawings and specifications required to make systems operational.

(c) Changes or additions to piping supports already installed on all piping supports designed by the Engineer will be resolved by the respective field representatives and may result in Field Change Orders.

***

7. Work performed by the Contractor or any subcontractor not in compliance with approved specifications and/or in accordance with "approved for construction" drawings shall not constitute a field change and will be corrected by the Contractor with no increase in the Guaranteed Maximum Cost.

8. Inferior workmanship by the Contractor or any Subcontractor shall not constitute a field change and will be corrected by the Contractor with no increase in the Guaranteed Maximum Cost.

9. If the Contractor performs any Field Change Order work, the GMC shall be increased by the total of the following: (a) total additional actual costs plus (b) 10% of such cost for overhead plus (c) 5% of such costs for fee. The Fixed Fee will be increased accordingly.

10. The Contractor, through its electrical/instrumentation subcontractor, will provide check-out of electrical/instrumentation work to verify completeness and continuity and that such work is installed in accordance with the Contract documents. In the event that a system does not properly operate and a recheck of the system verifies that the system was installed in accordance with the contract documents, then Contractor shall be reimbursed for all costs reasonably incurred in rechecking the system and/or complying with the Owner's instructions. Owner shall issue a Field Change Order to cover such costs.

11. Contractor agrees to put forth his best effort to complete the job in total by October 8, 1980. In completing the work, the Contractor will follow the sequence below:

Washing and Screening
Evaporators and Support Systems
Boiler Feedwater Treatment
#5 Recovery Unit
Lime Kiln and Recaust
Waste Fuel Boiler
Stock Preparation
Linerboard Machine Complex

***

12. If the Contractor substantially completes the work on or before October 8, 1980, the Contractor shall be paid the difference, if any, between the actual costs paid and the GMC as incentive compensation up to a maximum additional payment of $600,000.00. Any savings in excess of $600,000.00 shall be retained by Owner. The Contract shall be substantially complete when the paper machine and support facilities have been checked out in accordance with Contract documents recognizing that there may be punch list items to be completed.

13. The purpose of this Modification is to liquidate and settle all disputes between Owner and Contractor. Accordingly, Contractor hereby releases all claims against Owner for work performed prior to the date of this Modification and agrees not to request any further adjustment in the GMC or its fee except as allowed under this Modification. In consideration of such release, Owner shall immediately pay to Contractor all amounts billed by Contractor to the date of this Modification, including all withheld payments except amounts currently withheld for workers compensation. Contractor billings prior to the date of this Modification are accepted and will be paid as billed and Owner shall not claim credit due under such billings except for mathematical errors. All future billings will be accepted as being valid and subject to review only for mathematical errors and for material and services received.

14. Premium for Workers Compensation insurance will be paid at actual cost, any discounts allowed will be passed to the Owner. Owner will advance all deposits required. Should Contractor receive any additional premium charges after final payment under the Contract documents, Owner will pay such charges nothwithstanding the execution of any release. Likewise, any credits or deposits received after final payment will be paid to Owner.

15. The unpaid balance of Contractor's Fee as established by Paragraph 2 of this Modification, will be paid in accordance with the following schedule:

May	$282,435.
June	$ 79,000.
July	$ 79,000.
August	$ 79,000.
September	$ 79,000.

The foregoing amounts will be paid less 15% for retention. Fee earned on Field Change Orders No. 126 and greater, will be billed monthly on the basis of percent work complete.

***

16. It is clearly understood that under the terms and conditions of the Contract documents and this Modification that when the GMC, including Field Change Orders as approved, is reached that the work must be completed by the Contractor without further cost to the Owner.

17. All Contract documents shall continue in full force and effect except as modified herein. In the event of any conflict between this Modification and the Contract documents, this Modification shall govern.

IN WITNESS WHEREOF, the parties hereto have executed this Modification as of the first date above written.

CHAMPION INTERNATIONAL CORPORATION

By _____

Its Vice President - Materials

HOFFMAN-WALLACE, A Joint Ven

By _____

C. W. Drinkward

Its Authorized Representativ

***

RECEIVED

JUN 1 0 1980

H.B. WHITW. O..

HOFFMAN CONSTRUCTION COMPANY

June 2, 1980

Mr. Hall Whitworth
Champion International Corporation
Knightsbridge Drive
Hamilton, Ohio 45020

RE: Phase II Expansion
Missoula, Montana

Dear Hall:

Enclosed are two copies of the Modification to the prime contract. We have executed both copies on the behalf of the Joint Venture. Please execute and return one copy for our files.

The form of the Modification includes all changes requested by Mr. Sovereign except for Paragraph 6(c) and the completion date. Paragraph 6(c) has been written per the joint instruction of Messrs. Effenberger and Hafling. The completion date was changed to October 8, 1980 to allow for the delay caused by the volcanic ash at the job site during the week of May 18, 1980.

On behalf of the Joint Venture and our subcontractors, we thank you and the Champion people for your cooperation in resolving this Modification. Please call if there are any questions.

Very truly yours,

C. W. Drinkward
President

CWD/lgb
Enclosure
cc: Ken Sovereign

900 S.W. FIFTH AVENUE PORTLAND, OREGON 97204 503-221-6E

Exhibit 17

AGREEMENT MODIFICATION

THIS MODIFICATION, made this 12th day of May 1980, by and between Champion International Corporation ("Owner") and Hoffman-Wallace, a Joint Venture ("Contractor").

RECITALS:

A. Under date of June 30, 1978, Owner and Contractor entered into an agreement in connection with the development of Owner's project entitled Hoerner Waldorf Division, Champion International Corporation, Missoula, Montana; Phase II Expansion.

B. Under the agreement of June 30, 1978, the Contractor is paid certain reimbursable costs and a fixed fee, all with a Guaranteed Maximum Cost, plus incentive compensation and other additions as set forth therein. Said agreement together with all modifications, amendments, change orders, and other documents which have been executed by the parties hereto and relate to said agreement, are collectively referred to in this Modification as the Contract documents.

C. The parties desire to modify the Contract documents as set forth herein.

NOW, THEREFORE, in consideration of the mutual promises and covenants between the parties, the parties agree as follows:

1. The Guaranteed Maximum Cost (GMC) is hereby established at $56,875,000.

2. The Contractor's Fixed Fee is hereby established at $2,336,435. Said fixed fee is included in the GMC set forth in Paragraph 1 above.

3. The GMC does not include any costs or fee for performing the following work:

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(b) Any piping work in the old mill (Reference: Drawing No. 9701-373).

(c) The ash handling system, storage silo, structure and outside conveyor. Foundations previously included in change orders and the inside conveyor are included in the GMC set forth in Paragraph 1 above.

(d) Air Preheater work in No. 3 and 4 Recovery Boiler Areas.

(e) Any Field Change Order work as defined in Paragraph 6 below except work previously identified and included in Field Change Order Nos. 1 through 125.

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5. Prior to the date of this agreement, Owner has issued Field Change Orders through No. 680. Representatives of the Owner and Contractor shall meet to negotiate the increase in the GMC and Fee for Field Change Order Nos. 126 through 680. For all Field Change Orders between Nos. 126 and 680, where work has not commenced, the GMC, including Fee, will be adjusted on the basis of actual cost pursuant to Paragraph 9 below, unless otherwise agreed. The GMC, including Fee, shall be adjusted for all other Field Change Orders between 126 and 680 as agreed upon between representatives of Owner and Contractor. If the representatives can not agree upon the adjustment to the GMC and fee by June 13, 1980, such adjustment shall be referred to Jerry Ballengee and C. W. Drinkward for resolution. For Field Change Orders subsequent to No. 680, Contractor will establish separate cost accounts for the accumulation of actual costs. Contractor will not proceed with the work of a Field Change Order until approved in writing by Owner's representative.

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(b) Revisions to equipment and/or materials resulting from errors or omissions in the drawings and specifications required to make systems operational.

(c) Changes or additions to piping supports already installed on all piping supports designed by the Engineer will be resolved by the respective field representatives and may result in Field Change Orders.

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11. Contractor agrees to put forth his best effort to complete the job in total by October 8, 1980. In completing the work, the Contractor will follow the sequence below:

Washing and Screening
Evaporators and Support Systems
Boiler Feedwater Treatment
#5 Recovery Unit
Lime Kiln and Recaust
Waste Fuel Boiler
Stock Preparation
Linerboard Machine Complex

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15. The unpaid balance of Contractor's Fee as established by Paragraph 2 of this Modification, will be paid in accordance with the following schedule:

May	$282,435.
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The foregoing amounts will be paid less 15% for retention. Fee earned on Field Change Orders No. 126 and greater, will be billed monthly on the basis of percent work complete.

***

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17. All Contract documents shall continue in full force and effect except as modified herein. In the event of any conflict between this Modification and the Contract documents, this Modification shall govern.

IN WITNESS WHEREOF, the parties hereto have executed this Modification as of the first date above written.

CHAMPION INTERNATIONAL CORPORATION

By _____

Its Vice President - Materials

HOFFMAN-WALLACE, A Joint Ven

By _____

C. W. Drinkward

Its Authorized Representativ

***

JUN 19 1980

FC: Hoffman File

Champion International Corporation

Hall B. Whitworth
Vice President—Materials

Knightsbridge
Hamilton, Ohio 45020

June 16, 1980

Mr. C. W. Drinkward
President
Hoffman Construction Company
900 S.W. Fifth Avenue
Portland, Oregon 97204

Subject: Phase II Expansion
Missoula Montana

Dear Cecil:

Please find enclosed one executed copy of the Modification to our prime contract.

We have requested our field personnel to work closely with you and your subcontractors in bringing about an October 8, 1980, or earlier completion date of this project, hopefully, at a price that is well under the guaranteed maximum.

Please again caution your field supervision to be extremely alert in documenting and accounting for field change order time and costs. Every effort should be made to keep both to an absolute minimum in order to eliminate the need for further disagreement in the field.

We will do our best and know that you will also proceed likewise.

Yours very truly,

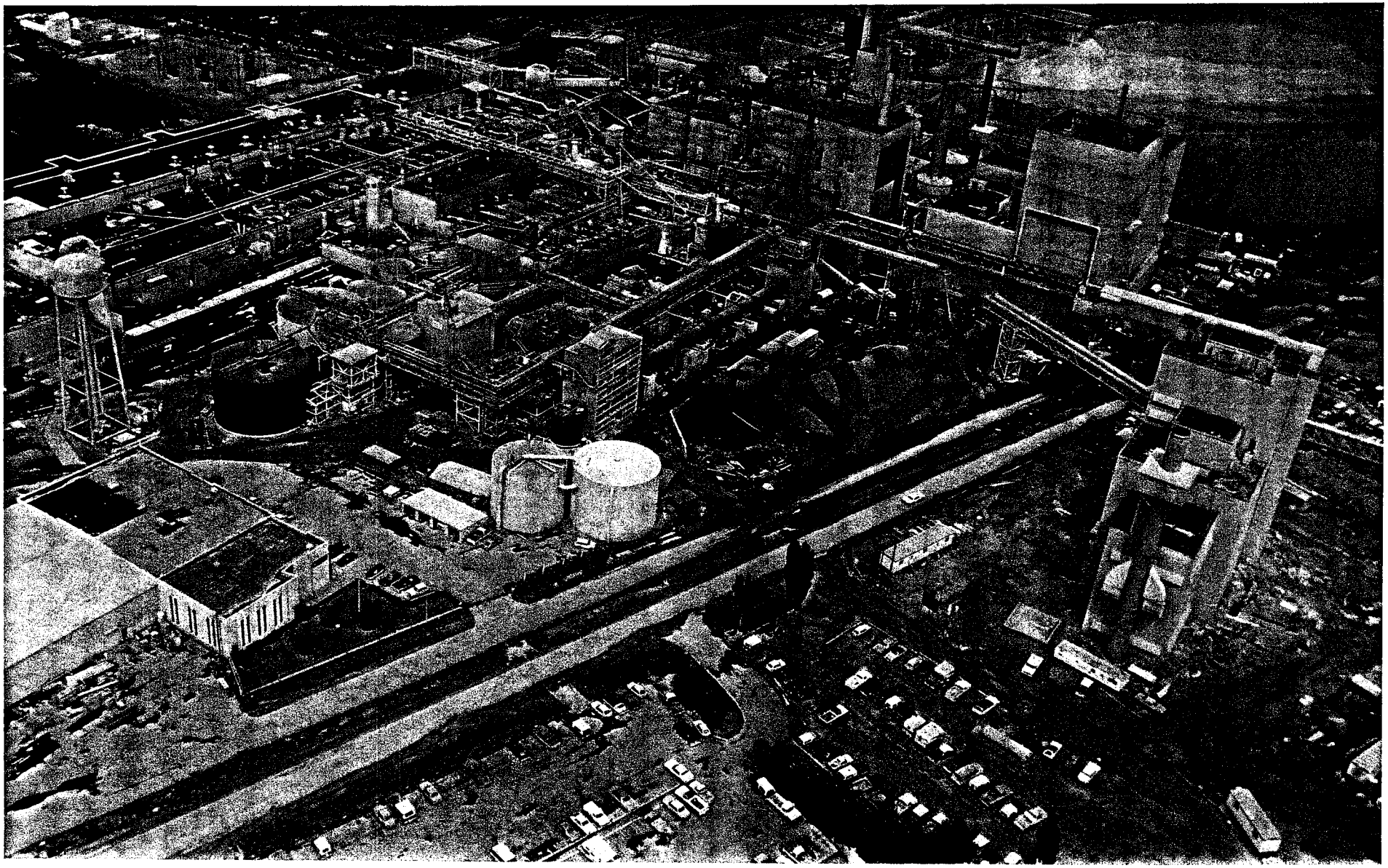
Hall B. Whitworth

HBW:jlr
Encl.

bcc: Jerry Ballengee - George Wachter
Herman Effenberger - Gene Griffith
C. E. Frederick
✓Ken Sovereign

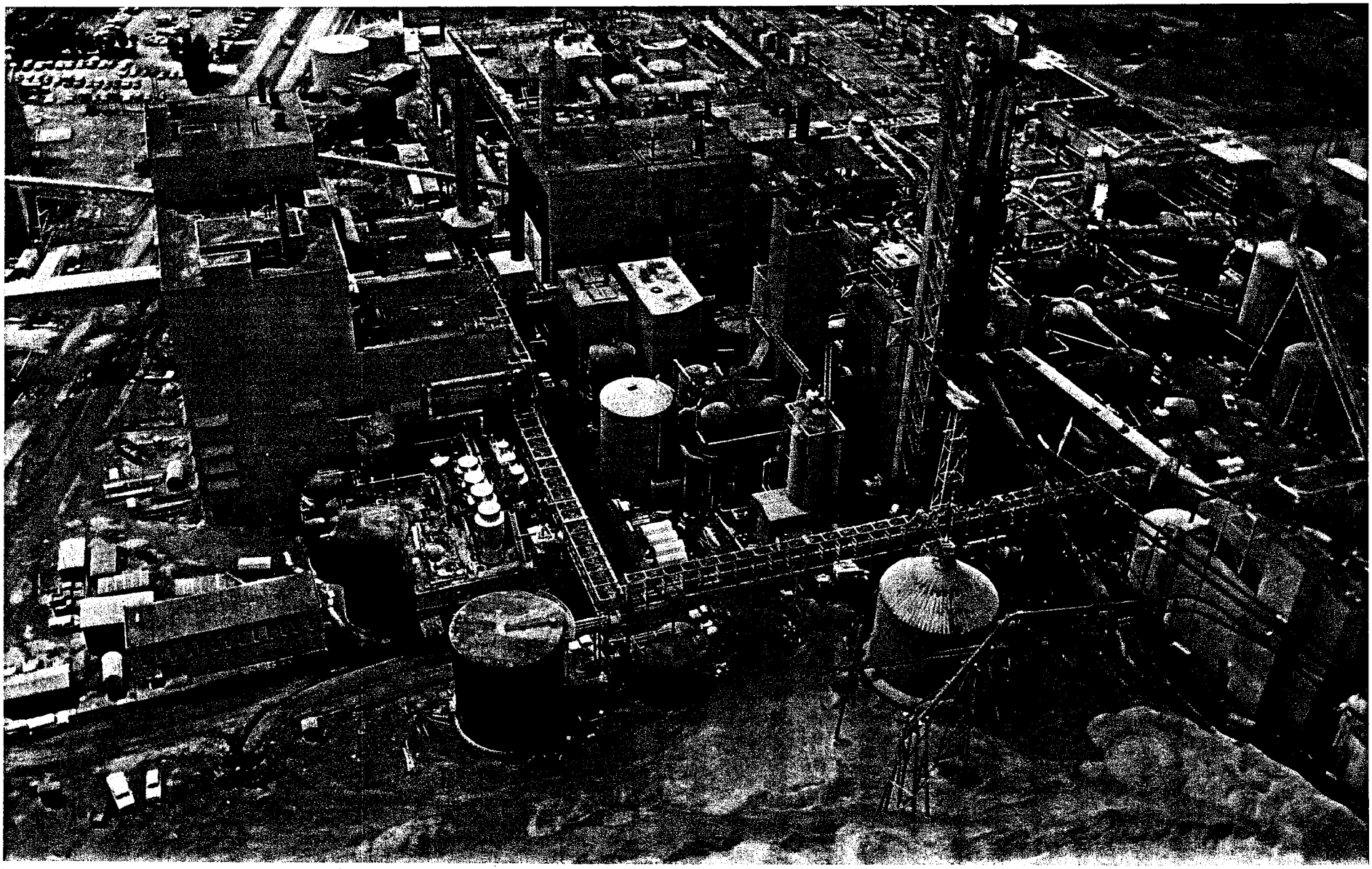
Exhibit 18

Exhibit 19



— Champion International Corp. Missoula Expansion Project — Phase II Date 8-1-80

PACKAGING DIVISION, MISSOULA, MONTANA QUARTERLY REPORT



Vault

Service Contract

Sandwell International

Exhibit 2

INTER-OFFICE CORRESPONDENCE

SEP 13 1973

Bob Missoula, MT

To Tod O'Connell, St. Paul

Jim Morris, St. Paul

Date September 10, 1973

Subject

We have completed our contract negotiations with Sandwell International for their engineering services covering Project Conservation.

We have done our best to incorporate all of the items suggested by our corporate legal office as well as those originating with Garlington, Lohn and Robinson. We feel it is a good contract. A signed copy is attached for your files.

Roy

Roy E. Countryman

REC:jk
Enc. 1

From

File - Missoula NPDES Permit

April 15, 1983

CHAMPION PAPER MILL AT MISSOULA

A REVIEW OF DISCHARGES AND PERMIT LIMITS

On the 19th of January 1983 officials from Champion and personnel from the Water Quality Bureau attended a meeting in Helena at Champion's request. At this meeting, Champion officials stated that the infiltration rates of their rapid infiltration beds and storage ponds has decreased and is continuing to decrease. Because of this decrease, they expect that before the direct discharge period in 1984 they will have to curtail their operations in order to avoid violating their discharge permit. They expect this to occur even if they are able to completely empty their ponds during the discharge period in 1983.

The color standard is their most critical limit although the total suspended solids (TSS) limit would also be violated. Their color limit is based on not causing more than a 5 SCU increase, the water quality standard, in the receiving stream. This standard was adopted on June 5, 1967. The prior limit was 15 SCU. Their TSS limit of 2,000,000 lbs/year is based on nondegradation; that is, this is the amount they were discharging when the limit was first imposed in MPDES permit (0000035) on December 2, 1974.

Champion has been aware of the decreasing infiltration rates for some time. They have attempted to discover the causes. One of their consultants has determined that the formation of an iron-aluminium-silicate gel in the bottom of the ponds is causing the decreases in infiltration rates. This gel can be destroyed by complete drying, but Champion officials feel that it is not feasible to completely dry 120 acres of ponds to depths of eight feet. Champion's consultants are attempting to determine if there are any feasible methods of breaking down this gel. Champion now feels it is unlikely that feasible methods of rejuvenating the ponds will be found. They say they do not have acceptable areas to build new ponds and they are convinced that other methods of color removal are not economically feasible.

Champion now feels their best course of action is to appeal to the Board of Health for a change in the color standard for the Clark Fork River. They will apparently base their appeal on the "misclassification" provision of the law (75-5-302 MCA) and attempt to prove that the instream color change exceeded 5 SCU at the time the standard was adopted on June 5, 1967. The small amount of poorly documented data in our files from 1968 and 1969 does not indicate that the increase exceeded 5 SCU (Table 1). Champion also feels that a change in their TSS limit will be necessary. We told them at the meeting on the 19th that they could appeal this limit under the non-degradation rules, but that the appeal might not be necessary. The uncertainty is due to Section 16.20.701(1)(a)(ii) ARM.

Review of Permit Limits

The first discharge permit for the paper plant at Missoula (then operated by Hoerner Waldorf) was issued in 1969. In the four permits issued between 1969 and 1974 there were no specific limits for color or total suspended solids. In March of 1974, Montana Discharge Permit 50-W-5 was issued. This permit included a compliance schedule for color, phenol, TSS, and BOD. The BOD and TSS limits were based on performance standards of 5.8 lbs BOD and 5.6 lbs TSS per ton of product and were to be met by July 15, 1975. The color and phenol limitations were to be met by March 1, 1977.

Exhibit 20

These limits were given as "The Montana Water Quality Standards." The water quality standard for color was (and is) a 5 SCU increase. The numerical limit for phenol in the standards was 0.001 mg/l. There is no numerical limit now.

A tentative NPDES permit was developed in 1974, but was not issued. This tentative permit had the following limits; TSS: 5,960,000 lbs/year; BOD: 2,850,000 lbs/year; and color: a 5 SCU increase. The TSS and BOD limits were changed in a revision dated August 21, 1974 to 2,000,000 and 2,250,000 lbs/year respectively with the notation that they were based on non-degradation. This revision occurred after a public hearing on the draft permit was held on May 29, 1974.

MPDES Permit 0000035 was issued on December 2, 1974. This permit had TSS and BOD limits of 2,000,000 and 2,250,000 lbs/year respectively. These were based on non-degradation. This permit also required 85% BOD removal. This permit required compliance with the color standard by March 1, 1977. In addition, discharge was to be limited by a color "formula" which would result in no instream color violations. There was no limitation on phenol. In an implementation schedule dated February 28, 1975, Hoerner Waldorf projected compliance with the color standard by March 1, 1977. In a compliance report to Don Willems dated April 28, 1976, Hoerner Waldorf stated that results of a color balance indicated that violations of the color standard would occur when the stream flow was at the seven-day - ten-year low flow (Q7-10) of 930 cfs and the pond color was over approximately 850 SCU. In a letter from the Water Quality Bureau to Hoerner-Waldorf dated March 27, 1978, 14 violations of the color standard were listed. These occurred in April and August of 1977. This letter asked for a compliance plan. In a letter dated April 27, 1978, Hoerner-Waldorf replied that they would meet the color standard by: 1, Increasing rapid infiltration; 2, reducing effluent volume; and, 3, by reducing the color of the effluent. In this letter they said, "In order for the mill to meet the color standard at the 10-year, 7-day low flow of 930 cfs, it is projected that the average effluent color will have to be reduced to 1000 SCU or less." They also said, "In summary, Hoerner Waldorf is confident that when the above program is completed and fine tuned within the next few months, that we will be able to reduce our effluent color in the range of 1000 SCU, and achieve compliance with the color standard." In a letter to Don Willems dated August 18, 1978, Hoerner Waldorf explained that they still had not achieved 1000 SCU in their effluent, but that they were close and still expected to achieve 1000 SCU. Self monitoring data indicates the color standard was not violated during low flow periods in 1981 or 1982. However, samples were not taken at the Q7-10. The lowest flow sampled was about 2,100 cfs. There is so much "scatter" in this data, when flow is plotted against color increase, that a regression cannot be used to determine if violations did or would have occurred at lower flows.

Flow-Volume Considerations

Permits issued prior to 1974 restricted direct discharge to periods when river flow exceed 10,000 cfs. Permits issued since 1974 have not listed a specific river flow rate. However, direct discharges have been limited to periods when river flows exceeded 4,000 cfs. In addition, direct discharges have not been allowed after July 15 of each year.

Direct discharges were originally limited to the high flow period because of our concern about the toxic properties of the waste. There was also concern about the potential for taste problems in fish and esthetic problems such as foaming. MPDES

permit number 0000035 issued December 2, 1974 required that the rate of discharge be limited by "(96-hour TL50 of wastewater) X river flow X 0.02" to ensure there would be no toxic effects in the Clark Fork River. Toxicity testing in the early 1970's indicated that the TL50 was in the range of 10-15% (a mixture containing 10-15% effluent and 85-90% river water killed 50% of exposed rainbow trout in 96 hours). After effluent treatment with an aeration system started in 1975, the TL50 was 70 to 100% effluent.

With a TL 50 of 10%, discharges were limited to one 500th of the river flow, by the toxicity formula, while at a TL50 of 70%, discharges were limited by the toxicity formula to about one 70th of river flow. The color limit of a 5 SCU increase means that the discharge is limited to one 260th of river flow assuming the color of the effluent in the effluent is 1300 SCU and linear response of color to dilution. The volume weighted mean color of discharged waste in 1981 was 1100 SCU. Color does not respond in a linear fashion to dilution, however, the disparity from linearity is not great. If 1100 SCU is used and the color increase is limited to a calculated 4 SCU increase, to allow for the non-linearity, then the discharge is limited to one 275th of the stream flow. Thus, the color standard protects against toxic effects. Because of this, the current MPDES permit does not use bioassay results to limit discharges.

At the present time, it does not appear that there are any technical reasons to limit discharges to the high flow period. Table 2 lists the river flows which are exceeded (by %) and the volumes of wastewater which could be discharged using various flows and colors. If we assume an average plant output of 16 MGD (17,928 ac.ft/yr), it appears that in an average year (50% exceedance) all of the plant output could be directly discharged to the river without exceeding 5 SCU instream. However, as previously mentioned, color does not dilute in a strictly linear fashion so some allowance for this must be made. Thus, the actual amount which could be directly discharged in an average year might be less than 18,591 acre feet, but would almost certainly be greater than 14,872 acre feet (it might be greater than 18,591 acre feet!). As mentioned above, the yearly plant output would be about 17,928 acre feet. Some of this evaporates. Evaporation was calculated at 18% in 1976, and decreased linearly until 1982 when only 3% evaporated. It appears the method of calculating evaporation needs to be critically examined. Nevertheless, there is some evaporation and it is probably near the midpoint of the calculated values. In addition, it seems reasonable to assume that some seepage will continue to occur. If we assume 20% of the total will seep (about 60% has seeped or infiltrated in the past) and that seepage will remove 50% of the color, and assume 10% of the total will evaporate, then only 12,591 acre feet would need to be directly discharged. This would allow operation in about 80% of the years without carryover of wastewater in storage (Table 3).

Thus, it appears that Champion should evaluate the possibility of direct discharges. Direct discharges should be allowed only after treatment (aeration) in order to minimize toxicity, BOD loading, and esthetic problems such as taste in fish, and foaming.

TABLE 1

DATE	COLOR River Station Above H-W	COLOR River Station Below H-W	Difference
May 1968	15	17	+2
June 1968	9.5	14	+4.5
July 1968	3	5	2
August 1968	1	5	4
September 1968	3	2	-1
October 1968	1	5	4
November 1968	7	10	3
December 1968	4	5	1
January 1969	3	5	2
February 1969	1	2	1
March 1969	1	1	0
April 1969	22	25	3
May 1969	14	19	4
June 1969	11	16.3	5.3
July 1969	1	1	0
August 1969	10	10	0
September 1969	1	1	0
October 1969	1	1	0
November 1969	1	1	0
December 1969	1	1	0

TABLE 2. Flow exceedance and amount of effluent which could be discharged** without violating 5 and 4 SCU in the receiving stream.

River Flow % Exceedance	Clark Fork River Ac.Ft./Yr. X 10^6	*Volume discharged (Ac.Ft./Yr.) for color increases of: 5 SCU Increase	4 SCU Increase
25	4.794	21,791	17,432
50	4.090	18,591	14,872
75	3.095	14,068	11,254
80	3.022	13,736	10,989
90	2.227	10,122	8,098

*Assumes 1,100 SCU in discharged water and no allowance for seepage or infiltration.

**Annual plant output = 17,928 Acre Feet.

TABLE 3. Amount of effluent which could be disposed of without violating 5 or 4 SCU in the receiving stream at various river flows.

River Flow Ac.Ft./Yr. X 10^6	*Volume discharged (Ac.Ft./Yr.) for color increases instream: 5 SCU	4 SCU
3.1	17,837	15,010
3.0	17,337	14,646
2.2	13,737	11,604

*Assumes 1,100 SCU in discharged water and allowing for seepage and/or infiltration of 20% of the total plant effluent with a 50% reduction in the color of the seeped and infiltrated water.

APPLICATION FOR MODIFICATION OF

WASTE DISCHARGE PERMIT

NO. MT-0000035

Prepared by

CHAMPION INTERNATIONAL CORPORATION
FRENCHTOWN MILL

MISSOULA, MONTANA

Submitted to

WATER QUALITY BUREAU

DEPARTMENT OF HEALTH & ENVIRONMENTAL SCIENCES

HELENA, MONTANA

JULY 22, 1983

Exhibit 21

INTRODUCTION:

This application is being submitted by the Champion International Corporation, Pulp and Paperboard Manufacturing in Missoula for the purpose of modifying discharge permit MT-0000035. The permit modification is being requested because of a very significant decrease in the capacity of the rapid infiltration system to treat effluent. This loss of capacity has caused the remainder of the effluent treatment system to become overloaded to the extent that it can not treat the total volume of effluent from the mill and maintain compliance with the river water quality standards. This permit modification plus additional end-of-pipe and in-mill controls should enable the effluent treatment system to adequately treat the mill effluent. The permit modification will have minimal impact upon the receiving stream (the Clark Fork River) and enable Champion to maintain a competitive position in the market place in which it operates.

PROPOSAL:

It is proposed that permit MT-0000035 be modified to allow:

1. Direct discharge of effluent throughout the year.

2. An increase of the total suspended solids limitation to 6,300,000 lb/year to reflect the proposed federal best conventional control technology (BCT) limitations and current applicable new source performance standards (NSPS).

All the Clark Fork River water quality standards would continue to be met with these proposed changes in the waste discharge permit.

HISTORY:

The Champion Mill has always utilized the concept of effluent storage and direct discharge during the spring runoff. The shallow storage ponds acted as long-term stabilization basins where as much as 50% of the BOD was treated by natural aeration. A substantial amount of effluent disposal occurred by percolation through the bottoms of the ponds. As the mill expanded and as the percolation rate decreased, additional storage ponds were constructed. At one point, 700 acres of storage ponds were used to store mill effluent.

The first ponds that the effluent entered acted as clarifiers and provided primary treatment for the effluent. In order to prevent the further accumulation of sludge in our storage ponds, an effluent clarifier was installed in 1970.

Champion's efforts to maintain the percolation rates from the storage ponds led us to Dr. Al Wallace, University of Idaho, who was using a unique land disposal system called rapid infiltration. This technique involved the intermittent dosing of basins with effluent followed by a draining and drying mode. We experimented with the concept in 1973 and decided it had application for our effluent. The first full-scale basins were constructed in 1973 and the system has been expanded over the years. The present system includes 12 basins with a total surface area of 118 acres.

The secondary treatment system, consisting of a two-stage aeration basin with twelve 150 HP mechanical aerators was started in the fall of 1974. In addition to a further reduction in BOD, the aeration system has made a substantial reduction in odor and effluent toxicity.

The first MPDES permit was issued in July 1975 and it contained limits of 2,250,000 lbs of BOD per year and 2,000,000 lbs of total suspended solids per year. The BOD limitation was based upon best practical control technology (BPCT) of 5.6 lbs per ton and a production rate of 1150 tons per day.

The TSS limitation was based upon the highest previous direct discharge of TSS. The BPCT for TSS was 12 lbs per ton which is equivalent to 4,830,000 lbs per year at a production rate of 1150 tons per day. The mill was actually penalized for doing a good job of controlling the direct discharge of TSS prior to the issuance of the permit.

Our MPDES permit color standard which limited the color increase to 5 SCU became effective in March 1977. The color standard is the most stringent of any regulation imposed upon the mill's operation and limits the rate of direct discharge. Prior to this date, the direct discharge rate was based upon static bioassays with a 50:1 safety factor.

EFFLUENT REDUCTION:

Color reduction has received constant emphasis by Champion and very significant capital expenditures have been made for projects in the mill to reduce the color of the effluent leaving the mill. An extensive spill collection system has

been put into use and was even greatly expanded for the recent mill expansion. The optimal usage of this system is a daily effort and new sources of spills continue to be identified to be included into the spill collection system. However, the cost of collecting the smaller sources is getting to be very expensive for the amount of color that is collected. The efforts of this color reduction program are exemplified in the attached graph (see Figure 1). As can be seen from Figure 1, a significant reduction in color was accomplished prior to the mill expansion. The color losses increased during the expansion start-up because of the many equipment outages and start-ups taken during this period. However, the color has recently been reduced to near pre-expansion levels. In the last six months, five projects that collect additional color losses have been completed. Work is continuing to identify additional sources of color losses that can be collected. However, the remaining sources are more difficult to collect and return to the system. It is also very likely that as additional spills are collected, more evaporation will be required to process them and this would be very expensive.

In addition to the extensive effluent color reduction program, the Champion mill has engaged in an on-going water usage reduction program. Many water reuse systems were implemented in the recent expansion to keep the water usage at a minimum. This program has continued after the expansion so that as more operating experience of the new mill systems is gained, further water use reductions have been identified and implemented. However, as with color reduction, the water reuse options are getting more expensive for the amount of water saved and to make a significant water use reduction now would involve large capital outlays. However, identification of additional projects to reduce water usage and to divert clean water from the contaminated effluent is continuing.

Some of the larger projects that have been implemented to reduce water usage during the past five years have been:

1. Installed screening of paper machine white water to allow reuse of this filtered water on paper machine showers (1.2 mgd)

2. Installed indirect coolers on the evaporators (1.4 mgd)

3. Used 2nd hypo stage filtrate as pulp screen dilution (0.9 mgd) and chlorine stage filtrate for chlorine washer vat dilution (0.6 mgd)

Projects in the mill expansion that allowed water reduction include the use of multiple vapor recompression evaporators (4.8 mgd) and a central vacuum system on the new paper machine (0.6 mgd).

RAPID INFILTRATION SYSTEM:

One of the big advantages of the rapid infiltration system has been its ability to remove approximately 70% of the color from the effluent that is infiltrated. This system has allowed the mill treatment system to consistently meet the color standard. Other advantages of rapid infiltration are further reduction in BOD, TSS and nutrients.

Figure 2 plots the increase in acreage and the volume of effluent processed via rapid infiltration with time. This plot clearly illustrates that the infiltration rate has decreased with time. Our efforts to rejuvenate the system by ripping the surface and allowing the basins to dry 8 weeks each summer have not been successful.

In 1980, we contracted Battelle Northwest, Richland, WA, to conduct a complete hydrological study of our rapid infiltration system. The Battelle study showed that seepage from our cooling ditch and an adjacent irrigation ditch was raising the groundwater table by 1 1/2-2 feet. Since the limited unsaturated interface was considered to be a detriment to the rapid infiltration system, it was recommended that the cooling ditch be lined. However, due to the high cost of lining the ditch ($200,000) and the questionable benefit of lowering the groundwater by one foot, the project was delayed.

More recently, other attempts made were to evaluate turning over the gravel down to groundwater in a basin so that the top layers were put on the bottom and the bottom on the top. Also, gypsum was tilled into a basin's gravel to evaluate the effects of a sodium-calcium ion exchange. Neither of these methods provided an increase to the infiltration rates of the basins.

In July 1982, Environmental Resources Management, Inc. (ERM) began a study of the cause of the rapid infiltration pluggage and once the cause was determined, they were to recommend an engineering solution for rejuvenation of the basins. ERM spent approximately three weeks at the mill site studying the system operation, taking numerous soil and effluent samples and studying the hydrogeological conditions. From their study and from extensive laboratory analysis of the soil samples, ERM concluded that the

reduction in infiltration capacity was being caused by the formation of gel-like material in the soil. ERM determined that drying the gel would allow the soil to become more permeable and that the drying was irreversible since the gel was not reformed after wetting. ERM did not find any other means of treating the gel to increase the basin drainages.

The solution proposed for rejuvenating the basins involved a year-long drying period during which rain and snow would be kept off the basin as much as possible. This program is impractical because part of the rapid infiltration system would be removed from service for an extended period. Also, the success of being able to dry the gel in the proposed manner was in doubt.

A one-acre portion of a rapid infiltration basin has been isolated from the rest of the basin and this test basin will be dried according to ERM's proposed method. Soil samples will be collected periodically from this test basin to evaluate the drying of the gel. At the end of the summer of 1983 the test basin will be dosed with effluent again and evaluated for performance.

Other studies and trials are also being pursued to evaluate methods to rejuvenate the basins. One basin was flushed with uncontaminated cooling water for five weeks to see if this would flush the gel from the soil and improve the permeability. However, infiltration rates did not show a change either during the flushing or after the basin was again dosed with effluent.

Another basin was subjected to blasting with dynamite. One fourth of the basin was set with charges 20 feet down on a 10 foot grid. The basin has not been dosed with effluent a sufficient number of times since the blasting to determine any conclusions at this time.

A lysimeter study was initiated to determine the effectiveness of treating the soil with uncontaminated cooling water at high and low pH's, a surfactant, chlorine, oven drying, and air drying. The only one of these options that has shown some ability to increase soil permeability has been the high pH treatment using a caustic solution. However, there are many questions concerning the effects of such a chemical treatment on the groundwater and the river that may prevent this from being an effective treatment. In order to answer some of these questions, Champion is considering using the caustic treatment on a full scale basin.

In summary, nothing at this time indicates that any of these

methods for rejuvenating rapid infiltration will be successful. However, Champion is continuing the search for successful methods.

ALTERNATIVE PLANS:

To cover the contingency of not finding a means of rejuvenating the rapid infiltration system, alternative plans for reducing the effluent color are being investigated. One approach is to reduce color losses to the mill's sewer system. We have already installed a 500,000 gallon spill tank and an extensive collection system to capture potential losses and to meter them back into our process. This system has allowed our effluent color to be reduced from 2500 SCU down to the current level of 1300 SCU. We have also identified other projects to further reduce color losses which are being implemented.

However, the remaining sources of color losses are more difficult to collect and to return to the system. It is very likely that more evaporation will be required to process the additional spills. Therefore, the feasibility and economics of this approach are questionable. Because of the importance of in-mill reductions, the Technology Center and mill personnel are involved in an evaluation of the mill processes to further assess the possibility of in-mill effluent color and volume reductions.

Champion has involved its Corporate Technology Center to investigate end-of-pipe treatment methods for color removal, even though no color removal method has been proven economical in commercial applications. After much mill site and laboratory evaluation, the Technology Center has recommended that a lime addition trial be run on the total effluent to the clarifier. It is hoped that this treatment will achieve some color removal. The use of lime addition at the clarifier is currently being evaluated.

COMPUTER MODELLING:

Champion contracted CH_2M-Hill to use a computer to predict the storage pond requirements and color impact on the receiving stream using year-round discharge and several scenarios including current levels of volume, color, TSS, BOD, and seepage. Rapid infiltration was projected to be at next year's reduced level based upon the linear regression analysis shown in Figure 3. The computer used U.S.G.S. river flow data for the past 52 years to predict storage pond capacity requirements, color impacts, BOD load, and TSS

load.

A base case (DATUM) using anticipated 1983-84 effluent characteristics predicted a storage pond requirement of 6029 acre-feet. Our present capacity is 3288 AF. This capacity could be increased to 3971 AF, but some rapid infiltration basins would have to be sacrificed to get this increase. The percentage of months where storage requirement exceeded 3288 AF was 27%. In addition to the lack of necessary storage capacity, the 5 SCU river color standard was violated 20% of the time and the existing TSS and BOD limitations would be exceeded. The color violations are due to increased seepage caused by higher storage volumes. This data is summarized in Table I under the datum run. This data clearly shows that even with year-round discharge, problems with storing effluent and meeting our permitted limits will occur a large percentage of the time. If Champion continues to be restricted to a spring discharge only, the situation will become even worse.

Because year-round discharge alone will not resolve Champion's effluent treatment problems, the CH_2M-Hill computer program was used to predict the results on storage capacity, color violations, BOD levels discharged and TSS levels discharged for various scenarios. These scenarios and the results are shown in Table I.

To predict the effect of a change in the color standard, a computer run was made using a color standard of 10 SCU and existing effluent conditions (Run #1). The data shows that the storage requirements were very nearly met and that river color violations were not a problem. However, the BOD and TSS limitations were exceeded and would have to be addressed.

The next computer runs were done to predict the results using a 5 SCU river color standard and adjusting various parameters for the discharged effluent. Reducing the effluent color to 1000 SCU (Run #3) caused problems with effluent storage, some river color violations, and BOD and TSS problems. Reducing just the effluent BOD to 50 ppm (Run #5) resolved the BOD problem, but problems remained in all other areas. Reducing the BOD to 50 ppm and the color to 750 SCU (Run #20) resolved the BOD and most of the color problems, but there were still storage and TSS problems. Run #8 used a reduction in BOD to 50 ppm and color to 650 SCU, and this situation resolved all the problems except for TSS and a slight problem with storage. Even though this was the best scenario examined, Champion feels that reducing the color to 650 SCU is not a realistic target. Reducing color in the area of 1000 SCU would be more realistic.

A run reducing color to 1000 SCU and BOD to 50 ppm (Run #15) showed that all areas except BOD remained problems. However, the storage requirements, river color violations and TSS problems were reduced. Therefore, run #16 was made with an 8% reduction in effluent volume in addition to BOD and color being reduced to 50 ppm and 1000 SCU, respectively. This run showed that BOD was not a problem and that storage, river color violations, and TSS came closer to being acceptable.

Reducing the effluent color to 900 SCU, the BOD to 50 ppm, and the effluent volume by 10% (Run #19) appears to be a practical way to meet compliance with all constraints.

RIVER CONDITIONS:

The proposed year-round discharge of treated mill effluent to the Clark Fork River will have a minimal impact on the river. The impact of the current levels of discharge are negligible as evidenced by yearly river water quality studies performed by the Institute of Paper Chemistry for Champion.

The proposed increase in total suspended solids (TSS) will not have a negative impact on the river. The concentration of TSS in the river as a result of our discharge would not be expected to exceed 1-2 ppm. Extensive studies done by the National Council for Air and Stream Improvement (NCASI) (1,2,3) have shown that 95% of the TSS in Kraft mill effluent is of biological origin and that these are ingested by a variety of aquatic invertebrates. These findings explain why little or no measurable accumulations were found on stream bottoms in these studies.

The effects of the proposed discharge on the river dissolved oxygen will be insignificant. Champion has arranged for typical effluent from the mill to be tested to determine its long term (45 days) demand for oxygen. This work indicates that BOD demand of 50 ppm after 5 days will have a ultimate demand of about 161 ppm after 45 days. Assuming a linear dilution in the river, a discharge color of 900 SCU, a discharge BOD_5 of 50 ppm with ultimate BOD of 161 ppm and the river color standard of 5 SCU, then the potential long term oxygen demand would be:

$$\left(\frac{5 \text{ SCU}}{900 \text{ SCU}} \right) 161 \text{ ppm} = 0.9 \text{ ppm long term oxygen demand}$$

This ignores further dilution from tributaries and

reaeration in the river. We know that natural reaeration of the river between the discharge and subsequent sampling stations will reduce the consumption effects and the actual impact would be less than 0.9 ppm.

In 1977, the year with the third lowest stream flow in 52 years of record, the river D.O. did not decrease from above the mill to below the mill by more than 0.2 ppm (see Table 2). Also, an EPA study (4) conducted in July and August 1973, another low river flow year, showed a variation of only 0.4 ppm from above to below the mill. This report also reported only slight increases in the river BOD from above to below the mill.

To monitor the river D.O. closely, Champion will sample the river for D.O. weekly at concentrations above 8.0 ppm. The sampling frequency will be increased to once every other day when the river D.O. is less than 8.0 ppm. If the river D.O. becomes less than 7.0, then the direct discharge would be stopped. The D.O. sampling will be done during the one hour period preceding sunrise.

The toxicity of the proposed discharge will not be a factor in restricting the amount discharged to the river. The river color standard is much more restrictive than toxicity for limiting the amount of discharge. This is readily apparent from the data shown in Table 3.

Extensive nutrient testing was required on Champion's previous discharge permit and the data shown on Figures 4-8 taken over a six-year period show that the mill discharge does not contribute to nutrient levels in the river. During periods of direct discharge or low river flows there was no increase in nutrient levels in the river from above to below the mill. Therefore, going to a year-round discharge will not have a measurable impact on the river nutrient levels.

Champion's previous discharge permit also required testing for phenol concentrations in the river. This data, which is graphed in Figure 9, shows that the mill discharge does not contribute to phenol levels. The phenol tests were included in the previous permit only because the lignin compounds in our waste water give a positive result for the phenol test.

Several studies (5,6) have been performed by various agencies and individuals on fish tainting in the Clark Fork River. Generally these studies conclude that there has been some detectable difference in the taste of fish caught in the close proximity of the Frenchtown mill storage ponds, but that from 2 miles, which was the closest point downsteam that was tested, and futher downstream, the taste of fish is

as good as fish upstream of the mill. One study found that fish downstream of the mill tasted better than those upstream.

Foam in the Clark Fork River downstream from the Champion mill has been claimed to have been caused by the discharge of effluent from the mill. However, no studies are known to have been performed to either substantiate or refute this claim. Long-time observers of the Clark Fork River have noted foam upstream of the mill as well as downstream. The mill effluent has the potential to cause foam in the river if the discharged effluent breaks the surface of the river. Therefore, precautions have always been taken to construct the outfalls so that the discharge remains submerged.

For year-round discharge, a new diffuser system will have to be engineered and installed to promote better mixing of the effluent at low river flows to minimize the impact of color within the mixing zone. This discharge pipe will also be smaller than the existing discharge pipes to improve flow control at the lower discharge rates. The new diffuser system will be installed at the existing outfall 003. The diffuser will also be engineered so that it will not interfere with boating activity in the river.

The effluent storage ponds can have an impact on ambient H_2S concentrations when the action of anaerobic sulfur reducing bacteria on the stored effluent generate H_2S gas. With the installation of secondary treatment, H_2S emissions from the aerated effluent storage ponds were greatly reduced. However, the stored effluent still occasionally becomes anaerobic. Two situations have been identified which cause H_2S emissions from the ponds; when the frozen ponds thaw out in the spring and when the ambient temperature increases in the summer. Year-round discharge will help this situation by reducing the amount of stored effluent.

Discharging effluent to the river from the Champion mill throughout the year in compliance with the State's existing color standard, will not create any perceptible change in the river color. The NCASI performed an investigation on the ability of human observers to detect changes of varying color amounts in rivers (7). Of the streams studied with similar natural background color to the Clark Fork River, this study concluded that observers could perceive an increase of 20 SCU only 50% of the time. Therefore, the State water quality standard of 5 SCU increase should not be detectable.

REFERENCES

1. National Council for Air and Stream Improvement, Stream Improvement Technical Bulletin No. 308, "A Study of the Fate of Biosolids from Biologically Treated Effluent in Laboratory and Constructed Streams", (April 1978).

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3. National Council for Air and Stream Improvement, Technical Bulletin No. 368, "Effects of Biologically Stabilized Bleached Kraft Mill Effluent on Cold Water Stream Productivity as Determined in Experimental Streams - First Progress Report", (April 1982).

4. U.S. Environmental Protection Agency, (1974), Clark Fork River Study, Montana, July-August, 1973, Report by Technical Investigations Branch, Surveillance and Analysts Division, EPA, Region VIII.

5. Montana Department of Health and Environmental Sciences, "Environmental Impact Statement for the Proposed Expansion of the Hoerner Waldorf Pulp and Paper Mill At Missoula, Montana", (Draft), June 17, 1974.

6. Correspondence to Abe A. Horpestad, Montana Department of Health and Environmental Sciences from Lois A. McGill, Department of Food Science and Technology, Oregon State University, July 6, 1977.

7. National Council for Air and Stream Improvement, Stream Improvement Bulletin No. 283, "A Study to Define Changes In Pulp Mill Effluent Contributed Color In Receiving Waters Detectible by Human Observers", (December 1975).

TABLE I

COMPUTER PROJECTIONS

RUN #	1983-84 Effluent DATUM	ΔC = 10 1	Color In = 1000 3	BOD In = 50 5	Color In = 650 BOD In = 50 8	Color In = 1000 BOD In = 50 15	Color In = 1000 BOD In = 50 Q In = 14.75 16	Color In = 900 BOD In = 50 Q In = 14.4 19	Color In = 750 BOD In = 50 20
Maximum Storage Requirement (AF)	6029	3916	5602	6029	3916	5602	4607	4122	4687
10% Tile Storage Requirement (AF)	5443	3154	4819	5443	3154	4819	3969	3446	3786
% of Months Where Storage > 3288 AF	27	2	13	27	2	13	5	3	4
% of Months Where Color Standard Violated	20	0	7	20	0	7	4	2	1
Maximum BOD (10^6 lb)	3.5	3.8	3.8	1.8	1.9	1.9	1.7	1.7	1.9
10% Tile BOD (10^6 lb)	2.3	3.8	3.3	1.2	1.9	1.7	1.6	1.6	1.[illegible]
Maximum TSS (10^6 lb)	7.2	8.1	8.0	7.2	8.1	8.0	7.3	7.1	8.1
10% Tile TSS (10^6 lb)	3.7	8.0	6.5	3.7	8.0	6.5	6.7	6.9	8.0

Note: 1983-84 effluent data - flow (16 mgd), BOD (100 ppm), TSS (217 ppm), color (1300 SCU)

TABLE 2

CLARK FORK RIVER DISSOLVED OXYGEN

Grab Samples

Date	Harper's Bridge D.O. (mg/l)	Six-Mile D.O. (mg/l)	River Flow (cfs)
January 1977	12.2	12.4	1150-2138
February	10.9	10.9	1544-2086
March	11.1	11.3	1620-1788
April	10.1	9.9	2192
	9.0	8.9	4940
May	8.8	8.7	7650
	8.8	8.8	3930
	9.6	9.5	4650
	8.7	8.7	4380
	8.9	8.8	5510
June	7.6	7.8	8010
July	7.6	7.6	2030
August	6.8	7.0	1540
September	7.2	7.4	1640

TABLE 3

COMPARISON OF VOLUME DISCHARGED IN THEORY BY THE TOXICITY FORMULA AND THE VOLUME ACTUALLY DISCHARGED

	TL_{96} Formula	Actual Discharge
1977	11,413 A.F.	691 A.F.
1978	41,083 A.F.	2,580 A.F.
1979	36,075 A.F.	2,128 A.F.
1980	54,929 A.F.	5,119 A.F.
1981	30,220 A.F.	3,874 A.F.
1982	41,827 A.F.	5,841 A.F.

The data for the worst case in the above time period:

Date: July 6 - July 13, 1978

Pond TL_{96}: 24%

Pond Color: 2440 SCU

Discharge rate using the pond color was 10% of the discharge rate using the TL_{96} result.

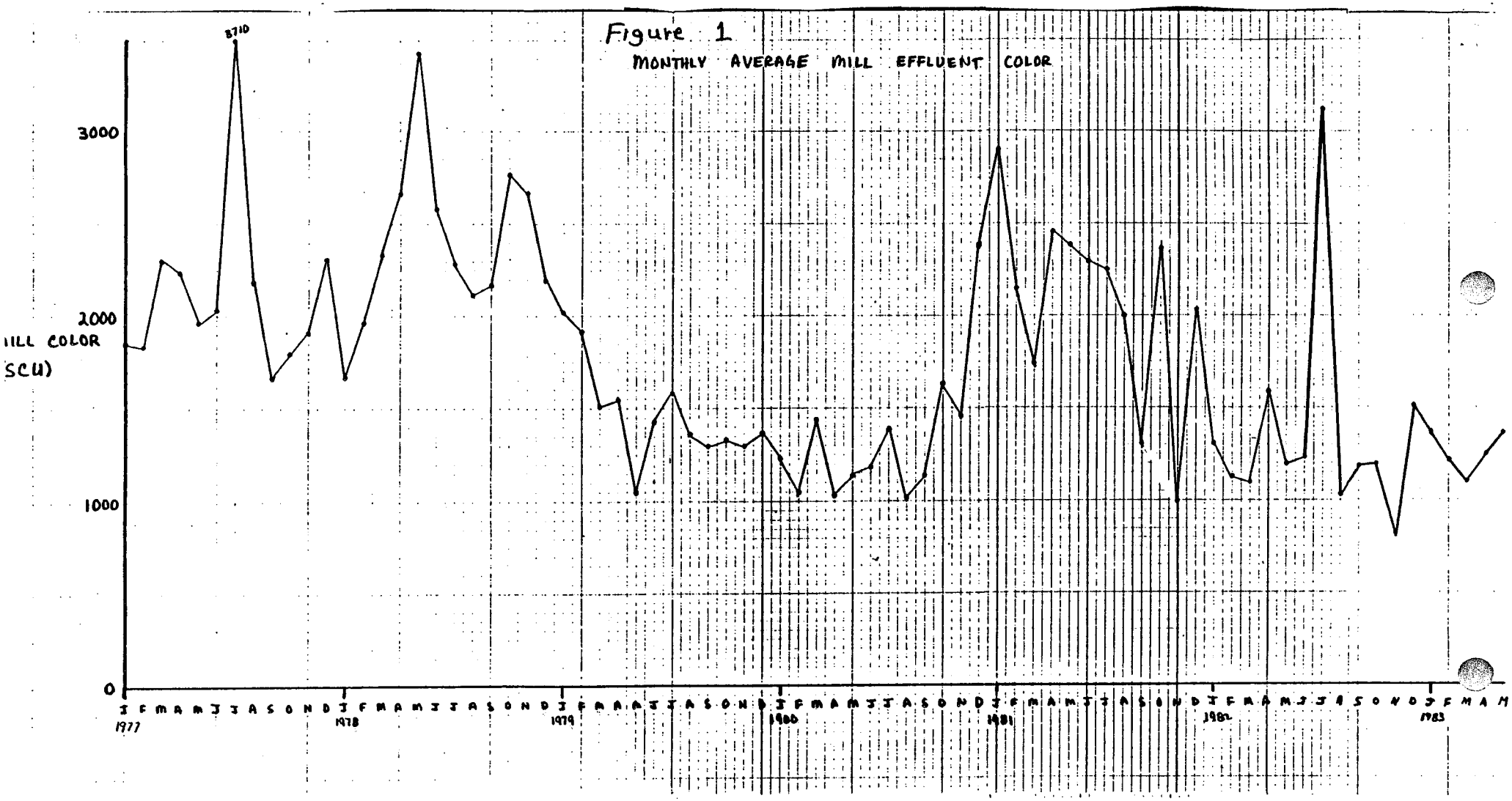


Figure 1
MONTHLY AVERAGE MILL EFFLUENT COLOR
3710
3000
2000
1000
0
ILL COLOR
SCU)
I F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M
1977
1978
1979
1980
1981
1982
1983

FIGURE 2

RAPID INFILTRATION AREA
AND VOLUME PROCESSED

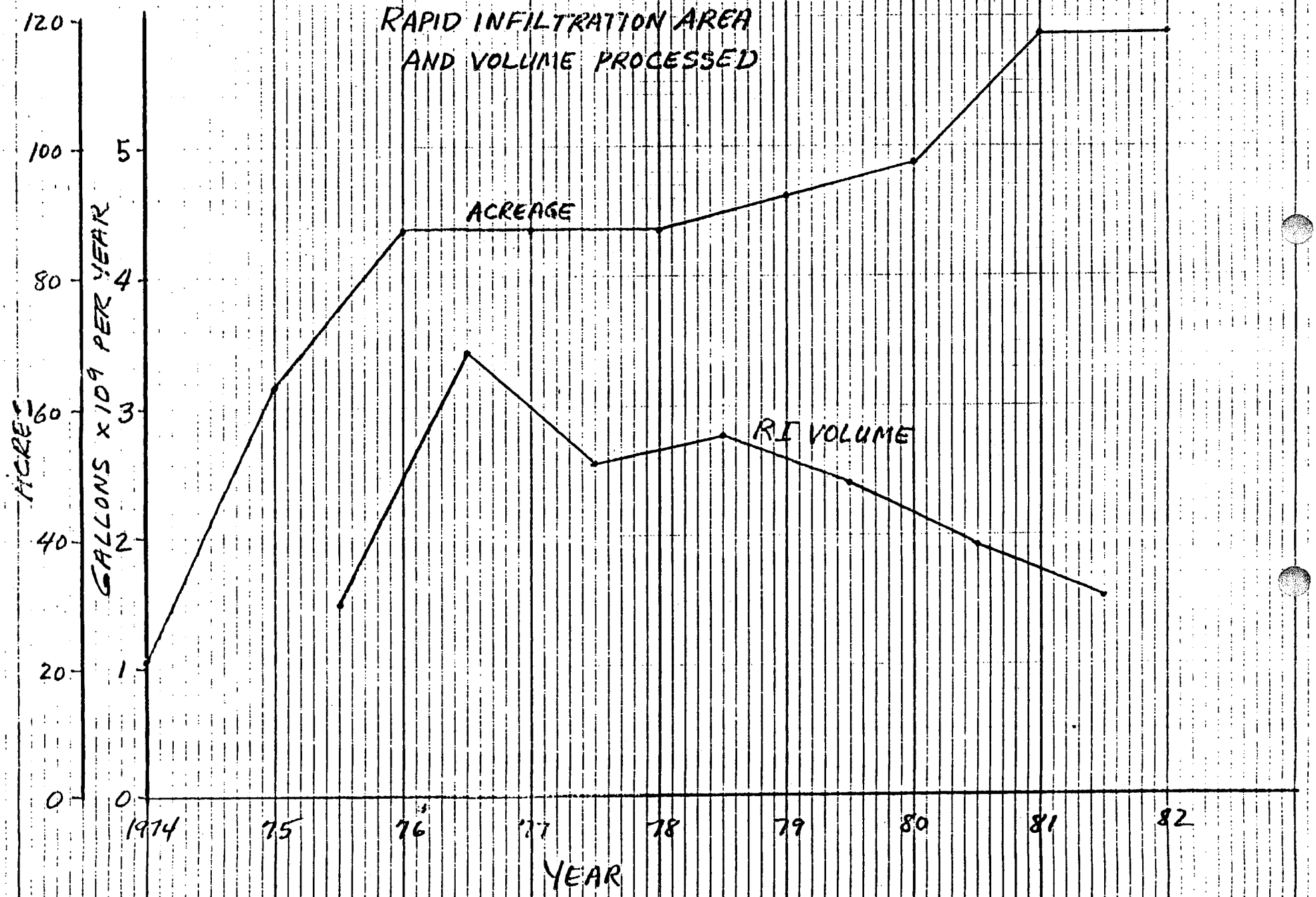
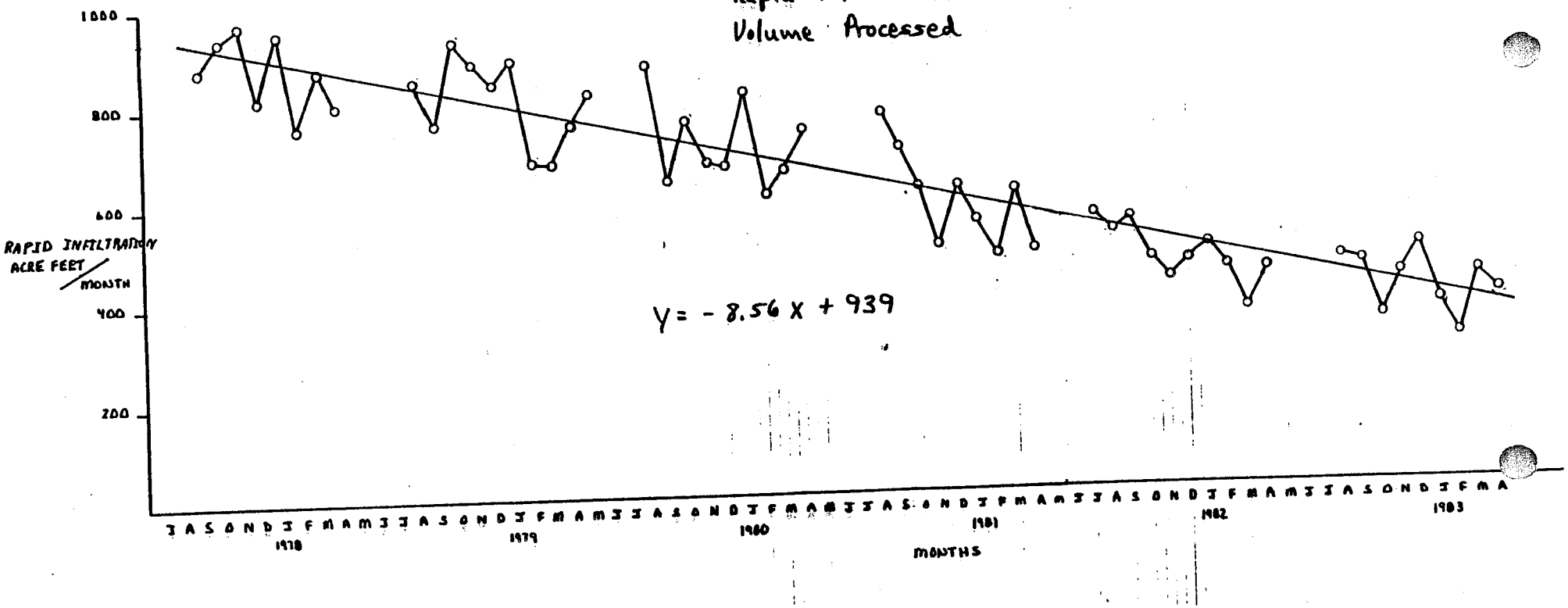
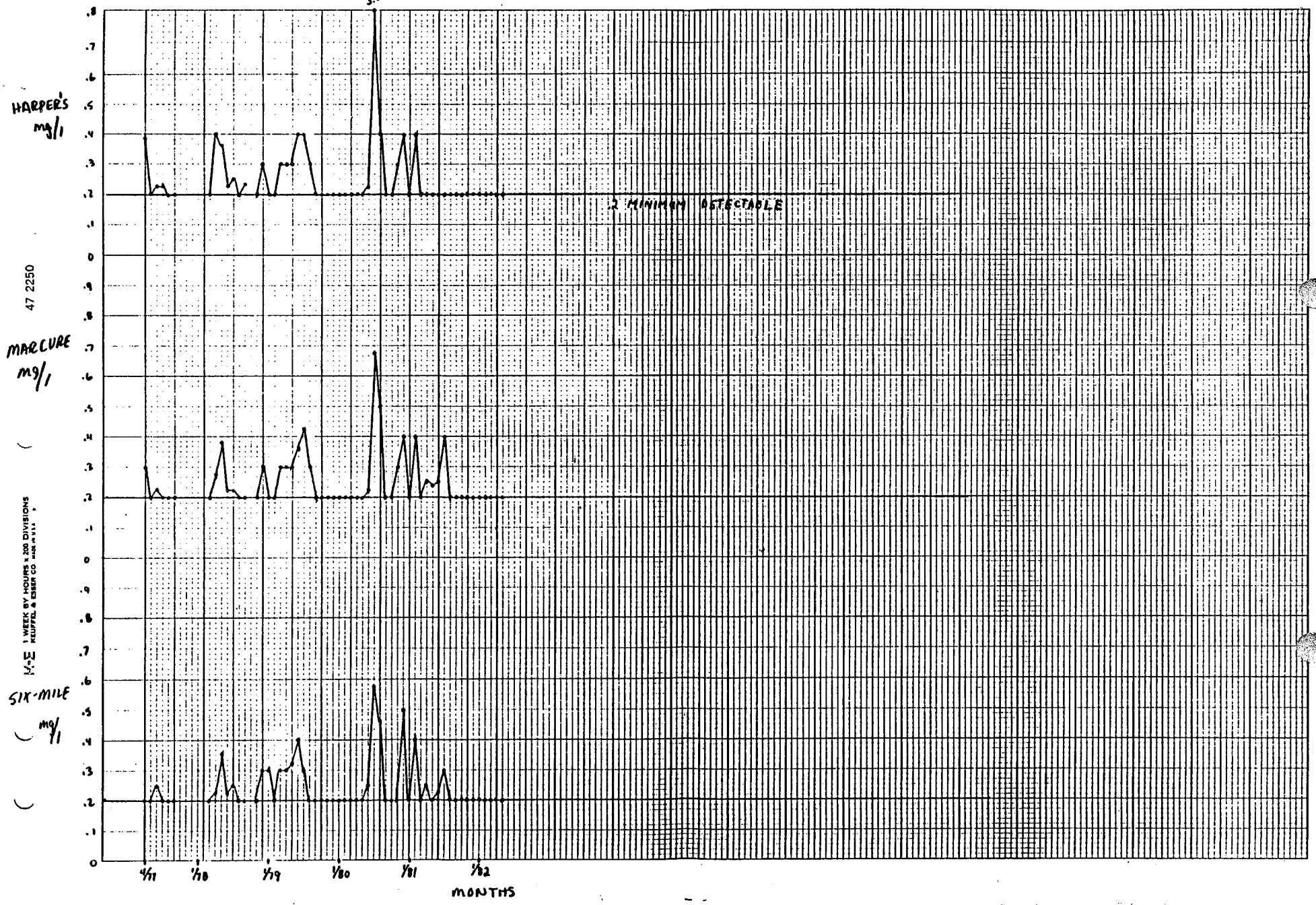


Figure 3

Rapid Infiltration Volume Processed

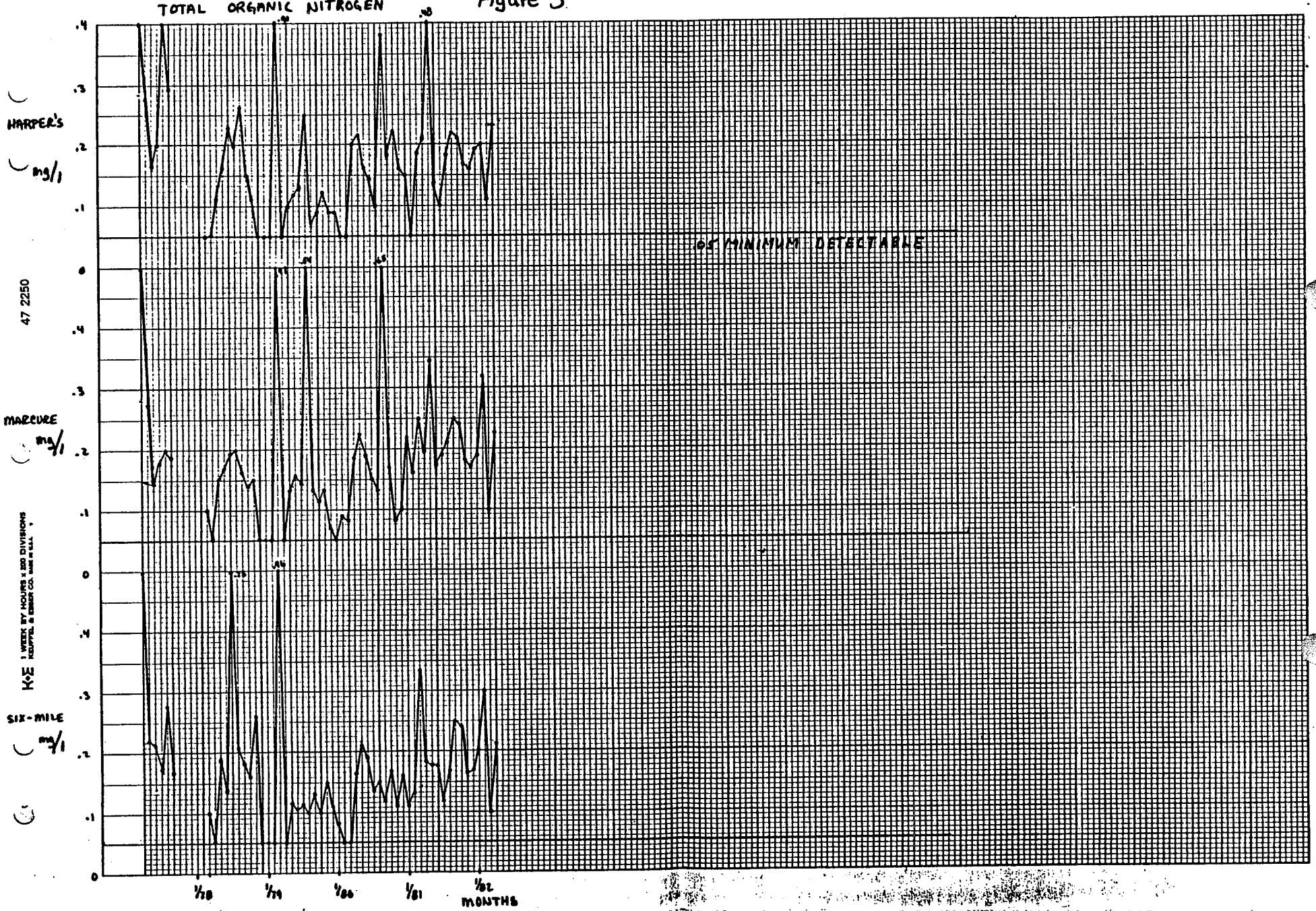


TOTAL PHOSPHORUS Figure 4

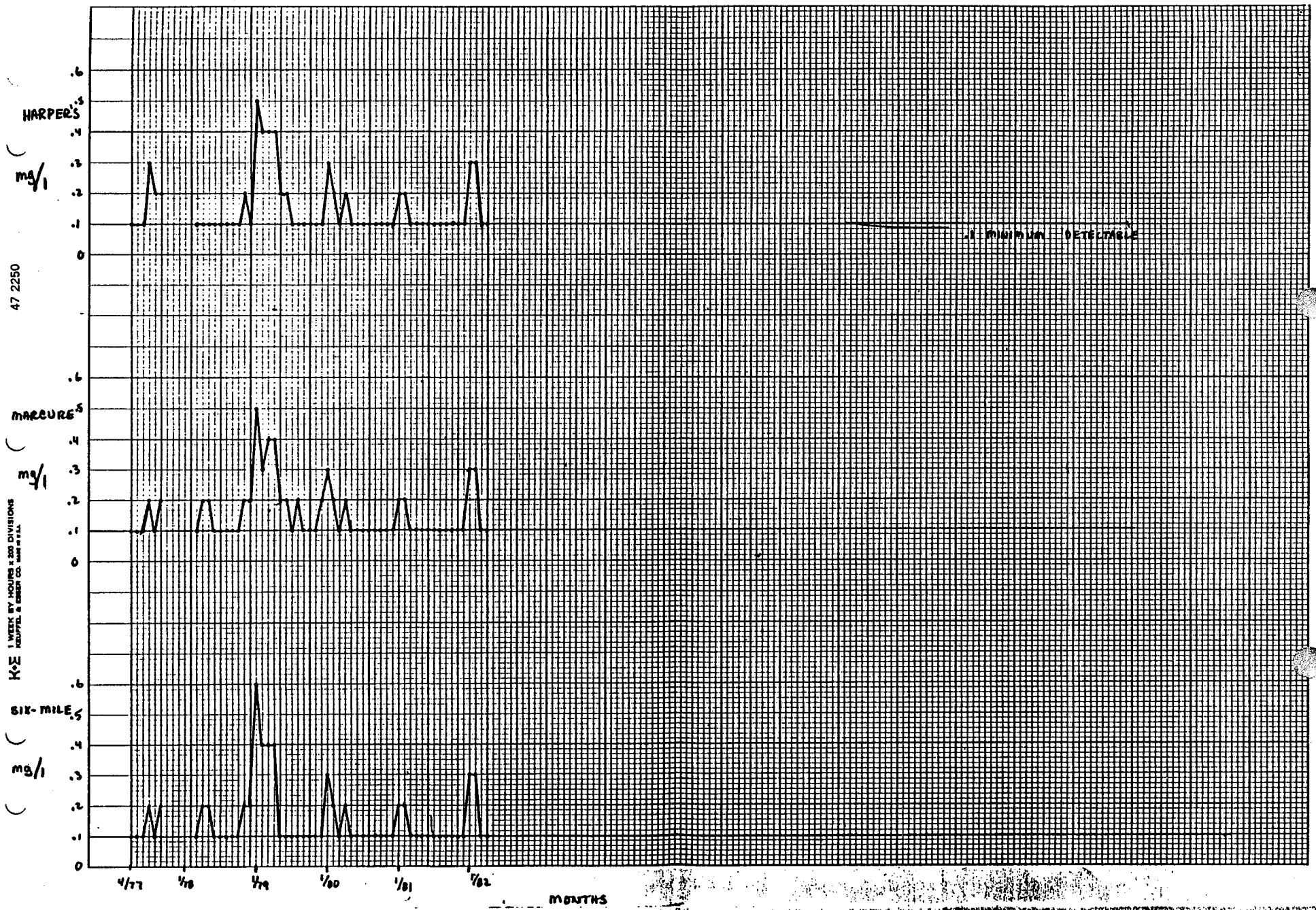


47 2250
K+E 1 WEEK BY HOURS x 200 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

Figure 5

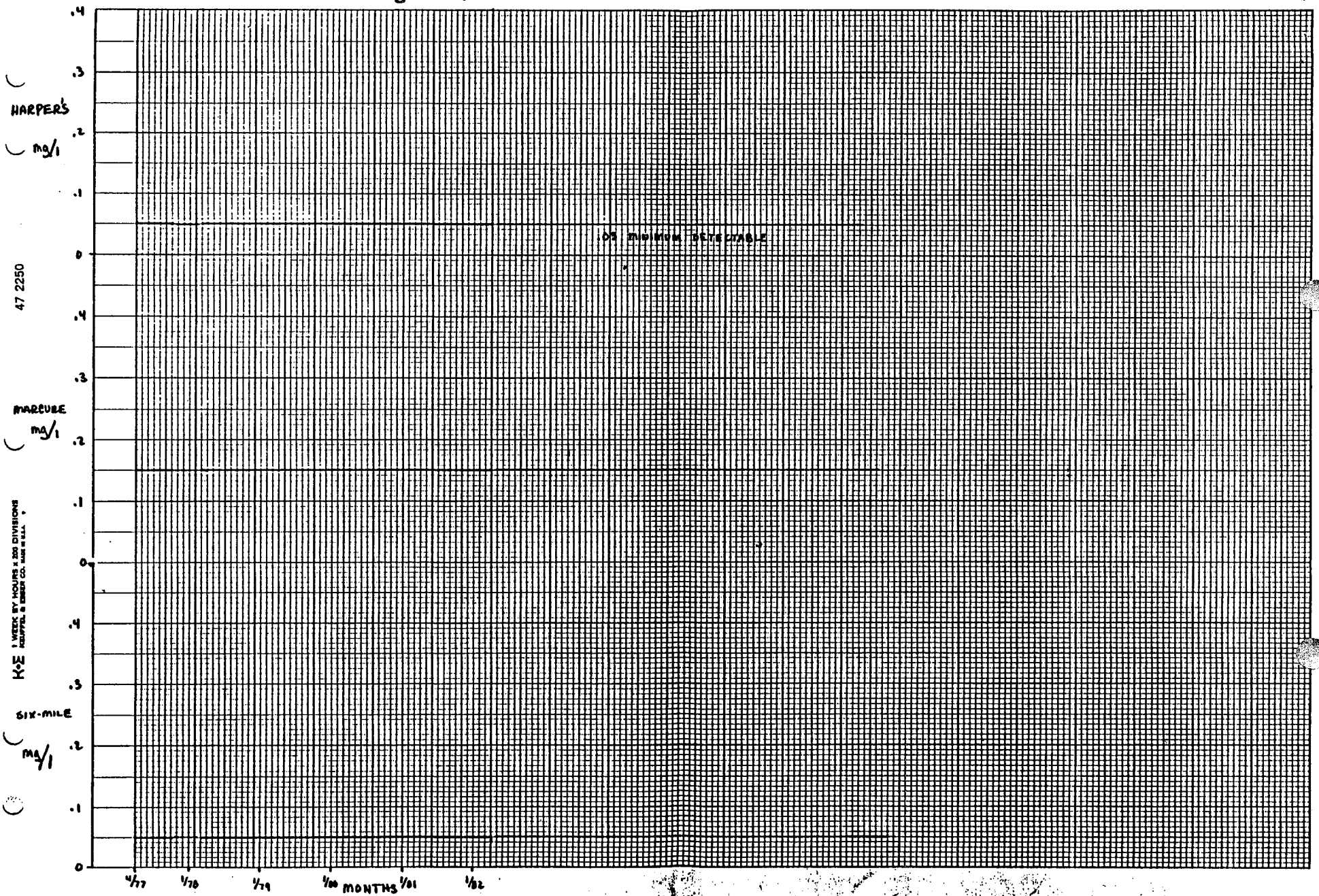

TOTAL ORGANIC NITROGEN
HARPER'S mg/l
MARCURE mg/l
SIX-MILE mg/l
.05 MINIMUM DETECTABLE
.4
.3
.2
.1
0
1/78
1/79
1/80
1/81
1/82
MONTHS
47 2250
K+E 1 WEEK BY HOURS x 200 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

NITRATE (NO_3) Figure 6

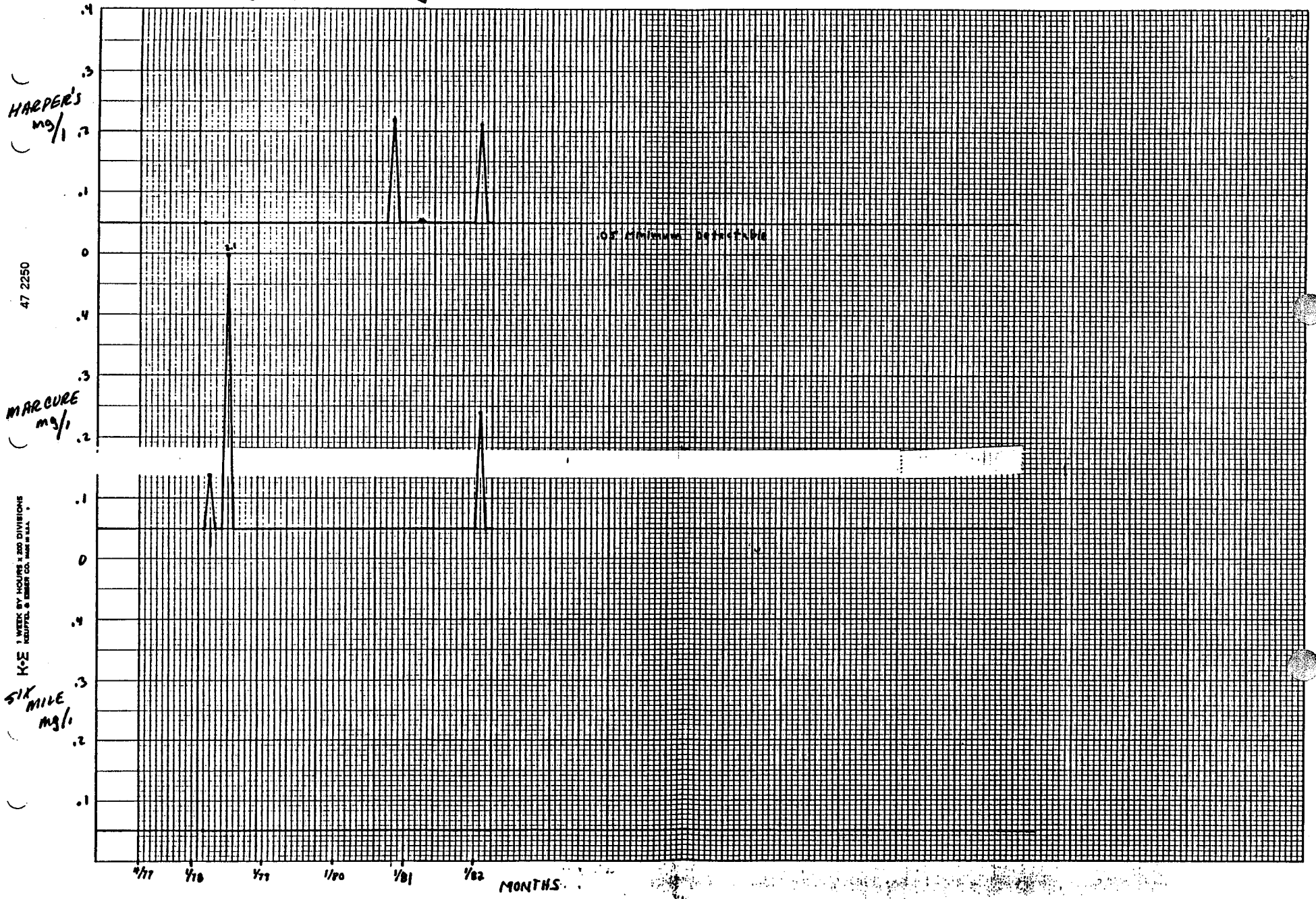


NITRITE (NO_2)

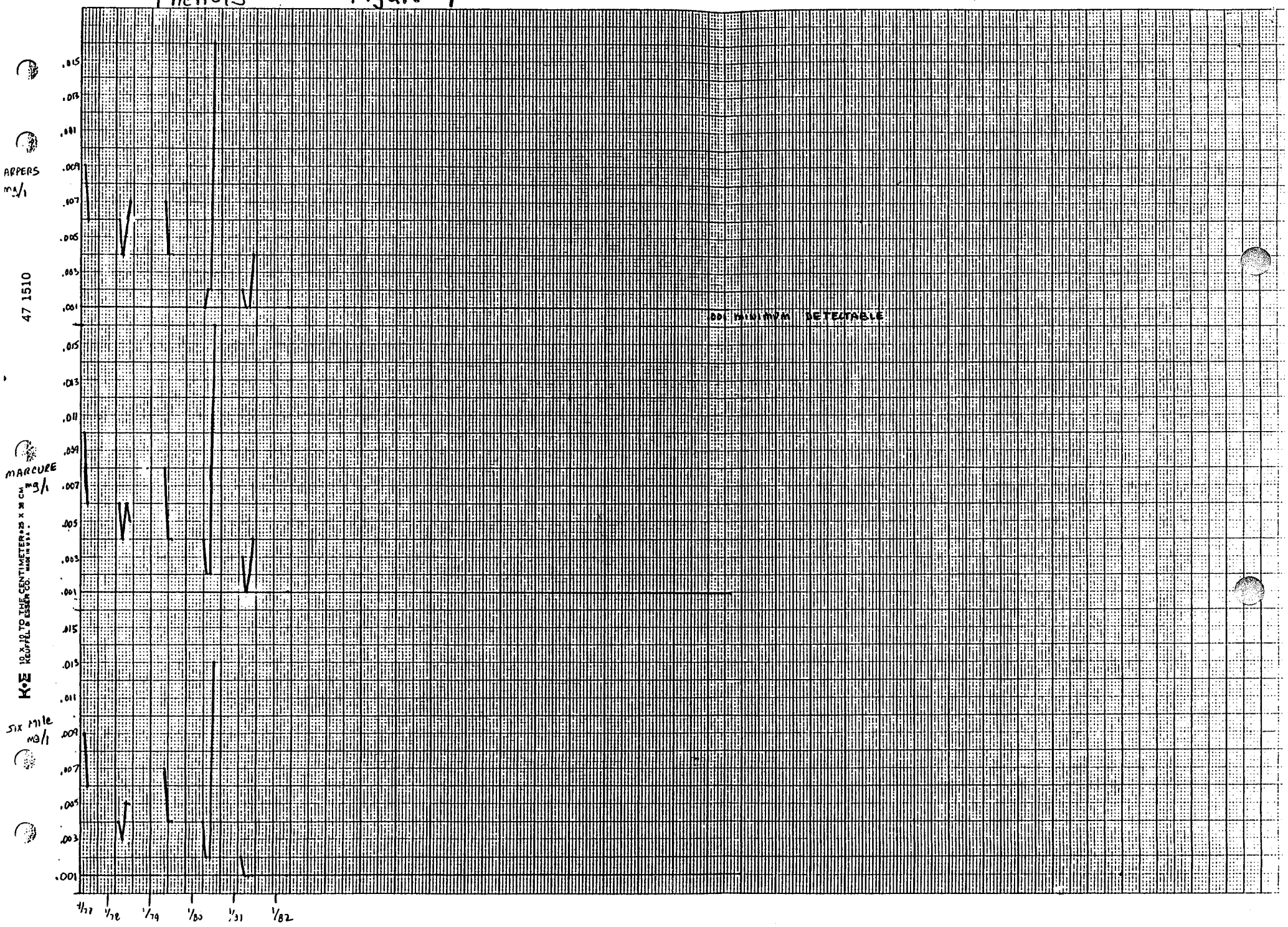
Figure 7



AMMONIA (NH_3) Figure 8



Phenols Figure 9



BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

OF THE STATE OF MONTANA

* * * * * * * * * * * * * * *

In the matter of the Proposed Modification of MPDES Permit Number MT-0000035, Mill Operations/Packaging, Frenchtown Mill, Champion International Corporation, Missoula	)

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TRANSCRIPT

OF

HEARING

November 10, 1983
Missoula, Montana

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BEFORE THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

OF THE STATE OF MONTANA

* * * * * * * * * * * * * * *

In the matter of the Proposed Modification of MPDES Permit Number MT-0000035, Mill Operations/Packaging, Frenchtown Mill, Champion International Corporation, Missoula	TRANSCRIPT OF HEARING

* * * * * * * * * * * * * * *

The above-entitled matter came on for hearing before the Department of Health and Environmental Sciences beginning at 7:05 P.M., Thursday, November 10, 1983, in the Missoula City Council Chambers, 201 West Spruce, Missoula, Montana.

Proceedings of the hearing were reduced to writing, to-wit: shorthand, and were also recorded on a tape recording machine by Paulette M. Duncan, Hearings Reporter and Notary Public for the State of Montana. Here follows a complete transcript of the proceedings and of the hearing, and all testimony adduced thereat.

Hearings Officer Presiding:

ROBERT L. SOLOMON, Hearings Officer
Department of Health and Environmental Sciences
Cogswell Building
Helena, MT 59620

The following proceedings were had:

OPENING STATEMENT BY MR. SOLOMON

MR. SOLOMON: We are now going on the record in this matter, and let the record show that this is the time and place for public hearing in the matter of the State Department

of Health and Environmental Sciences' intention to issue and/or renew wastewater discharge permits under the authority of MCA 75-5-402 and the ARM 16.20.901 and following sections (Montana Pollutant Discharge Elimination System), and to state the Department's intention to hold a public hearing. This is that hearing. It is the Department's intention to modify one industrial permit. The applicant's name is Mill Operations/Packaging Division, Frenchtown Mill, Champion International Corporation. The applicant's address is Drawer D, Missoula, Montana. The facility location is at Missoula, Montana. The permit number in question is MT-0000035. The expiration date is October 31, 1988. The receiving waters are the Clark Fork River. My name is Robert L. Solomon, and I have been appointed presiding officer in this matter. This is an investigative hearing. It is not adversary in nature and the right of objection or cross-examination will not be afforded to anyone. Questions may be asked by the hearings officer for full disclosure of all the facts. Formal rules of evidence will not be observed, but all testimony must be relevant to the subject matter at hand. Please present whatever evidence, testimony, statements or information you may have in one piece and do so as efficiently as possible. A witness may read a prepared statement, summarize it, or speak extemporaneously. After a witness has made a statement, the hearings officer may question the witness. Please refrain from excessive repetition of earlier statements. If organizations are represented, a representative speaker should present the statement for the entire organiza-

tion. One other thing I would be happy to do, if you are representing an organization and you have a large number of people here, please so indicate when you begin your testimony and we will ask them to identify themselves by a show of hands so that those of you in the room can get some feeling of how they are being represented and how many people are here. The order of the proceeding will be as follows: Proponents may make their statements concerning the proposed action. Thereafter, opponents may make their statements; followed by any individuals who wish to comment on the proposed action from a position of neutrality. We will start with the Department making an opening statement and then having the applicant make their statement, followed by proponents, then opponents, and then persons in a position of neutrality. We wish to permit anyone desiring to offer testimony the opportunity to do so, and we therefore request that witnesses limit their time out of courtesy to others who wish to make a presentation. When a witness takes the rostrum, we will ask that you commence by stating your name, your address, your occupation, your title, and the name of any organization that you're representing. We'll have the record show now that the groundrules have been read into the record and will apply to all persons making an appearance. At this time, we will modify the Notice of Public Hearing to indicate that the period for comment in this matter is being extended until 5:00 P.M. on Friday, November 18, and you may address your written comments, any petitions or other written material to Steven Pilcher, Chief, Water Quality Bureau,

Montana Department of Health and Environmental Sciences, Cogswell Building, Helena, 59620. Or you may address it to me, Robert L. Solomon, Hearings Officer, Montana Department of Health and Environmental Sciences, Cogswell Building, Helena, Montana 59620. We will accept, put on the record and consider all material submitted before that time. If you cannot get it to us before that time, we will consider it to be accepted if it is postmarked before 5:00 on that date. If it's postmarked after 5:00 on that date, we will not accept it. I will once again ask that you limit your time to as near five minutes as possible. We realize that's a severe time constraint. We have a great number of people who wish to comment this evening. Before we get into the testimony, I wish to acknowledge that there have been, previous to the convening of the hearing tonight, sixty letters, statements and documents submitted to be included in the record, and I am putting into the record at this time a list of those documents. This is to date, November 9, 1983 (DOCUMENT #1). There have been other documents received by the Department today and they are being put into the record. I have before me a stack of materials. They are from the Mineral County Conservation District (#2); Mr. Bill Potts (#3); the Mineral County Conservation District, another letter (#4); Mineral County Commissioners (#5); the Church of Jesus Christ of Latter-Day Saints (#6); the Lakeview Townsite Improvement Association, of Bayview, Idaho (#7); Mr. Shaw, of Bonner, Montana (#8); Deborah A. Dole, of the Department of Zoology, University of Montana (#9); a document from Trout Unlimited

(#10); the Superior Area Chamber of Commerce (#11); material from Mr. Bruce McDonald (#12). We have material from the City of Sandpoint, Idaho (#13); the City of East Hope, Idaho #14); Mr. and Mrs. Howell, of Hope, Idaho (#15); the Sand Point Chamber of Commerce, of Sand Point, Idaho (#16). I have here before me a list -- a number of petitions in this envelope from Trout Unlimited (#17); the Lake Pend Orielle Idaho Club, signed by Mr. Mehler, their president (#18); Lake Pend Oreille Yacht Club (#19); the Clarkfork Rod & Gun Club, of Clarkfork, Idaho (#20); the Mineral County Board of Commissioners (#21); Virginia Thomas, of Missoula, Montana (#22); Mr. James Curtis, of Missoula, Montana (#23); Mr. Paul Hart, for the Board of Directors of the Oden Water Association, of Sandpoint, Idaho (#24); the United States Department of Agriculture, Lolo National Forest, signed by Orville Daniels, Forest Supervisor (#25); and Professor V. J. Watson, of the University of Montana (#26). At this time, we will ask --

SPECTATOR: Mr. Solomon?

MR. SOLOMON: Yes?

SPECTATOR: There are about a hundred people out in the hall who can't hear and would like in some way to register the fact that they're here. How would you suggest that be done?

MR. SOLOMON: Steve, do we have -- do you have some notepads, there?

MR. PILCHER: (PROVIDES NOTEBOOKS TO SPECTATOR)

MR. SOLOMON: If you wish to register your presence, we'll circularize these. Would you please put your name and

your address and any agencies or organizations you're representing. Please either write it clearly enough or print it so that we can identify them later. (#27)

SPECTATOR: I'll take these out in the hall.

MR. SOLOMON: At this time, we'll ask all persons who plan on testifying -- and we hope we will get to all of you -- to please rise and be sworn. And I will remind you that you will be under oath, so if you get to where your statements get a little far afield, or you start to get a bit emotional, I am going to remind you that you are under oath. So would you please stand and be sworn? All those persons who wish to testify.

(REPORTER ADMINISTERS OATH TO WITNESSES)

MR. SOLOMON: All right. At this time, we will begin the hearing and we will call upon the Department to make its opening statement. We'll ask Mr. Frederick Shewman, from the Department, to take the podium.

FREDERICK C. SHEWMAN, representing the Department of Health and Environmental Sciences, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY FREDERICK C. SHEWMAN

MR. SHEWMAN: My name is Frederick C. Shewman. I live in Helena. I am head of the Permit Section for the Montana Water Quality Bureau, in Helena.

(FROM THE HALL): We can't hear you. Speak up.

MR. SOLOMON: Can you get a little closer to the

mike?

MR. SHEWMAN: (COMPLIES AND REPEATS STATEMENT)

SPECTATOR: The mike isn't working.

MR. SOLOMON: We're disconnected, and I don't know how to operate this system. (LAUGHTER)

(SOUND RESTORED)

MR. SHEWMAN: My name is Frederick C. Shewman. I am head of the Permit Section for the State Water Quality Bureau, in Helena. I live in Helena. And I'd like to make the Department's opening statement. The two laws that govern the discharge of wastes to surface waters of the State of Montana are the Montana Water Quality Act and the Federal Clean Water Act. Under these two acts, all waste discharges to surface waters of the State of Montana are required to have a current permit from the Department. The State Department of Health and Environmental Sciences has been delegated responsibility to administer this discharge permit program through the Montana Pollutant Discharge Elimination System rules, which have been referred to earlier. Champion International was first issued an MPDES Permit in 1974. That permit was re-issued in 1978, and re-issued again in 1982. The current permit that they have expires on October 31, 1987. The current permit contains conditions and limitations to, number one, protect state water quality standards or such water quality parameters as temperature, dissolved oxygen, color, pH, and deleterious substances, and secondly, to assure that the Environmental Protection Agency's national effluent standards are met. These EPA effluent standards require a

minimum level of treatment of waste based on available treatment technology. This is to prevent simple dilution of wastes with no treatment, rather, require a minimum level of treatment. Mr. Bob Shanklin --

(FROM THE HALL): More volume, please.

MR. SOLOMON: Would you please minimize the interruptions? We're doing the best we can. We'll try to get sound out to you. Please let the man continue.

MR. SHEWMAN: Mr. Bob Shankland, of the EPA, will explain more on federal guidelines after I finish. The conditions of the current permit that Champion International has I would like to summarize now. In order to understand this, you should note that Champion has in operation a large waste treatment system consisting of aerated lagoons for biological treatment of the waste. The portions of the waste are stored or rapid infiltrated into the ground or direct discharged at certain times of the year. To summarize the current permit conditions, the current permit allows discharge during the spring high-flow period, only. It requires that written permission be given by the Department of Health and Environmental Sciences prior to any discharge by Champion International each year. The spring flow must be in excess of 4,000 cubic feet per second. And the discharge must terminate by July 15 each year. The limitations and conditions could be summarized as follows from the current permit. There is currently a limitation on color increase in the Clark Fork River due to the combined effects of direct

discharge and any seepage that occurs. This color limitation measured between an above and below station is a maximum five-unit color increase in the Clark Fork River. Secondly, there is a total annual limitation on total suspended solids discharged. This is two million pounds per year of total suspended solids. There is also a maximum daily concentration limit in effect of 360 milligrams per liter for discharged total suspended solids, and a thirty-day average concentration limit of 240 milligrams per liter total suspended solids. Thirdly, there is a BOD_5 limitation, biochemical oxygen demand limitation, total annual limit of 2,250,000 pounds per year. There's a maximum daily concentration limit of 180 milligrams per liter and there is a thirty-day average concentration limit of 120 milligrams per liter. Fourth, there is a pH limitation on the discharge which requires the pH of the discharge to be within the limits of six and nine standard pH units. Fifth, there is a limitation that requires no more than trace amounts of floating solids and visible foam to be discharged. Sixth, there is a requirement that there shall be no discharge of PCBs, polychlorinated biphenyls. Seventh, there is a temperature limitation in formula form which requires temperature to be maintained in the Clark Fork River as per water quality standards. It varies with the background temperature of the river. Finally, there are monitoring requirements in the present permit to require monitoring of the river upstream and downstream, monitoring of the discharge and monitoring the groundwater in some observation wells to measure the total impact of the whole

waste system, the combined impacts from any direct discharge, rapid infiltration, and seepage. We now have -- and the reason for this hearing -- received on July 22, 1983, an application for modification of the current permit from Champion International. The reason they gave for this was that their rapid infiltration system capacity is decreasing and they want to direct discharge over a longer period of time to make up for the rapid infiltration lost capacity. We have gone through a review of the application and supplemental information to assure conformance with the same State Water Quality Standards and Federal EPA effluent guidelines that I just referred to. I'll now summarize the proposed modified permit conditions and limitations. The conditions and limitations of the proposed modified permit are, first, the color standard is the same as above, a maximum five-unit increase between the upstream and downstream measuring points. Total suspended solids limitation is four million pounds total annual load limit. Maximum daily concentration limit is 312 milligrams per liter. Thirty-day average concentration limit, again for total suspended solids, is 162 milligrams per liter. Thirdly, the BOD_5, biochemical oxygen demand limit, total annual load limit, two million pounds. Maximum daily concentration limit, 161 milligrams per liter. And thirty-day average concentration limit, 87 milligrams per liter. pH required to remain between six and nine. No more than trace amounts of floating solids and visible foam. And no PCBs allowed to be discharged. Seventh, no use of chlorophenalic containing biocides in the facility. Eighth, a

requirement for fish flavor bioassays to be conducted. Ninth is a requirement for continuance specific conductance monitoring, and also daily pH monitoring in the system to detect any possible spills. Tenth, a diffuser outfall required at river flows other than at spring high flows to enhance mixing. Eleventh, no discharge through the surface or on the surface when the river dissolved oxygen is, at ambient, less than seven milligrams per liter. Twelfth, a requirement for hydrogen sulfide monitoring of the discharge. Thirteenth, temperature limits by a formula as per the water quality standards. Fourteenth, test well monitoring required as before. Fifteenth, the direct surface discharge shall be ceased immediately upon receipt of instructions to do so by the Department. Sixteenth, the permit may be modified if river data indicates violation of water quality standards, including taste and odor problems in fish. And finally, the monitoring is structured -- the requirement for monitoring in the permit is structured to measure the total combined effect of direct discharge, rapid infiltration, and seepage, as it was before. Please note that in this modified permit, the modification deletes the requirement for direct surface discharge during spring runoff only. However, the modeling that has been done shows that the increase in waste flow direct discharge would be from a current level of about 30 percent of the total waste produced to a level of approximately 40 percent of total waste produced which would be direct discharge. Those, then, are a summary of the conditions of the tentative modified permit. In reaching this

tentative decision, we've evaluated the impact of the proposed modification of those water quality parameters which could be affected by the components of the waste. We have found that the color limit of five units increase as allowed by the water quality standards controls the quantity of treated waste that can be discharged. Because of this color limit, only about one part of treated waste can be discharged for every 200 parts of water available in the receiving stream, the Clark Fork River. This, in effect, severely limits the amount of other pollutants that may be discharged. Other pollutants will, in fact, be essentially non-measurable from background levels in the stream. I'd like to briefly address some of the comments that we have received most frequently. First, we have considered the impact of additional total suspended solids and the possible impact of settling out in the reservoirs. A National Council of the Paper Industry for Air and Stream Improvement study on pulp mill effluents has shown no accumulation of bottom sludge or evidence of definitive impact of residual solids. A further study has shown that these biosolids are ingested by invertebrates, enter the food chain, and do not accumulate on the bottom. We have considered the impact of deposition of hydrated aluminum silicate after receiving that comment. This material occurs in nature in the form of clays and the weathering product of soils. We have estimated the yearly amount of clay which moves naturally past the discharge point to be 232,000,000 pounds. The aluminum present in the discharge has been measured and calculated to be about 220,000 pounds per year.

This, we feel, is insignificant compared to the total amount. We have considered the comment about plugging of the riverbed. Plugging of the rapid infiltration cells has occurred under continuous 100 percent waste strength moving through the gravels at a very slow rate. Such conditions will not be nearly duplicated in the dynamic stream environment. The application of the nondegradation policy from the Water Quality Act has been considered and has been questioned and after a close review of our -- the Department's nondegradation rules, this has been shown that it does not constitute degradation as defined in those rules.

MR. SOLOMON: (TO SPECTATORS) I would appreciate the minimization of those comments, please. Permit the gentleman to complete his testimony.

MR. SHEWMAN: In summary, we have considered many comments and potential water quality problems. We are here to receive any additional comments and they will be considered in our final determination. Our final decision must be based on whether or not the proposed alternative is in full compliance with the applicable water quality laws. Thank you.

MR. SOLOMON: Mr. Shewman, you have a representative of EPA?

MR. SHEWMAN: Yes.

MR. SOLOMON: Would the gentleman please come forward? Would you please identify yourself for the record?

ROBERT D. SHANKLAND, representing United States Environmental

Protection Agency, Region VIII, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY ROBERT D. SHANKLAND

MR. SHANKLAND: My name is Robert Shankland. I'm the staff engineer in the Permit Section, Water Management Division, Environmental Protection Agency, Region VIII, in Denver. My mailing address is 1860 Lincoln Street, Denver, Colorado 80295. My purpose here tonight is to give a brief explanation of how the effluent guidelines relate to the determination of permit effluent limitations. The Clean Water Act requires the development of technology-based effluent limitations for various industrial categories, including the pulp and paper industry. These are national limitations and they apply nationwide. They are a starting point for the determination of permit limitations. The limitations specified in the permit cannot be less stringent than the national guidelines, which are commonly referred to as effluent guideline limitations. The effluent guidelines are not intended to meet water quality standards. They are technology based. They do not consider the nature of the receiving water. If the effluent guideline limitations for a facility are not adequate to meet water quality standards, then more stringent limitations must be included in the permit to comply with the water quality standards. The 1985 goal in the Clean Water Act of no discharge of pollutants is a goal. It is not a requirement of the Clean Water Act. And this should be taken in mind in relation to the effluent guideline limitations that

have been promulgated for the pulp and paper industry. They do not require elimination of the discharge. They allow a discharge with certain requirements in terms of effluent limitations. The Clean Water Act specified certain levels of treatment in general terminology to be met by certain dates. Best practical treatment technology, which is commonly referred to as BPT, must be met by July 1, 1977. Best available technology is to be met by July 1, 1984. Best conventional control technology, commonly referred to as BCT, which refers to conventional pollutants, is to be met by July 1, 1984. That has not been promulgated for the pulp and paper industry. BPT and BAT have. There is also what is called New Source Performance Standards. They are for new facilities and for expansion of existing facilities, where the opportunity is provided to include the proper in-plant control technologies that were envisioned in developing the guidelines. The effluent guidelines for the pulp and paper industry, part of them were promulgated in May of 1974, February, 1976, and January, 1977. The latest edition was November 18, 1982. That included BPT update, the BAT limitations, New Source Performance Standards, but does not include the BCT limitations which were remanded by court order and EPA is re-evaluating. They will not be out until some time in probably spring of 1984, at the latest estimation. The limitations in the effluent guidelines for the pulp and paper industry are based on unit production. Basically, pounds of BOD, suspended solids, per thousand pounds of production off the machine production. However, there is one exception in

the regulations that provide for facilities where storage is necessary, such as at the Champion International mill, in order to comply with the water quality standards, where they cannot treat and discharge at a continuous rate but have to store a part of the wastewater for a portion of the year. There the regulations specify they will use an annual -- annual quantity limitations and also thirty-day concentration limitations and daily maximum concentration limitations to develop the particular sub-category. The permit limitations that are in the proposed modifications were based on BPT limitations that were based in part on a recommendation that I had made on evaluation of the guidelines. However, I found in some subsequent information brought to my attention and in discussions with personnel in Region X that are quite knowledgeable of the pulp and paper industry, that the expansion to the Champion mill that occurred in 1978 and 1980 should be considered as a new source addition, so therefore, I went back through and re-evaluated the effluent limitations and prorated based on the existing capacity before expansion, considered that as BPT limitations. The expansion capacity after would have to comply with the New Source. I prorated the limitations between the two because they are different -- the New Source limitations are more stringent -- prorated based on production capacities and I came up with more stringent limitations. My recommendations were transmitted to our Montana Operations Office and subsequently transmitted to the State. Basically, it would involve a BOD_5 limitation of 3.0 pounds per ton of actual production during the year, and

total suspended solids would be 5.7 pounds per ton of production. To give you a feel for how that would relate to the present limitations, if the company were to produce at 2,006 tons per day, 350 days -- operating days a year, it would amount to about 2.1 million pounds of BOD, slightly less than the present permit limitations, and a maximum of approximately 4 million pounds of suspended solids per year. If the actual production during that year was less, the corresponding amounts they could discharge would be reduced accordingly. That is all I have at this time. Thank you.

MR. SOLOMON: Thank you, Mr. Shanklin. At this time, we're going to call upon the applicant, and if you can limit your time as best possible. I'm going to call for Mr. Potts to begin, to be followed by Mr. Weeks.

DANIEL T. POTTS, representing Champion International, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY DANIEL T. POTTS

MR. POTTS: My name is Daniel T. Potts, and I am Operations Manager at Champion International Pulp and Paper Mill, near Frenchtown, Montana. As Operations Manager, I am responsible for the overall operations of this facility. This responsibility includes safety, production, operating costs, community relations, and compliance with all environmental laws, regulations, and applicable permits. We are here this evening to explain our request to the Montana State

Water Quality Bureau for modification of our existing permit, which authorizes the controlled release of treated wastewater into the Clark Fork River. It should be remembered at all times that Champion is not asking for any revisions in the water quality standards applicable to the Clark Fork River, and we will be required to and will meet all federal and state limitations on the quality of our effluent. If our request is granted, Champion will receive a modified permit which, by the terms and conditions properly demanded by the State of Montana, would require a treated effluent superior in quality to that presently allowed. Bear in mind that there is not one control on the discharge. There are many. Requirements for dissolved oxygen, pH, temperature, river flow, suspended solids, and BOD; monitoring and testing requirements; and frequent reporting requirements. Meeting the color limitation alone will insure that our discharge never amounts to more than one part in approximately 200 parts of river water. Before proceeding with our technical presentation, I would like to briefly review some other important aspects of our operation. Last month, we produced 1,904 tons per day of kraft linerboard. The major markets for our products are located in the Midwest and Southern California. We ship our linerboard an average distance of over 1,200 miles, probably further than any other linerboard mill in the nation. In California, we compete primarily with mills in Oregon and in Washington. In the Midwest, we compete with producers in the Southeast and with the other Champion linerboard mill at Roanoke Rapids, North Carolina. Maintain-

ing our ability to compete in the national market for linerboard is of major significance to this mill and the community. It means steady jobs and incomes for our employees. It means a reliable market for 7,000 tons of wood used daily by the mill. It means the ability to invest in new facilities and modernize and improve as new technologies become available and as new market opportunities appear. It's important to our employees, the wood products industry in Western Montana, the community of Missoula, and the State of Montana, that this facility remain competitive. The extremely tough permit that Montana has proposed for the mill will permit Champion to continue to meet what have always been our twin objectives, protecting the environment while maintaining the economic viability of the mill. I would now like to introduce Larry Weeks, Technical Director at the Frenchtown mill. Larry has a B.S. and M.S. degree in pulp and paper technology from Syracuse University. He has been employed at the Frenchtown mill for over 20 years, and for much of that time, had the responsibility for the management and operation of our effluent treatment system. Larry will describe the reasons why the permit modification has been requested and our assessment of the environmental impact of that modification.

MR. SOLOMON: Mr. Weeks? And he'll be followed by Mr. Iceman and Mr. Hall.

MR. HERNDON: Mr. Solomon, I would ask whether or not Mr. Weeks intends to make copies of these slides a part of the record of these proceedings?

MR. WEEKS: No -- well, this is the only slide

that I plan to show, is the one that's up there right now.

MR. HERNDON: I would request, Mr. Solomon, that a copy of this slide be made a part of these proceedings.

MR. WEEKS: We'll make a copy of it and submit it.

MR. SOLOMON: It's been done.

LARRY E. WEEKS, representing Champion International, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY LARRY E. WEEKS

MR. WEEKS: My name is Larry E. Weeks. I live at 2428 West Kent, in Missoula. I'm the Technical Director of the Champion International mill out at Frenchtown. I'd like to refer you to the slide that I have on the screen and explain briefly the waste treatment system that we have. The effluent leaves the mill and passes through the clarifier, which removes settleable wastes. And this is where the wood fiber and the wood particles are removed that may be in our raw waste coming out of the mill. From there, the effluent passes to the aeration basin where it treats the organic contamination in the effluent. I'd like to point out that after clarification and aeration, this is a chemical treatment system for other kraft mills and for municipal sewage treatment plants, and in those cases, with some detention time, there would be a direct release to the receiving stream. In our system we differ in that we have a system which we call

rapid inflitration and effluent storage ponds. We maximize the amount of effluent going to this land disposal system called rapid infiltration, and then the remaining effluent is stored in 500 acres of storage ponds. There are two means of disposal out of the storage ponds. One is percolation and the other is direct discharge which occurs during spring runoff. This is typically the months of April, May and June. Now, down at the bottom I have three figures there which are 30 percent that we dispose of through rapid infiltration -- and these are annual disposal volumes -- and we also dispose of 30 percent via percolation and 30 percent by direct discharge. The remaining 10 percent is evaporation. Now, the problem that we face is that we're losing capacity in the rapid infiltration system, and this is causing more of the effluent to be stored in ponds. Now, we have been working on trying to resolve the problem on rapid filtration, but after several years of investigation involving several consultants, we have not been able to come up with a permanent solution to restore the rapid infiltration basins. We have also been concentrating on reducing losses coming out of the mill. Over the past several years, we have had a production increase of 60 percent and we've been able to maintain the effluent flow essentially the same as it was at the lower production level. We have also been able to reduce the color coming out of the mill by 55 percent. We are continuing to make efforts to reduce both the volume and the color. However, we face the risk of filling up our ponds before the 1984 discharge season. That prompted the application to the

Water Quality Bureau for a year-around discharge. The year-around discharge would cause that direct -- that 30 percent direct discharge on a yearly basis to increase to approximately 40 percent on a yearly basis, so you can see we're not talking about much of a change on our direct discharge. The direct discharge will be limited by flow in the river and water quality standards. And the toughest standard that we have to meet is color, and I have some samples here to illustrate that standard. (DISPLAYS BOTTLE) This first bottle that I pulled out of the box is the sample that was collected at our upstream sample out of the Clark Fork River this morning. It has seven color units in it. Now, the standard allows us to increase it by five. That means that we can go up to twelve. And we have another sample here -- (DISPLAYS SECOND BOTTLE) -- the same river water with effluent added to it, in which the color is now twelve. And as you can see, it's very difficult to tell the difference between those two samples. It requires us to dilute that approximately 200 to one to meet that standard. In other words, we need 200 parts river water per one part of effluent to meet that color standard. The total suspended solids, as you heard the State mention, is going to be increased from two million pounds per year to approximately four million pounds per year. That will represent a concentration of one to two parts per million in the river. The treated effluents that would be direct discharged will be a better quality than that allowed by our present permit. The water after direct discharge would be suitable for drinking after conventional treatment, and this

is sedimentation and chlorination, that this would be suitable for drinking. Champion is confident --

MR. SOLOMON: Just one moment, please. (TO SPECTATORS IN HALL) Would you please permit the gentleman to complete his testimony? If you continue to do this, number one, I'll either ask you to leave or I will put this hearing into recess. Do I make myself clear? There is to be no cross-examination. There will be no direct examination. And I won't tolerate comments. There are too many people here who have things to say and want to be heard. Give them all a chance. If you wish to be heard, then please sign in and I'll see that you get on. It may be 1:00 in the morning, but I'll see that you get on. Please let the gentleman complete his comments. Go ahead.

MR. WEEKS: Champion is confident that year-around discharge is an environmentally acceptable alternative to dispose of a portion of our treated effluent. Now, I have three technical bulletins, National Council Bulletins Number 304, 308, and 313, which discuss the fate of biosolids, which represents the majority of those solids that will be entering the river. And we have submitted these earlier to the Water Quality Bureau. I would like to submit these now, to make sure that they become part of the record. (HANDS DOCUMENTS #28, #29, AND #30 TO PRESIDING OFFICER)

MR. SOLOMON: We'll recognize the offering of these materials and put them on the record.

MR. POTTS: Our next presentation will be by Mr. Kenneth Iceman, Water Resources Engineer with the firm of CH_2M Hill. Mr. Iceman has a bachelor's degree -- Bachelor of Science in Mathematics from California Western University. He received a Master of Science in Civil Engineering and Environmental Engineering from the University of California at Irvine. Mr. Iceman is a specialist in hydraulic and water quality monitoring of streams -- pardon me, that's modeling of streams, lakes, rivers, and estuaries. He has many years of experience applying water quality models to such water systems as the Green River and Flaming Gorge Reservoir System in Southwestern Wyoming, and water supply and irrigation reservoirs in the Bull Run Watershed near Portland, Oregon. He is a registered professional engineer in the State of California and a member of the American Society of Civil Engineers.

MR. SOLOMON: Mr. Iceman, please? To be followed by Mr. Hall.

KENNETH R. ICEMAN, representing CH_2M Hill, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY KENNETH R. ICEMAN

MR. ICEMAN: My name is Kenneth R. Iceman -- spelled, I-C-E-M-A-N -- and I am Water Resources Engineer with CH_2M Hill. My home is in Redding, California, at 791 Country

Oaks Drive, and our address in Redding is 1525 Court Street in, again, Redding, California, and that is spelled, R-E-D-D-I-N-G. And the Zip Code is 96003. I'd like to direct my comments this evening concerning a dissolved oxygen study that CH_2M Hill was contracted to do for Champion International. We were asked to evaluate in some detail the effects of the proposed continuous discharge on the dissolved oxygen -- that could be called, "DO" -- content in the Clark Fork during critical low flow periods. To do this, we selected a water quality mathematical model. Then using this model and the historic data we had assembled, we calibrated the hydraulic coefficients for the river, the biological oxygen demand, decay rates, and the natural stream reaeration rates. Following this calibration of the model, we ran a verification test on a different set of data to check the calibrated model coefficients. Then we prepared three case studies to evaluate the dissolved oxygen levels in the river for existing discharge operations and for the proposed future discharge operations. The results of these model studies showed that the impact of the proposed continuous discharge on the DO content in the Clark Fork River would be very small. This study was performed using existing hydrologic and water quality data for the Clark Fork River. The available flow data and the water quality data were taken from several sources including the USGS, EPA, the Institute of Paper Chemistry, Champion International, and the Montana Water Quality Bureau. We analyzed the USGS flow records to establish the critical low flow period, and we found the month of

August to be a typical low flow month. Three separate stream flows were also used in the study to provide some measure of sensitivity to the flow. The flows that we chose were an average August flow, a high August flow, and also a low August flow. The water quality model we chose to analyze the changes in DO levels was called QUAL 3. This is a derivative of the more widely known model, QUAL 2. We also made some minor revisions to the model for application to the Clark Fork River. The modeling study was designed to examine the impacts of DO due only to the concentrations of BOD and the amount of natural stream reaeration. All the other biological and chemical interactions were, in the modeling sense, turned off. Historic discharge and stream water quality data were used to calibrate the model's BOD decay rate coefficients. The periods we used were May and July, 1973, and they were used for the calibration process. The reaeration coefficients were determined by the model through an empirical formula that was developed by Churchill and others in 1962. The BOD decay rate coefficients were adjusted within literature ranges to achieve a reasonable comparison of the model results to historic stream survey data. A verification test was performed using data from a stream survey period in July, 1982. The results of this verification showed good agreement between the measured dissolved oxygen levels in the Clark Fork and the model results. At this point, the model was considered ready to examine changes to the dissolved oxygen in the Clark Fork due to Champion's proposed discharge modification. Several case studies were prepared to examine the

changes of future operations on the DO in the river and how these might compare with today's operations. The three August streamflows were used. These were the ones that were mentioned earlier. And there were also three levels of discharge examined. The mill discharges were, first, present August operations with no direct discharge; secondly, future operations with an average BOD concentration of 50 milligrams per liter; and future operations with an average BOD concentration of 100 milligrams per liter. The worst-case change in the dissolved oxygen levels in the Clark Fork for all of the cases studied was less than .13 milligrams per liter. This level of DO change in the river is quite small and appears to be about two to three percent of the daily DO fluctuations normally observed during summer low flows. In closing, my comments here tonight are contained in a written statement which I have submitted. I also have a copy of CH_2M Hill's report on the DO study, and I would request that both of these documents be included in the record. (DOCUMENTS #31 and #32) Thank you.

(FROM THE HALL): Louder. We can't hear what's going on.

MR. SOLOMON: We apologize for the problem with the sound system. We're doing the best we can. If you'd please permit us to try and get this hearing completed and moving along.

(FROM THE HALL): Right. And we'd like to participate, though, at least to listen.

MR. SOLOMON: We do apologize for the room. We had

no idea we would have this type of response.

(FROM THE HALL): (SEVERAL GROANS) We don't accept your apology.

MR. SOLOMON: That's fine. If we keep this up, we will leave this hearing. We will delay the hearing; we will postpone it until tomorrow morning. I'm asking your cooperation with us so that we can get on with the hearing. We're doing the best we can.

(FROM THE HALL): Could you please postpone it until you get room enough for the people to attend?

MR. SOLOMON: We will continue with the hearing. Do you have another witness to bring forward?

MR. POTTS: One more.

MR. SOLOMON: One more, and then we will go on with the other persons who wish to comment. Go ahead. Mr. Hill -- Hall.

MR. POTTS: Mr. Hall is with the National Council for Air and Stream Improvement, a research organization funded by the paper industry. In that organization, he functions as project manager for an experimental stream project investigating pulp mill effluent effects on fish production. Mr. Hall has a Bachelor's and Master's Degree in Biology from Central Washington University. In addition to his academic background, which emphasizes aquatic biology, Mr. Hall has been employed as an aquatic biologist for the past ten years. He has functioned as a research project manager and scientist in a

variety of studies, including those of vertebrate and invertebrate organisms. Specific fisheries work has included studies with various species of trout and both fresh and salt water phases of several species of salmonid. Tim?

TIMOTHY J. HALL, representing the National Council for Air and Stream Improvement, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY TIMOTHY J. HALL

MR. HALL: My name is Timothy J. Hall. I'm an aquatic biologist employed by the National Council for Air and Stream Improvement. My mailing address is Post Office Box 1364, Lewiston, Idaho. The National Council has for some twelve years, now, been studying conditions of compatibility for mill effluent discharges and satisfactory fish production. We have used large, outdoor experimental streams in accomplishing this goal in studies with both cold and warm water fish species. Fish populations in the experimental streams are exposed to various mill effluent concentrations for approximately one-year test periods. Fish production in the experimental streams is a direct result of the health of the fish as well as the supporting aquatic food web. National Council's experimental streams projects include detailed measurements of fish growth and survival as well as community characteristics and production at various other levels of the food web. Initially, our experimental stream studies began

with secondary treated unbleached kraft mill effluent similar to that discharged by the Champion mill here in Missoula. Over a five-year study period, effluent concentrations were increased to a final level of one-and-a-half parts per million of added BOD, or biochemical oxygen demand, which is equivalent, on a volume basis, of seven to ten percent effluent, or 50 units of added color or two to three parts per million of added suspended solids. There were no measurable differences in the growth or production of brown trout at this effluent concentration when the streams receiving effluent were compared to two other streams which did not receive effluent. To put this in perspective, Champion's permit modification under the highest possible effluent concentration in the Clark Fork River would represent an effluent addition equivalent to a quarter of a part per million of added BOD, a half a percent on a volume basis, five added units of color and one to two parts per million of added suspended solids. These worst-case values are considerably less than the long-term exposure conditions National Council has tested and found to be compatible with fish production in our experimental streams. These studies also included tests with hatching and development of steelhead trout embryos which were not found to be deleteriously affected by effluent added at a BOD addition of .65 parts per million or 4.1 percent on a volume basis. Early life stages of fish are known to be especially sensitive to stresses in the environment and the success of embryos at effluent concentrations several times greater than Champion's worst-case condition are good evidence of the

1 non-harmful effects of properly treated effluent typical of
2 pulp and paper mills today. Additionally, it was determined
3 that effluent had no overall effect on the production of food
4 organisms in the streams, including bottom-dwelling organisms.
5 The absence of measurable changes in benthic organisms, or
6 bottom-growing organisms, indicates that suspended solids in
7 the two to three part per million range did not create a
8 deleterious effect. These initial findings have subsequently
9 been verified at two currently operational experimental
10 stream facilities using bleached kraft mill effluent. At a
11 warm water study site, annual effluent studies have been
12 completed up to an effluent concentration of two-and-a-half
13 parts per million of added BOD. This effluent concentration
14 is equivalent to a volume addition of 20 percent effluent,
15 which is 40 times greater than Champion's worst-case effluent
16 addition to the Clark Fork River. In these studies using
17 largemouth bass, bluegill sunfish, and golden shiner, no
18 measurable differences were found after one year exposure in
19 overall fish production between two streams receiving effluent
20 and two streams which did not.
21 MR. SOLOMON: How much more material do you have?
22 MR. HALL: One more page. More close at hand are
23 studies being carried out at the experimental streams in
24 Lewiston, Idaho. In operation since 1979, we have exposed
25 rainbow trout to increasing effluent concentrations reaching
26 in the most recently completed study an effluent addition of
27 1.5 parts per million of added BOD. This is equivalent to a
28 volume addition of four-and-a-half percent, 187 units of

added color, and 2.6 parts per million of suspended solids. Consistent with the other findings reported here, there was no evidence that effluent addition at the stated concentrations had any deleterious effect on fish production. Successful fish production in each of these studies is indicative of the capability -- excuse me -- the compatibility of properly-treated mill effluent such as Champion's with fish growth and survival. Fish production in the experimental streams is, to a large extent, dependent on the health of the other elements of the aquatic food chain which serve as a food source for the fish. Satisfactory fish production is an indication that other elements of the aquatic community are in a healthy condition as well. This assumption has been verified by detailed measurements of important food producing components of the food chain. Both of the current experimental stream projects continue to look at the question of sensitive early life stages. At the Lewiston site, we have found no effects on survival or size of steelhead or rainbow trout, from egg through the hatching, at effluent concentrations up to 18 percent by volume. Similar results have been found with warm water fish species. A full life cycle test has been completed with the fathead minnow, which is a widely-used bioassy test fish. In this case, it's been possible for fish to grow successful -- through several successive complete life cycles even at 100 percent effluent. I submit these comments as evidence that Champion International's request for a discharge permit modification is an environmentally sound measure. My comments are contained in a written statement which I have

submitted, and I would request that it be included in the record. (#33)

MR. SOLOMON: Thank you.

MR. HALL: I had three slides, if I might show, just to illustrate the experimental streams?

MR. SOLOMON: I think at this time, because of the nature of where we are and so on, we'll pass that by. If there's some way that you could give us a printed copy or any documentation of that, we would be happy to accept it. Thank you very much. At this time, we'll accept into the record the material that you referenced, accompanying your typewritten statement. The next person to be called is Mr. Helding, to be followed by Mr. Coffee. These people are speaking in support of the Department's proposed action. When you use that microphone, if you would hold it as close to your mouth as possible --

ROBERT F. HELDING, representing the Montana Wood Products Association, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY ROBERT F. HELDING

MR. HELDING: My name is Robert F. Helding. I'm the Executive Director of the Montana Wood Products Association, 110 East Broadway, Missoula, Montana 59802. I appear in support of the application. We've heard testimony from the

State people, who have been delegated the responsibility to determine whether or not this is an adequate request. I would like to have those in attendance know that the pulp mill is a healthy thing for the Western Montana wood economy. If it hadn't been for the pulp mill in the last two-and-a-half years, there isn't a single sawmill or wood products plant in Western Montana that would have been able to continue. Now, we're just coming back to some semblance of a stable economy, and I think we must preserve the ability for our industry to utilize the sale of waste products in the way of chips and hog fuel to this utility in Missoula. And I therefore will cut my testimony short in deference to the people here and once again recommend that the permit be issued.

MR. SOLOMON: Thank you, Sir. Mr. Coffee? To be followed by Mr. Byrne.

WILLIAM O. COFFEE, representing the Missoula Area Chamber of Commerce, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY WILLIAM O. COFFEE

MR. COFFEE: My name is William Coffee. My business address is 115 West Front Street, Missoula, Montana. I am the immediate past president of the Missoula Area Chamber of Commerce, and I speak in that capacity. Less than one month ago, it was my considerable pleasure to be able to present to Champion International an award designed by the Chamber of Commerce and named after Champion International, an award

1 based upon over 25 years of good corporate citizenship in
2 Western Montana. This is not a statement that was arrived at
3 lightly, but was arrived at after considerable research of
4 the record of this organization. Some time ago, the National
5 Business Roundtable Task Force undertook to determine what
6 constituted good corporate responsibility. There were numer-
7 ous criteria. One of those criteria said that the primary
8 need of the corporation was to remain economically viable
9 because if it does not make a profit, it will be unable to
10 serve the interests of any of its constituencies, including
11 customers, employees, communities, society at large, sup-
12 pliers, and stockholders. During curtailed operations in the
13 early 1980's, this organization employed, in Western Montana,
14 over 2,400 direct employees and over 800 indirect employees.
15 In 1981 dollars, this accounted for over $62 million in
16 payroll, over $26 million in local purchases, over $32 million
17 in local contractor payments, and over $10½ million in payroll
18 and property taxes. The final statement by the National
19 Business Roundtable concerning a corporation's responsibility
20 says -- and I quote -- "A corporation's responsibility in-
21 cludes how the whole business is conducted every day. It
22 must be a thoughtful institution which rises above the bottom
23 line to consider the impacts of its actions on all, from
24 shareholders to the society at large. Its business activities
25 must make social sense just as its social activities must
26 make business sense." I, on behalf of the Missoula Area
27 Chamber of Commerce, would call upon this board, this commu-
28 nity, its agencies, its agents, and its citizens to accept

the same kind of responsibility to see to it that its economic actions make good social sense and its social actions make good business sense, and I would further call upon you to help us build a bridge of trust and cooperation between the business community and its citizens in this endeavor. Thank you.

MR. SOLOMON: Thank you, Sir. Mr. Byrne? To be followed by Mr. Zent.

PATRICK BYRNE, representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY PATRICK BYRNE

MR. BYRNE: Thank you, and good evening. My name is Patrick Byrne, spelled, B-Y-R-N-E. I reside at 18181 East Mullan Road. That's a small farm east of Missoula near Clinton. The mailing address is Clinton, Montana, 59825. I would like to point out that I have been born and raised in Western Montana and have, for the most part, fished every mile of this stream from its beginnings to the confluence of the Flathead in the last close to fifty years. I have seen some great improvements in this river with the elimination of --

(FROM THE HALL): Can't hear.

MR. SOLOMON: Hold it up closer --

MR. BYRNE: I'm sorry. I have fished every mile of this river, as I say, and I've seen it improve with the elimination of garbage dumps, with the construction of the

settling ponds in the Butte-Anaconda area to eliminate that mining waste, and of course, the direct sewage flow from the communities along its banks. I only mention this because there is probably no one in this room that has a greater fondness for this river than I, and I don't want to see it destroyed nor do I believe that the request that Champion has in to you is an unreasonable proposal. As we heard early on, by your own staff, if this permit is allowed to be issued, that restrictions will be met. I have faith, personally, in the staff of the Montana Water Quality and I'm sure that they will not issue this permit without carefully examining the facts. A thing that happened last week, I went out to the plant on a tour with the commissioners from Mineral County. We went through the entire operation. What impressed me, I think, to most of you people, at least, it might impress you that the settling ponds out there are filled with Canadian geese and waterfowl. They nest and live in that area. Certainly, the water is discolored, but I would say to you that there can't be any dangerous chemicals in that water or those delicate birds certainly wouldn't be there. I have faith in the integrity of Champion International Corporation. Since moving into our community, this company has always demonstrated a willingness to cooperate with the local and state agencies. They have bent over backwards during hard times to keep these mills in this area operating and our residents working. I am sure that both Champion and you folks at the Water Quality Bureau will continue to sample this water and if anything comes up that looks like it's

1 going to affect that river negatively, I'm sure you'll put a
2 stop to it. I support this application. Thank you.
3 MR. SOLOMON: Thank you, Sir. Mr. Zent? To be
4 followed by Mr. Kohrt.
5
6 TIMOTHY E. ZENT, representing himself, having been first duly
7 sworn upon his oath, testified as follows:
8
9 TESTIMONY BY TIMOTHY E. ZENT
10 MR. ZENT: My name is Timothy E. Zent. I reside
11 at 101 Wapikiya, Missoula, Montana 59803. I'm here as a
12 concerned citizen. Thank you for allowing me the opportunity
13 to express my views in regards to Champion International's
14 request to discharge treated wastewater into the Clark Fork
15 River. I'm here as a concerned citizen, just as is Champion
16 International. We all want a healthy environment and a
17 reason to live and work in Missoula and the Northwest. To
18 the best of my knowledge, the State Water Quality Bureau has
19 given tentative approval to Champion's request to discharge
20 treated wastewater. I do believe the Bureau has researched
21 the facts that allowed them to make the tentative conclusions
22 to allow this discharge. Furthermore, I believe that Champion
23 International will exhibit its corporate responsibility by
24 continuing to do research on how best they can discharge or
25 remove the treated wastewaters now confronting them. Many
26 here are aware of the pollution that came about because of
27 the wood products industry in the past. Yes, regulations
28 were put in place to help clean up the industry. But beyond

that, Champion has continued to do its part and more in maintaining the water quality -- maintaining the quality environment that we now have. Champion has followed the rules that are in place which control the changes in discharging of treated wastewater into the Clark Fork. It now appears that certain groups want to increase the requirements in the middle of the regulatory process. Champion has acted in good faith. Let's hope that the Water Quality Bureau will do likewise. Let's give Champion a chance to devise new and better ways to discharge treated wastewater. Champion's corporate citizenship has been excellent in the past and the present and I see many reasons for their responsibility to be exercised in a like fashion in the future. I can and do in good conscience support Champion's request to discharge wastewater into the Clark Fork. Thank you.

MR. SOLOMON: Thank you, Sir. Mr. Kohrt? To be followed by Mr. Potts.

REM KOHRT, representing F. H. Stoltze Land and Lumber Co., having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY REM KOHRT

MR. KOHRT: My name is Rem Kohrt, Stoltze-Conner Lumber Company, P. O. Box 415, Darby, Montana.

MR. SOLOMON: Would you please spell your last name?

MR. KOHRT: K-O-H-R-T. I represent here this evening the F. H. Stoltze Land & Lumber Company and the Stoltze-Conner Lumber Company, with sawmills in Darby, Dillon

and Columbia Falls. We're a small business company, 350 employees. In addition, we maintain contract loggers and contract road builders numbering about 300 payroll persons. We are concerned not only with the natural environment but the social, economic and political environment as they affect us as individuals, families, communities, and the nation. Like it or not, you and I are greatly affected by the world's economy. Montana's contribution to the national and international trade is chiefly primary products from agriculture, forest industries, and mining, including energy. This is the basis for our secondary employment and our full-stomach existence to date, for government employees, for students and educators, for professionals, and retirees, for nearly everyone addressing this issue. Specifically, the Stoltze mills produce about 115 million board feet of lumber per year with associated residual products, which is 45,000 units of chips and 25,000 units of hog fuel. The residuals are sold to the Champion paper mill at Frenchtown. The chips and hog fuel are a very integral part of the physical and economical forest products economy. Without the opportunity to sell these residuals to Champion, we would be out of business, and conversely, there would be no paper mill. It is fair to state that Champion Paper Mill is the single most dominant factor in the forest products economy of the State of Montana. There is no other economic alternative. The forest products industry is the number one industry in Western Montana. Our relationship to Champion and the government both is like family. We're the little brother to the big brothers. We

are dependent timber-wise and we're residual dependent. And if they are thumped, we are thumped. And if you haven't been a little brother, then you don't know what it's like to be thumped. F. H. Stoltze Land & Lumber Company does not advocate environmental degradation. We do advocate environmental prudency, economic reality, political sanity, and social equality. The Champion water discharge permit request appears to be a situation reasonable persons can resolve. We recommend the issuance of an annual water discharge permit with prudent associated requirements. Thank you. (#34)

MR. SOLOMON: Thank you, Sir. Mr. Potts? To be followed by Mr. Schelley.

MR. SCHELLEY: I think you misunderstood. I am against this proposal.

MR. SOLOMON: You said that you signed in as being for it -- all right.

WILLIAM M. POTTS, representing United Paper Workers Local 885, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY WILLIAM M. POTTS

MR. POTTS: My name is Bill Potts --

MR. SOLOMON: Bill, would you pick that microphone up, please? Hold it close.

MR. POTTS: (COMPLIES) My name is Bill Potts. I'm a business agent for Local 885, United Paper Workers. I reside at 1627 South Fifth Street West, in Missoula. I might add I'm no relation of Dan Potts'. (LAUGHTER) Our members

work at Champion Packing and naturally, we are concerned that the mill continue to operate. However, we, too, like to use the Clark Fork River for recreation, fishing, boating, and swimming. And we are concerned that the quality of the river be maintained. We have complete confidence in the ability of the State Water Quality Board to monitor and regulate the added discharge requested by Champion to protect the quality of the river. I would like to go on record in favor of the additional discharge requested, but only if Champion lives up to all regulations and standards set by the Water Quality Board. And we will be the first to register a complaint if we suspect the regulations are not being lived up to.

MR. SOLOMON: Thank you, Mr. Potts. That concludes the comments by persons who have indicated they are in favor of the action by the Department. Now, at this time, we will begin to go through the comments of those persons who have indicated that they are in opposition to the Department's favorable action in this matter. I'll start with Mr. Munther, to be followed by Mr. Marvin. When you take this microphone, you'll have to hold it as close as possible to your mouth as you're presenting your material.

GREG L. MUNTHER, representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY GREG L. MUNTHER

MR. MUNTHER: I'm Greg Munther. I'm an aquatic

biologist and have been practicing for 16 years. I'm not associated with the wood and paper industry, and I am, after really careful study of the data that's been presented, opposed to the proposed permit for several reasons. First of all is the Water Quality's logic that -- their assumption that discharge during high flow periods has not resulted in measurable adverse effect to the river, so consequently, discharge during low flows will not have adverse effect. Low flows discharge is considerably different than that during high flow discharge. The river is extremely turbulent during high flows. The water temperature is cold, as contrasted with the August period, in which the river consists of a series of pools and reasonably high temperatures. In fact, over 25 percent of the temperature days in August were stressful to trout this year. Therefore, with this amount of deep, still pools, there's likely accumulation of organic material. This has been documented in other studies. A Ph.D. limnologist studying pulp mill effluent at the University of Idaho so documented that. Also, this accumulation of material, it may accumulate during low flows and cold water, could rapidly assimilate as water temperatures increase, in addition to the BOD that is being discharged at the present -- during the low flow period. So you actually have an aggregating of accumulated organic materials plus that being dumped in during the low flow period. This may be particularly important at the substrate level of the river. Not during -- not at the water column part of the river. That is, the monitoring that has been done in the past and only models

that have been projected earlier this evening indicate that there will be little effect on dissolved oxygen. To my knowledge, there has not been those kinds of studies done at the substrate level of the river where that organic material is likely to collect. Also, the breakdown of this organic material tends to lower the pH of the water and assuming that the heavy metals that accumulated from the past Anaconda discharges have accumulated in the sediments and that has been documented, a lowering of the pH could free up those metal ions and those free metal ions can be extremely toxic to fish and other invertebrates. In fact, it's interesting that monitoring so far by the paper and pulp industry has shown no effects, and that's been pretty well documented by Dan Bodien, an EPA expert in pulp mill technology, in Seattle. Over the phone, he told me the other day that a lot of monitoring has not shown effects but yet when the pulp mill ceases to discharge, the river tends to blossom with aquatic life. We're either measuring the wrong parameters or not measuring it sensitively enough. I also question the Water Quality's logic that meeting the water quality standards per se, the minimum water quality standards of the federal government, that is, the same water quality standards applying to the waters of Cleveland, Ohio, as well as Missoula, Montana, are appropriate for the Clark Fork River. They do not address the cumulative effects of heavy metal accumulations, of warm water temperatures, of sediment discharges, of the BOD discharged upstream by the sewage treatment plants, and again, they deal with measurements in the water column. I would

question also the monitoring proposed by the modified permit. The invertebrate sampling -- they show a little bit of invertebrate sampling by Champion International. It was requested before this hearing but denied by a private individual -- to a private individual. So we don't know what the invertebrate studies show. Also, the permit only proposes one dissolved oxygen sampling station along the river. All the modeling that was done by CH_2M Hill, or whatever it is called, assumes some things that have not been tested in the river. That is, the velocities of the river down in, say, the Alberton Gorge area. It doesn't propose any substrate sampling, any hydrogen sulfide sampling. A lot of other parameters that are not going to be measured. So we really won't know a heck of a lot more after they begin discharging, assuming they get the permit, than we will now. One real disturbing thing. All the modeling has been done, all the water quality standards proposed to be met, and yet this summer, without the change in the permit, there were several of us on August 13 of this year, saw a fish kill in Alberton Gorge --

MR. SOLOMON: I'm going to remind you -- let me remind you that you're under oath.

MR. MUNTHER: That is correct. There are at least two people here tonight that will probably testify to that.

MR. SOLOMON: Very good. Thank you. I'm just reminding you.

SPECTATORS: Let him continue.

MR. SOLOMON: I'm going to let him continue. I'm

1 just reminding him.

2 MR. MUNTHER: I do consider that bad taste, Sir. I

3 would ask you to repeat that same question to

4 Champion.

5 MR. SOLOMON: I will also remind you they were under

6 oath.

7 MR. MUNTHER: Getting away from the biology for just

8 a second and the technological aspects of this, I spent about

9 a day over in the Water Quality Bureau files. I used some

10 documents that are available to them for the source informa-

11 tion for the following. Champion only addressed the alterna-

12 tive of rejuvenating their ponds. They didn't address a lot

13 of alternatives that are well documented by EPA in a document

14 -- about a two-page (SIC) thick document dealing with pulp

15 mill technology and pollution standards. There's at least

16 one pulp mill in the country operating economically and

17 possibly three in the country that totally recycle all their

18 white water. There are many other plants in the country that

19 are discharging about one pound of BOD and one pound of

20 suspended solids per ton of product produced, compared to the

21 three pounds proposed in this permit. In other words, less

22 than one-third of the pollutants are being discharged by

23 plants operating economically in this country and competing

24 with Champion. The EPA document I referred to gives several

25 chapters of incremental technology, that is, small steps that

26 can be taken by pulp mill plants to reduce effluent discharge.

27 I do not know how many of those plants -- or, how many of

28 those incremental steps have been evaluated, but I think that

those are alternatives that should been evaluated by the Water Quality Bureau. Mr. Dan Bodien again, over the telephone, who is a pulp mill expert, questioned why the Water Quality Bureau didn't evaluate the alternative of using sprinkler irrigation to disperse effluents over their lands. He said that this is a valid technology that's being used economically by other pulp mills. It's almost a standard of the industry. The Water Quality Bureau did not mention this evaluation in any document that I've seen so far. I do not believe that it's an either/or situation. I don't believe it's a question of either giving Champion the permit as proposed or shutting down Champion, as the scare tactics here presented tonight would indicate. There's a lot of incremental technology available that has not been discussed. I also question the Water Quality Bureau's blanket assumptions when Champion says that each alternative looked at is economically infeasible without any independent evaluation of the economics. And speaking of economics, I question whether the Missoula Valley is going to be better for this. We all need new industry in town. We all recognize that. And yet if we allow this river -- or, this plant, with adding no new employees, to take up the biological capacity of the river, assuming they already know what that is, then are we going to prohibit new industry that may use the water for discharge into the river also and thus prevent them from moving into the valley? And also, when we have to assume the cost as a public of upgrading our sewage treatment plant when the growth forces us to do so because we have no more limits -- or, no more

absorption capacity in the river to absorb more sewage effluent. These are costs that the public will have to assume on Champion's behalf. With that, I'll let somebody else talk. Thank you. (APPLAUSE)

MR. SOLOMON: We'll take a short recess at this time for purposes of changing the tape.

(BRIEF RECESS - TAPE CHANGE)

MR. SOLOMON: At this time, we are back on the record. (TO SPECTATOR) I was out of order. I was out of order, Sir.

SPECTATOR: You were out of order. (APPLAUSE)

MR. SOLOMON: I've apologized to the gentleman. Okay, once again, we will ask you to attempt to limit your comments to as near five minutes as possible. We realize that some of you have more involved testimony you would like to present, but please keep it in mind so we can get everybody in here. At this time, we'll ask Mr. Marvin to present his material, to be followed by Mr. Palmer.

TOM MARVIN, representing the Mineral County Commission, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY TOM MARVIN

MR. MARVIN: I'm Tom Marvin, Mineral County Commissioner. My residence is Box 246, Alberton. Before I speak for Mineral County, let the record show that I have submitted written testimony opposing this permit on behalf of others.

The Alberton Town Council, Alberton, Montana (#35); Montana Senator George McCallum, Senate District 12 (#36); Dick Webb, Superintendent of Schools, St. Regis, Montana (#37). I hope the questions, concerns and positions presented at this hearing fall on receptive ears in both the Department of Health and in the Governor's Office, because I tend to believe, as many others do, that we're not just talking about the future of the Clark Fork River as being on the line, but also the stature and credibility of the Montana Department of Health and Environmental Sciences and its Water Quality Bureau. Steve Pilcher, Water Quality Bureau Chief, and Dr. Drynan, Health Director, have stoically and simplistically taken the posture that the Clark Fork has been and will remain undamaged by Champion's discharges. It's certainly a clear stand. Unfortunately, it's apparent to many in Western Montana and beyond that relevant data and corresponding studies are unavailable to clearly substantiate the claim that a year-around discharge in the neighborhood of six million pounds of organic waste will not change the river. It's almost as if the State and Champion have decided that the main Clark Fork drainage is one big additional treatment pond, even though it's not onsite. Of course, water quality testing immediately below the discharge area should alleviate concern. As long as Champion's effluent intermittently meets the clarity, the BOD, the total suspended solids guidelines, the call for an EIS is unfounded. No matter what the magnitude of the discharge is, that the volume of water in the Clark Fork can carry it at the appropriate dilution rate,

1 discharge couldn't detrimentally affect the river. A clear
2 stand. In a 1980 publication entitled, "Water Quality in the
3 Five Valleys Region, Western Montana," water pollution point
4 source concerns are noted and in addressing Champion's French-
5 town mill, the following is noted. Local residents and
6 responsible local officials feel effluent from the Champion/
7 Hoerner-Waldorf pulp mill near Missoula is significantly
8 contaminating the Clark Fork River through its seepage ponds
9 at low flow and direct discharge of untreated effluent. The
10 respondents felt that whether the mill is or is not in com-
11 pliance with the state standard, significant deterioration of
12 the surface water quality in the Clark Fork is taking place.
13 Reports of algal changes have been mentioned, which in turn
14 are thought to affect other organisms in the food chain.
15 Recommendations in this report: Number one, Champion/Hoerner-
16 Waldorf pulp mill effluent. The Water Quality Bureau should
17 investigate the current status of water quality degradation
18 by pulp mill effluent. The Clark Fork River analysis of
19 nutrient load and algal population by the Department of Fish,
20 Wildlife and Parks may provide helpful information. Perhaps
21 more stringent standards should be considered or the corpora-
22 tion asked to voluntarily install more adequate treatment
23 facilities. This document was funded through a contract with
24 the Montana Department of Health and Environmental Sciences.
25 I have difficulty determining the credibility of the Water
26 Quality Bureau doing an about-face on its own recommendation,
27 and indeed, this recommendation is still viable. Mr. Pilcher
28 was quoted today in today's Missoulian that the issue will be

decided on facts, that we must have a solid basis for this decision. I agree. Pilcher also berated critics in that they are not specific enough in their objections. You'll get specifics tonight, Mr. Pilcher. Don't try to cover up with your BOD and TSS levels. Your own administrative regulations clarify that state waters must be free of discharges that settle to form sludge deposits, creating floating debris, creating toxic concentrations harmful to human, animal, plant and aquatic life, or create conditions capable of producing undesirable aquatic life. In light of these regulations and as an enforcement agency for water quality, what facts and solid bases has the Water Quality Bureau developed? More specifically, number one, what types and categories of base-line data did the Bureau gather to determine that this five-year discharge permit will not hurt the Clark Fork? Two, at what sites was data gathered? When was it gathered? Who gathered it? Three, what analyses of suspended sediment did the Bureau obtain? Four, what data has been gathered on potential for pore and gill slit obstruction in aquatic organisms due to suspended sediment? Five, what organic sediments exist in the Clark Fork that are attributable to the mill's current level of operation? Six, what studies support the Bureau's position that the river is not and will not be impacted? Seven, the maximum duration for a discharge permit for Champion, or for any mill, is five years; why a five-year permit? A clear stand? The Clark Fork and the downriver areas can't be hurt. What seems to be more apparent is that the best portrayal of our State Water Quality Bureau

in its anxiousness to grant a maximum permit to Champion seems to be more than extremely poor judgement. The onus in this issue has been misplaced. Both Champion and the State's tone have dropped the burden on we, the people. Understandable for Champion. Champion's rep, Larry Weeks, has clarified that the mill chose regulatory easement as the easiest and the cheapest way out of the rapid infiltration fiasco. The State Water Quality Bureau and the Department of Health's posture is highly questionable. Eager submissiveness to a corporation that's adroit in the managing of affairs of state suggests a more accurate scenario. Both the State and the mill have been much touting no curtailment as the bottom line. I must admit, the timing is excellent. But net profits are veiled in that issue. The State most assuredly must identify that the long-term success of the Frenchtown mill demands a substantial investment. Let the results of an EIS determine the magnitude and the acceptability of stopgap discharges into the river. Let the mill get on its appropriate way to quickly remedy their problem. One thing is very clear. The degradation of the Clark Fork will never be in the best interests of long-range economic character of Western Montana. I happen to believe that the best of the Clark Fork is really in Mineral County. Many anglers, kayakers, boaters, and other recreationists as well as other residents feel this way. However, many of these people have, for a long time, been concerned about sediments, fish habitat, brown scums, seasonal stink, an already discernible change in the river. Don't hit the Clark Fork any harder without an

EIS. There will be no winners. Thank you. (APPLAUSE) (#38)

MR. SOLOMON: Mr. Palmer? To be followed by Ms. Dussault.

ROBERT PALMER, representing the Missoula Board of County Commissioners, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY ROBERT PALMER

MR. PALMER: My name is Bob Palmer, and I'm Chairman of the Board of Missoula County Commissioners. My address is 228 Woodford Street, Missoula, Montana. This morning, at a Commissioner's meeting, we took action, Resolution Number 83-138, which I'd like to read today for the record. A resolution concerning the proposed issuance of Montana State Water Pollution Discharge Permit modifications at the Champion pulp mill. Whereas, the Montana State Water Quality Bureau has proposed to issue a Montana Pollutant Discharge Elimination System Permit to Champion Paper which would increase the discharge of total suspended solids by as much as 3,055,000 pounds per year; and whereas, the original environmental impact statement conclusion and subsequent expansion permits issued by state agencies gave the pulp mill permission to expand, as long as the major components of air and water discharges did not increase; and whereas, the original expansion environmental impact statement was nearly disapproved by the Department of Health, and the discharge limits were agreed upon by the pulp mill management as a condition to

1 obtain the expansion permit; and whereas, the paper mill
2 discharge has occasionally violated State of Montana instream
3 color standards for more than a decade; and whereas, the
4 monitoring program proposed by the Montana State Water Quality
5 Bureau does not appear to be adequate to insure compliance
6 with all discharge and instream standards; and whereas, the
7 Montana State Water Quality Bureau is proposing increases in
8 water pollution discharges which are contrary to the condi-
9 tions of the 1974 expansion EIS and subsequent permits;
10 and -- we'll get there; we're almost there -- other alterna-
11 tives of treating and discharging effluents into the Clark
12 Fork River should be developed and implemented; and whereas,
13 the proposed increases in water discharges violate the Montana
14 State water quality nondegradation policy; now, therefore, be
15 it resolved that the Board of County Commissioners opposes
16 the granting of a permit to Champion Paper which would in-
17 crease discharge of any pollutant into the Clark Fork River
18 on a permanent basis; and be it further resolved that the
19 Montana State Water Quality Bureau permit be modified, one,
20 to reflect the conditions of the original expansion agree-
21 ment; two, to assure compliance with the nondegradation
22 policy of the State of Montana; and three, to require accurate
23 and complete monitoring of discharge and instream standards
24 by adopting recommendations of the Missoula City-County Board
25 of Health; and be it further resolved that the Montana State
26 Water Quality Bureau issue an administrative order to require
27 compliance with State of Montana color standards; and be it
28 further resolved that if a temporary discharge increase is

necessary to construct alternate treatment systems, that the permit require compliance as soon as possible and be of a duration of not longer than two years. Signed this day, tenth day of November, 1983, unanimous vote of the Missoula County Commissioners.

MR. SOLOMON: Thank you, Commissioner, and we have a copy of that in the record (#39). Commissioner Dussault? To be followed by Elaine Bild.

ANN MARY DUSSAULT, representing the Missoula City-County Board of Health, having been first duly sworn upon her oath, testified as follows:

TESTIMONY BY ANN MARY DUSSAULT

MS. DUSSAULT: Mr. Solomon, my name is Ann Mary Dussault. For the record tonight, I am appearing as chairman of the Missoula City-County Board of Health and wish to enter the following statement into the record. The Missoula City-County Board of Health feels that it is appropriate to comment on the proposed permit in the context of concern for the overall recreational, water resource, aquatic, and economic values of clean water. The Clark Fork River receives substantial impacts upon its water quality in Missoula, not only from the pulp mill but from cumulative additions of the Missoula sewer plant, the Lolo sewer plant, the city storm drains, John R. Daily, various side streams, such as the Rattlesnake, which are high in some pollutants as they enter the Clark Fork, groundwater inflow contaminated with septic

waste and fertilizer, and from other sources such as the proposed Bonner Dam drawdown. Available studies of these cumulative impacts are nonexistent. Without such information, careful restraint in additional discharge to this river system is warranted. It is our belief that the Water Quality Bureau has failed to adequately address both technical and policy questions in the proposed permit. I would like to first address three issues of policy concern. The 1974 environmental impact statement and subsequent expansion permits issued by several State agencies gave the pulp mill permission to expand as long as the major components of air and water discharges did not increase. The original expansion EIS was nearly disapproved by the Department of Health, and the discharge limits were agreed upon by the pulp mill management as a condition to obtain the expansion permit. The discharge permit was not conditional based upon the success of the rapid infiltration basins. Secondly, the Montana statutes contain a very clear statement on legislative intent and State policy on water degradation. That policy is stated in Section 75-5-303, of the Montana Codes. And it says that the Montana Board of Health "shall require that any state waters whose existing quality is higher than the established water quality standards be maintained at that high quality unless it has been affirmatively demonstrated to the Board that a change is justifiable as a result of necessary economic or social development and will not preclude present and anticipated use of these waters; and secondly, any industrial, public, or private project or development which would consti-

tute a new source of pollution or an increased source of pollution to high-quality waters, referred to in subsection (1), provide the degree of waste treatment necessary to maintain that existing high water quality." It seems clear from this statement that the Board of Health should be an active participant in this process and that the decision should not rest solely with the Water Quality Bureau. And finally, we are concerned with the Federal Water Pollution Control Act of 1977, which clearly states, "it is the national goal that the discharge of pollutants into navigable waters be eliminated by 1985." Clearly, Congress, too, has indicated that it is their policy of nondegradation of waters. In addition to these three policy matters, there are several technical areas that we feel important to comment on. And again, we feel that the Water Quality Bureau has failed to address these concerns. The first of those is year-around discharge. The impact of allowing discharge during low flow periods is not discussed in the permit justification. Stress induced upon aquatic systems could be significant if discharge occurs when the river water temperatures are elevated and biological activity is high. This concern merits close investigation. Secondly, the color standard. For more than a decade, the Champion mill has violated instream color standards. Violations occur primarily under the following conditions. During discharge periods when the river is dropping and polluted groundwater in the area of the mill is running into the river along with planned discharge, and during low flow periods when the dilution potential of the

river is minimal. The source of the low flow violations is presumed to be seepage from the ponds. The self monitoring required by the permit does not appear entirely adequate to insure that discharge and instream standards are not violated and that they supply adequate information to evaluate the effectiveness of the treatment system. Several aspects of the discharge and instream monitoring requirements should be altered to better insure adequate discharge controls and protection of the river. The Missoula County Board of Health therefore offers the following recommendations with regard to the issuance of this permit. Number one, that the Water Quality Bureau should not allow any increase in the permitted discharge of any pollutant without affirmative direction from the State Board of Health. Number two, the current discharge limitations reflect conditions upon which the State allowed mill expansion. These conditions should not be weakened. Number three, in view of the persistent nature of color violations, it is absolutely appropriate to request that the Water Quality Bureau issue an administrative order with a stringent but reasonable deadline to meet the color standard. The order should require a detailed compliance plan showing attainment based upon reliable and workable data and engineering. The Bureau should also require that the pulp mill discontinue the practice of increasing mill discharge until a violation is noted, then adjusting the discharge to obtain proper color. Also, if color violations continue during non-discharge periods of low flows, the Bureau should consider requiring that the ponds be sealed. Finally, monitoring

requirements in the permit should be modified to include the following. Number one, flow from all river discharge pipes should be monitored on continuous recorders at all discharge pipes. Number two, the specific sample collection methods and analysis techniques should be included as an addendum to the permit and should be subject to review by the public and interested technical people or groups. Number three, the Water Quality Bureau should establish quarterly quality assurance checks on the self-monitoring program, with duplicate sample analyses of blind known samples and duplicate analyses of pond and stream samples. Particular attention must be paid to color samples because Water Quality Bureau records indicate significant differences in analytical results. Quality assurance with regard to instream color changes is particularly important because monitoring data submitted by Champion indicates that the number of violations could double or triple if the mill under-measures color by as little as one color unit. Monitoring for instream dissolved oxygen during low-flow periods should be conducted daily. And discharge of TSS and color should be monitored daily rather than weekly. Number five, the expanded portion of the mill should be considered as a new source. And number six, the impacts of year-around discharge should be carefully investigated. Thank you. (APPLAUSE) (#40)

MR. SOLOMON: The electronic media have asked that -- it would assist them in their work if presentors would direct their attention to the cameras. (LAUGHTER) Elaine Bild, please? To be followed by

Representative Hammond.

On behalf of DR. WAYNE VAN METER, ELAINE BILD, having been first duly sworn upon her oath, testified as follows:

TESTIMONY OF DR. WAYNE VAN METER, AS PRESENTED BY ELAINE BILD

MS. BILD: My name is Elaine Bild, and I'm the Director of Environmental Health in the Missoula City-County Health Department, but I'm speaking tonight for Dr. Wayne Van Meter. Dr. Van Meter is a member of the Missoula City-County Board of Health and is a Professor of Chemistry at the University of Montana. He says, "I want to state my belief that the decision by the Bureau to issue a permit to the Champion International Company allowing an increase in the amount of pollutant discharged to the Clark Fork River was a mistake. The permit currently in force allows up to two million pounds of suspended solids per year. This had been established as the maximum the river could tolerate. Federal standards would have allowed more, but for good reasons, that limit was set. The river and its capabilities have not changed, but the new proposal contemplates allowing over five million pounds per year. This violates the duty of the Bureau to prevent deterioration of water quality. I also want to point out clearly that the rate of release of pollutant and the stage of the river during release have nothing to do with the accumulation of solids on the bed of the river in quiet reaches of the stream and in the Thompson Falls, Noxon, and Pend Orielle Lake impoundments. Five million pounds per year

is two-and-a-half times two much, whether it is released in six weeks or twelve months. There are many other sources of danger to the living systems of the river besides the kraft mill. Already the overall quality is seriously lower than other large Montana streams. It seems clear to me that the Bureau must set a firm policy toward this particular source, saying that economics and market demands may no longer justify the prostitution of a natural resource belonging to the people. Hold to the present standards. Require the industry to live within them by either finding other or new ways to improve the water quality before releasing it, or by realizing that the limitation of production rates is not unthinkable." (APPLAUSE) (#41)

MR. SOLOMON: Thank you. Representative Hammond? To be followed by Mr. Currie -- Bill Currie.

JOE HAMMOND, representing State Representative District #24 and the Mineral County Sportsman's Club, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY JOE HAMMOND

REP. HAMMOND: My name is Joe Hammond, and my address is Box 12, Alberton, Montana. I am a teacher and I am also the State Representative from the area, and tonight I am speaking as a State Representative from the area and also for the Mineral County Sportsman's Club. I'll try not to be emotional. If I do, get your gavel ready. And the other part is, if the reflection is too strong, I'll put my hat on.

(LAUGHTER) I guess I don't need my hat. The best way I can start is, as I understand it, in the eastern part of the United States, we have rivers that are useless to people. We have the St. Lawrence River, which the Great Lakes run out of, and they have no idea how long that would take to clean up. We have the Ohio River, which was mentioned earlier, and they do not know how long it would take to clean that up. The other night, I saw on TV they were talking about the Hudson River, and they figure that the cleanup of the Hudson River would take close to 200 years. We have toxic waste that is beyond our comprehension. In 200 years, the United States has become the most knowledgeable, the most dedicated, and considered probably the most intellectual people in the world. We, as a people, have said that as a society, we must improve things for our children and their children. In 1983, we have all the technology available to change salt water to fresh water. We change polluted water to swimming water and fresh water. It just seems absurd to me that we don't have the technology to change mill runoff to drinking water. That brings us to the Clark Fork. It's already been ruined by the tailings from Butte, and that's something that still stands in the way. That might never be cleaned up. And with all this, we are even considering dumping more into the Clark Fork River. I cannot, for the life of me, with all this technology, how we would ever even consider dumping anything into the Clark Fork River. I went on a tour and they said, this is the state of the art, and this is the state of the art. Well, if this is the state of the art, then we're not

growing up; we're growing down. The other thing that -- and I only had that one point to make when I came in here. Now I have another point to make. A number of proponents got up and they gave their arguments, but the underlying tone, the strongest argument that they have is that if we don't agree with what they want, that by gum, they're going to cut off our jobs. I've been involved in labor all my life and that's always been the underlying tone of business. You do it our way, or we're going to take our ball and we're going home. And I don't like it, and I am opposed to this action. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you, Mr. Hammond. Mr. Currie? To be followed by -- I apologize; I can't read this writing. I believe it's Paul B-R-O-U-H-I-C.

BILL CURRIE, representing the Inland Northwest Local Governments Task Force, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY BILL CURRIE

MR. CURRIE: I am Bill Currie, County Commissioner, Boundary County, Idaho. I chair the Inland Northwest Local Governments Task Force which is developing a means to provide cooperation within a 50-or-so-county area including Western Montana, North Idaho, and Eastern Washington. Water quality is a key concern. The counties and cities that could be adversely affected by accumulation of soils, chemicals and nutrients are asking for a guarantee that the Clark Fork

River, Pend Orielle Lake, and Spokane's sole source aquifer not be degraded. Pend Orielle Lake is already suffering ecological damage. We are concerned about the cumulative effect of past, present and future degradation. If the Rathdrum/Spokane Aquifer is spoiled, it is projected that cleanup and re-use could take about 60 years. (APPLAUSE) (#42)

MR. SOLOMON: Thank you, Sir. (TO APPROACHING WITNESS) I hope I spelled your name right.

MR. BROUHA: You did not.

MR. SOLOMON: Would you please spell it?

PAUL BROUHA, representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY PAUL BROUHA

MR. BROUHA: My name is Paul Brouha. That's spelled, B-R-O-U-H-A. I reside at 6104 Longview Drive, here in Missoula. I'm an aquatic biologist with over ten years of experience and I'm a certified fishery scientist by the American Fishery Society. All but three years of my experience was working in the State of Wisconsin as a fish manager in the Green Bay area which, many of you know, has numerous pulp and paper mills. I've also, since coming to Missoula, spent time on the lower Clark Fork and I'm concerned with the proposed increase in discharge because I was with Mr. Munther and also observed the fish kill which he mentioned, Sir. I would add that I found the waters quite comfortable for swimming on that float trip through Alberton Gorge that day,

also. And I mention this because at such elevated temperatures, dissolved oxygen saturation levels, which are the greatest amount of oxygen that the water can hold if it's clean, are only slightly above those that cause harm to trout. Mr. Iceman stated that his oxygen sag modeling considered no other factors than the mill's proposed effluent. This procedure assumes that the Clark Fork is unimpaired by upstream activities. This assumption is not sustainable. Commissioner Dussault has detailed the harmful upstream activities and I won't go into them further. In fact, the Clark Fork is a tired system by the time it reaches Missoula. At least for trout. It's affected by heavy metals, biochemical oxygen demand from Missoula itself, as well as dewatering and from municipal uses as well as agricultural irrigation. This dewatering has the effect of increasing river temperatures. Now, the EPA engineers stated that the federal regulations are standards that represent a starting point for setting discharge limits. The idea of those as they were promulgated was to let the biological system survive, certainly, but also to try and let the pulp mill industry survive so that all would compete on a fairly equitable basis. They are minimums and they should be adjusted and tailored in each case, depending upon the capability of the receiving stream to assimilate the waste without harmful effects on other beneficial uses. Most of the people in this room believe that other beneficial uses include kayaking, fishing, as well as enjoying the sight of the clear water unimpaired by flotsam and dead fish. The tailoring requires extensive biological

1 studies. In my opinion, few of these have been done. I have
2 several questions perhaps that might illustrate these.
3 Mr. Weeks stated that biological effects of effluent are
4 minimal because the invertebrate populations can assimilate
5 the waste. It's my experience in Wisconsin that that is, in
6 fact, true. However, those organisms which assimilate that
7 waste are very different from the clean-water invertebrates
8 that we find and the trout find useful for food. They are,
9 in fact, tubificid worms, chironomid larvae. The question I
10 guess I also have is with the CH_2M Hill oxygen sag modeling,
11 is what sort of validation of that model was done over a
12 period of time? I heard what Mr. Iceman said, but in fact, I
13 can't quite believe that the bottom work -- invertebrate work
14 was done to validate the oxygen models. It's my experience
15 that they are very crude models and, as he said, require a
16 lot of assumptions to be made and applied. The other question
17 I guess I have concerned the mill and you have stated in
18 previous testimony, Mr. Weeks, that the failure rate of the
19 rapid infiltration system is about ten percent a year. Now,
20 you used a projected 1984 discharge rate and the effectiveness
21 rate of those ponds and guessing at what kind of discharge
22 you're going to need for your permit. Now, won't continued
23 failure of those ponds result in additional need for waste
24 assimilation or waste treatment, and won't you, in fact, run
25 up against a brick wall at some future time again and have to
26 come back for more relaxed standards if you were given these?
27 Maybe some of the alternatives presented by Mr. Munther might
28 be considered at this time to get ahead of the problem, as

opposed to waiting until you really have a serious problem that you can't address. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you. Mr. Mehler? To be followed by Mr. Rosquist.

K. THOMAS MEHLER, representing Lake Pend Oreille Idaho Club, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY K. THOMAS MEHLER

MR. MEHLER: My name is Tom Mehler -- M-E-H-L-E-R. My address is P. O. Box 1886, Sandpoint, Idaho 83864. I am president of the Lake Pend Oreille Idaho Club, some of which are in this room and a lot of which are not. I would like to read a "Request for denial of permit modification for Champion Pulp Mill. River water quality as observed by residents of Bonner County: Since the early 1970's, residents have noticed a steady degradation of the water quality in the Clark Fork River and Lake Pend Oreille. A greasy floating sludge has been noticed on the waters of the Clark Fork River and Lake Pend Oreille. This sludge, sometimes referred to as a slick, is more apparent in the spring of the year during runoff periods. Plumes of foam have been noticed on the surface of the Clark Fork River numerous times during the summer months. This foam has been traced, by observation from an airplane, right to Champion's point of discharge and back downriver to Lake Pend Oreille. In the Clark Fork River, below Cabinet Gorge Dam, the rocks and gravel on the river bottom have been sealed with a slimy, viscous substance. This slime has kept

trout and char from spawning in areas where they were once noticed in abundance. The river and areas of the lake are literally sealed with this slimy substance. This sealing of the river and lake bottom has caused a decrease in all populations of fauna which are so dependent on clean gravel bottoms and sufficient oxygen levels for survival. Trout, char, and kokanee populations have significantly decreased since Champion has expanded their production. The clarity of the water in the Clark Fork has gradually become cloudy in recent years. Residents remember when the river was so clear that you could see the detail of every pebble on the bottom in thirty feet of water. But those days are gone. For the last several years, there has been a chalky substance that has collected on the rocks along the shoreline of the lake. Anglers have complained about this chalky substance getting on their fishing lures, and apparently only heavy-duty household cleaners will remove the substance from the lures. This chalky substance has been most noticeable during May and June. It is apparent that suspended solids from Champion's discharge are flowing in the Clark Fork River and settling in Lake Pend Oreille. It is known that that type of solids that are in Champion's discharge do not break down in water that is as cold as the waters of the Clark Fork and Lake Pend Oreille many months of the year. What is to keep these solids from sealing the bottom of the Clark Fork River, the shorelines, and the bottom of Lake Pend Oreille? It seems that when the water is warm enough to cause a breakdown of these solids, most of the available oxygen in the river is

used, which could be resulting in fish kills. Some months of the year, invertebrates will most likely eat some of the solids contained in Champion's discharge. The over-abundance of foods for these creatures can cause an explosion in population of certain species, which may not have been previously abundant. Such an occurrence has completely changed the ecology of other rivers that have been submitted to the same type of discharge as that which is being discharged by Champion. The outcome of such a change taking place in the Clark Fork River cannot be determined without extensive studies, but indications are that it would not be a favorable one. Other contributors of wastes in the Clark Fork River: It is evident that the Missoula sewer treatment facility is discharging effluent into the Clark Fork River upstream from Champion. Other land uses and mining practices are also contributing pollutants to the river. Downriver there are small towns, feedlots, and other agricultural land uses that are adding material to the Clark Fork River. The Clark Fork River has reached its limit in accepting suspended solids and BOD. Further tests are necessary to determine what the increased discharge by Champion will do to the Clark Fork River and Lake Pend Oreille. Champion has more than doubled its production since its permit application for expansion was approved in 1974, and apparently has violated water quality standards many times. Champion is now requesting a permit to more than double its existing discharge of suspended solids. The permit should be denied pending the preparation of an environmental impact statement. New methods of testing

should be utilized to trace the suspended solids that are filtering into Lake Pend Oreille. And alternatives, such as seasonal dry land irrigation or recycling of the effluent, should be considered. Champion should not be allowed to monitor themselves and the effects of their discharge. Monitoring should be done by an independent agency and paid for by Champion. Champion has admitted the alternatives are available instead of direct discharge into the Clark Fork River. They have stated that these alternatives would require large capital outlays. If Champion can make the capital outlays necessary to more than double their production, then they must be required to make the necessary expenditures to insure that their discharge does not degrade the water of the Clark Fork River and Lake Pend Oreille. Lake Pend Oreille has been designated a special resource water by the State of Idaho, which implies any degrading of the quality of the water in any way is illegal. We, the members of the Lake Pend Oreille Idaho Club, demand that that law be enforced and the quality of water in the Clark Fork River and Lake Pend Oreille not be degraded any more than it already has by land use and industry in the State of Montana." (APPLAUSE) (#18)

MR. SOLOMON: Thank you, Sir. Mr. Rosquist? To be followed by Steve Herndon.

ARNE (SKIP) ROSQUIST, representing Lolo National Forest, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY ARNE (SKIP) ROSQUIST

MR. ROSQUIST: My name is Skip Rosquist. I'm the hydrologist for the Lolo National Forest. I'm here representing the Lolo National Forest and our Forest Supervisor, Orville Daniels. The Lolo National Forest is located in Building 24 in Fort Missoula, Missoula, Montana. The Clark Fork River flows through several sections of National Forest land downstream from the pulp mill. The recent Lolo Forest Plan and environmental analysis address the physical importance of riparian lands adjacent to water courses, as well as their recreational uses. Based on public input and resource information, the Lolo has made conscious decisions to manage these lands to maintain these important resources and uses. The ecological relationships of water and adjacent riparian lands are complex; therefore, changing even the simplist forms of life, such as periphyton and aquatic invertebrates, influences not only other organisms such as fish, but terrestrial species that may feed directly or indirectly on biomass assimilated from the river. At this time, the Lolo National Forest cannot support the modification of the discharge permit for the following reasons. First, the fishery in the Clark Fork has direct ties to forest tributary streams such as Ninemile, Fish, Cedar, and Trout Creeks, as well as smaller tributaries. These streams serve as spawning streams for river trout and interchange occurs as cutthroat trout commonly move out of small tributaries into large streams such as the Clark Fork to overwinter in the large pools. Modifying habitat of the river would likely adversely affect the tribu-

tary fishery. Second, in addition to our concern for aquatic habit, we are concerned that there are several potential changes that could adversely affect the recreation potential and recreation experience level within the riparian areas. In addition to the fishery and associated fishing activity, our other concerns relate to accumulation of instream organic material, increases in water odor, fish tainting, and growths of filamentous bacteria or other problem organisms utilizing organic accumulations. Third, the accumulation of organic sludges, in addition to being a nuisance, may inhibit groundwater inflow into the river, adversely affecting the thermal refuge available to fish during high temperature periods. Additionally, this sludge could become anerobic in the intergravel microsites, or reduce instream dissolved oxygen at critical periods. Hydrogen sulfide may also be produced under some circumstances, especially if pH is reduced by organic processes. Lower pH also tends to free heavy metals, creating potentially toxic conditions. Fourth, the character of the river downstream from Huson does not seem appropriate for waste discharge during low flows. The velocities during low flow periods are well under one foot per second in the larger pools, which would allow settling of suspended solids and facilitate biological processes associated with the breakdown of the organic effluent. We feel this condition facilitates the potential for organic sludge accumulations and reduced dissolved oxygen levels. In summary, we feel the Clark Fork River is the foundation of the entire aquatic system of the Lolo Forest. This aquatic system is inter-

dependent and an impact in one area may have far-reaching consequences throughout the system. Because we feel there is a potential for significant environmental degradation of natural -- excuse me -- National Forest resources if the modified permit is issued, we believe that a more detailed evaluation of the potential biologic and hydrologic consequences to the river is necessary before a decision is made to issue a modified permit. (APPLAUSE) (#25)

MR. SOLOMON: Thank you. Steve Herndon? To be followed by Wayne Benner.

STEVE HERNDON, representing the Bonner County Shoreline Property Owners and Taxpayers Protective Association, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY STEVE HERNDON

MR. HERNDON: Mr. Solomon, my name is Steve Herndon and I'm an attorney at law and my address is Post Office Box 216, Sandpoint, Idaho. This evening, I am speaking for the Bonner County Shoreline Property Owners and Taxpayers Protective Association, also known as the Shoreline Property Owners. In fact, before I go any further, I'd like the members of that association who are here this evening to raise their hands so that you can see who they are.

(SHOW OF HANDS -- APPLAUSE)

MR. HERNDON: This association, Mr. Solomon, is an Idaho non-profit corporation organized in 1965 to promote the sound and progressive development of the Lake Pend Orielle

drainage, to protect property rights, to improve property values, to dispense with pollution, to promote water safety, oppose discriminatory regulation, and to generally represent the common interests of our members, who number in excess of 600. I have to apologize to you. My mouth is a little bit dry, and I think I'll pass on what you have here on the table. (LAUGHTER) By and large, we have been considered to be a very conservative, developmental-oriented organization, dedicated to the preservation of individual and corporate property rights. So far as I am aware, in the entire 18-year history of this organization, we have never before aligned ourselves with what some people would refer to as environmental organizations who have been accused by many people, including on occasion by myself, of trying to stand in the way of progress and economic benefit to the community. However, this evening we are forming such an alliance in opposition to the application you have received from the Champion International Corporation. Although I will elaborate on our objections, it is only fair to note at the outset that we strongly believe that the Frenchtown mill is an important asset to the region. Champion has invested much in the area. However, the whole Pend Oreille drainage must be developed in such a manner that one asset does not forestall or destroy others that may be of equal or greater value. It is our hope that Champion International will continue to be profitable. As you know, the pulp mill at Frenchtown started its operations in 1957. At approximately the same time, the United States Army Corps of Engineers, in a report to the

1 United States Senate, stated, Pend Oreille Lake, one of the
2 largest volumes of fresh water wholely within the United
3 States, is becoming a major recreational center of the North-
4 west. Its clear waters and beautiful environment attract not
5 only the vacationists of the surrounding region, but sportsmen
6 from everywhere. Some of the largest and gamiest varieties
7 of trout on this continent have been introduced with such
8 success that the catches from Pend Oreille Lake are conspi-
9 cuous in the national records. Just as this mill supports
10 Frenchtown and the surrounding area, our people rely upon
11 Lake Pend Oreille's pristine waters for their livelihood. It
12 takes no scientific test to determine that if the Clark Fork
13 River continues to be a Class B river in Montana, it is only
14 a matter of time before Lake Pend Oreille will no longer be
15 classified as a water of distinction. And with that classi-
16 fication, will also go our livelihoods. When I, personally,
17 moved to Sandpoint in 1974, the Frenchtown mill and the
18 quality of the Clark Fork River were already controversial
19 issues. Quite frankly, I was amazed at the pristine quality
20 of Lake Pend Oreille at that time, and I was also very much
21 disbelieving of anyone who blamed deteriorating water quality
22 on a pulp mill some 200 river miles away. At that time, the
23 mill already had 745 acres of storage pond. Production was
24 much lower than it is today, approximately 1,000 tons per
25 day. And Hoerner-Waldorf, who owned the mill at that time,
26 claimed that two-thirds of this effluent percolated out of
27 the storage ponds with a resultant 92 percent decrease in
28 organic pollutants. One-third of its effluent was dumped

directly into the river during spring runoffs. Between 1974 and 1976, an aeration system and rapid infiltration beds were added. Champion boasted at that time a tenfold decrease in pollutants and the Lakeshore Property Owners assumed success. Although the 1975 permit contained limits of 2,250,000 pounds of BOD per year and two million pounds of total suspended solids, Champion, in 1977, produced only 200,000 pounds of TSS and approximately 300,000 pounds of BOD. We then, at that time, turned our attention to other smaller polluters. Since 1977, the City of Sandpoint and the City of Missoula have cleaned up their acts and many other municipal sewage treatment facilities have been installed along the drainage. However, the quality of water in the Clark Fork and the quality of water in Lake Pend Oreille has continued to go downhill. I, personally, can state that in the nine short years I have lived on the area -- I might insert there, I'm from southern Idaho. I've only been in Sandpoint for nine years. In the nine short years, however, that I have been in the area, I have seen the water quality deteriorate almost beyond description. A lake that was teeming with fish is now, quite frankly, in my opinion, approaching second rate. A lake that was, it seems only yesterday, absolutely crystal clear is now relatively turbid. Now, in areas where you can see the bottom, instead of plain sand and gravel, one sees muck. Technically, you might refer to it as algae or scum. This scum accumulates on everything. In fact, the hull of my boat grows hair faster than I do. (LAUGHTER) During the last three years, it has been necessary for me to drive to

1 Missoula from Sandpoint approximately once a month. In only
2 three years, the deterioration I have seen in water quality
3 in the Clark Fork River has been equally astounding. I have
4 seen the frothy foam on the river. I have sat at the Village
5 Red Lion Motor Inn, here in Missoula, and mused at how much
6 better the water quality looked up here. Until Champion
7 filed its recent request, we could not determine why there
8 was such a problem and especially why we should see such
9 drastic changes in only the last three to five years. How-
10 ever, let me draw your attention to Figure 2 in that applica-
11 tion. That graph that has been submitted to you by Champion
12 International clearly shows that despite increases in total
13 acreage, the rapid infiltration beds became plugged and
14 ceased to become effective almost immediately. In fact, at a
15 public meeting in Sandpoint on November first of this year,
16 Champion International pointed out to us that infiltration
17 from these beds only takes care of 30 percent of the effluent
18 and that infiltration from storage ponds disposes of another
19 30 percent. This was the same graph or description that you
20 saw on the screen earlier this evening. Please remember,
21 Mr. Solomon, that in 1974, the storage ponds alone accounted
22 for 67 percent of the infiltration or seepage to the river.
23 Although some storage ponds may have been retired, it is
24 clear that both the storage ponds and the rapid infiltration
25 beds are becoming plugged. By the graph that they have
26 submitted to you, Figure 2 in their application, it is abun-
27 dantly clear that this was -- that Champion International was
28 aware of this situation as early as 1975. The next question

is, what was their response? Was production reduced to avoid pollution in the Clark Fork River? In light of these problems with effluent disposal, Champion International spent a great deal of money to increase their production by over 59 percent, from 1,150 tons per day to 1,830 tons per day. The local engineer has prepared a graph for me, which I am now going to give to you so that you may look at it as I continue with my presentation. (HANDS DOCUMENT #43 TO PRESIDING OFFICER) This graph shows Champion International's BOD and TSS discharges into the Clark Fork River from 1977 through 1982. By the way, I'm aware that I've been talking for ten minutes, so I'm going to start going faster. As you can see, total BOD and total suspended solids have been expanded by tenfold. It is no wonder we have seen such drastic downturns in water quality since 1979.

MR. SOLOMON: May I interject a question at this point?

MR. HERNDON: Yes, Sir.

MR. SOLOMON: The material for the graph, you obtained that from Champion International?

MR. HERNDON: That material was obtained from the Montana Department of Health and Environmental Services. We have seen a tenfold increase since 1979 in BOD and total suspended solids. In fact, you will note on that graph that Champion has violated the terms of its present permit twice in the past five years in terms of total suspended solids. Those are violations in addition to the color unit violations that you heard about earlier this evening. In terms of total

1 suspended solids, as I've said, Champion has gone from 200,000
2 pounds per year to over two million pounds per year and is
3 now proposing to be permitted to expand to 6.3 million pounds
4 per year, and we understand this evening that the State of
5 Montana would recommend four million pounds per year. How-
6 ever, as you can easily see, that would go clear off the
7 graph and it would represent a change similar to the one that
8 is denoted there between the years 1979 and 1980, a threefold
9 increase. If the corresponding change in water quality were
10 similar to what we have seen since 1979, believe me, the
11 results would be catastrophic. At this point, I should
12 inform you that number one, we are firmly of the opinion that
13 the anti-backsliding provisions of 40 CFR 122.44 do apply to
14 this situation because, among other things, Champion has
15 increased its productive capacity by 59 percent and has,
16 therefore, brought the, quote, significant change of its
17 plugged rapid infiltration system upon itself. Furthermore,
18 we regard the classification of Champion International's
19 Frenchtown mill as a non-continuous discharger to be nothing
20 more than a fraudulent, bureaucratic semantics. The reason
21 for this and the reason I'm being so harsh in my tone is
22 because Champion itself admits that 60 percent of its effluent
23 seeps into that river on a continuous basis 24 hours a day,
24 twelve months out of the year. And furthermore, we regard
25 the expansions since 1978 to be new sources such that maximum
26 total suspended solid limitations should be set at approxi-
27 mately 3.15 pounds per ton of production instead of 7.2
28 pounds per ton of production. We therefore would calculate

that maximum allowable discharges -- maximum allowable discharges would be the two million pounds of TSS that they are presently permitted for the 1,150 pounds of production per day, and only 752 pounds of TSS for the new source which has come on line since 1978. Thus, the maximum allowable under the EPA guidelines I calculate to be 2,750,000 pounds and not the four million pounds as calculated by the EPA and the State of Montana. As you heard earlier this evening, these, of course, are minimum requirements and do not take into account the absolute necessity that Montana finally take, in this proceeding, and that is a hard look at cleaning up the Clark Fork before it's too late. Now, Mr. Solomon, There are five members of my organization who have also signed up to speak this evening and have agreed to donate their time to me in the event that I run over. (LAUGHTER) I'm getting close to the end. In justification of its request to increase the total suspended solids to 6.3 million pounds or in justification of the four million pounds mentioned by the State of Montana, Champion International states at page nine of its application, and it was reiterated this evening, that extensive studies done by the National Council for Air and Stream Improvement have shown that 95 percent of the total suspended solids and kraft mill effluent is of biological origin and that these are adjusted by a variety of aquatic invertebrates. First of all, let's be clear -- I think it was pointed out this evening -- that this is the national council of the paper industry. Secondly, the extensive studies, and there are only three of them, and only one deals with a real stream

as opposed to a laboratory stream, indicate that most bio-solids were consumed by macroinvertebrates. The methodology was basically good. The TSS was tagged by radioactive C-14 glucose and an extensive hydrologic analysis of the river was undertaken. However, it's axiomatic -- and I think that the aquatic biologists who testified this evening would agree with me -- that before such a study on one river can be transferred to another such as the Clark Fork, there must be similar conditions and the results will depend upon data such as the comparing of channel depths, velocities, cross-sectional shapes, and water clarity, as well as the macroinvertebrate species involved, their relative distributions and their relative densities. Such comparative information is not readily available in the studies. However, what information is available is not encouraging. Macroinvertebrates, quote, were in abundance at the three stations sampled in Technical Bulletin Number 313 -- and at this point, Mr. Hearings Officer, is that the same one that's been introduced as evidence earlier by Champion International?

MR. SOLOMON: (SEARCHES THROUGH DOCUMENTS) Three-oh-four, 308, 313 --

MR. HERNDON: Three-one-three is the one on a real river. You'll note that they state, at page 24 of that study, that macroinvertebrates were in abundance at the stations that were sampled. The Montana Department of Fish, Wildlife and Parks will tell you that low densities of trout in the Clark Fork River are primarily due to very low densities and low-species diversification for macroinvertebrates

in that river. Page 24 of 313 also states that filter feeders ate most of the material consumed by macroinvertebrates. There is no indication what the relative density of filter feeders were nor is there any indication that those same species are even present in the Clark Fork River. Page 26 of this study states that periphyton also consumed much of the material. Because of its relative depth and turbidity, the Clark Fork River, in my opinion, and I think in others in this room, has relatively little periphyton. Perhaps one of the most disconcerting statements in the whole report is at page 26. At page 26, they state that the organisms observed at all stations are relatively intolerant to poor water quality conditions. This, combined with the variety of species present, is indicative of clean, clear, fast-flowing streams. Unfortunately, the State of Montana has let the Clark Fork River become a Class B stream. It is not a shallow, crystal clear, fast-moving mountain stream any longer. In short, we might consider applauding the methodology that was used in this study, and now we would like to see that methodology applied to the Clark Fork River. The only possible compromise which I could recommend to my clients is a full environmental analysis of Champion International's proposal. I, personally, would recommend that the amendment to their permit be held in abeyance until, one, a scoping session opened to interested parties is held to determine the breadth and methodology of the environmental review, and two, until the necessary baseline data is attained. Next, to prevent disruption to your local economy, I would recommend

granting temporary approval of discharges up to the present two million pounds per year guideline, until such time as the environmental review is completed. I would then hold another public hearing on the permit request after it has been thoroughly analyzed. I contemplate that such a procedure would be expensive and would be a three- to four-year process. However, if Champion International does not wish to pursue this process, then they most certainly are no longer a valued neighbor to those of us who live downstream. Thank you. (APPLAUSE)

MR. SOLOMON: Mr. Herndon, do you wish this document to be put into the record, that you referenced?

MR. HERNDON: Yes. (#43)

MR. SOLOMON: We thank Mr. Herndon and the members of the organization for being here. Mr. Benner? And Mr. Benner will be followed by Jim Richard.

WAYNE BENNER, representing Bonner County, Idaho, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY WAYNE BENNER

MR. BENNER: My name is Wayne Benner. I'm a County Commissioner, Bonner County. My office is in Sandpoint, Idaho. And I'm here on behalf of the County Commissioners and the citizens of Bonner County, and I'd like to present to you a statement from the County Commissioners. Whereas, Champion International Pulp Mill, at their Frenchtown mill, has heretofore discharged industrial waste into the Clark

Fork River and subsequent accumulation into the Pend Oreille Lake; and whereas, the Champion International Pulp Mill has applied for a permit to increase its discharge of industrial waste into the Clark Fork River, and subsequent accumulation in Pend Oreille Lake; and whereas, neither the applicant nor the Montana Water Quality Bureau has determined the long-term effect of such discharge upon the ecological community affected thereby; and whereas, any detrimental effect of such waste discharge is of vital interest to not only the State of Montana, but also to the County of Bonner, State of Idaho, and to the people of Eastern Washington who rely upon the aquifer fed by the Pend Oreille Lake for their domestic water; now therefore, be it resolved that the Bonner County Board of Commissioners does hereby oppose the granting of any further and additional permits for the dumping of industrial waste into the Clark Fork River by Champion International Pulp Mill, or any others proposing the dumping of such pollutants detrimental to the life and the property of the citizens of this area. (APPLAUSE) (#44)

MR. SOLOMON: Thank you, Sir. Mr. Richard? Jim Richard?

MR. RICHARD: I'll just turn mine in, Sir. (#45)

MR. SOLOMON: Okay, thank you. Ned Horner?

NED HORNER, representing the Idaho Department of Fish and Game, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY NED HORNER

MR. HORNER: My name is Ned Horner. I'm the Regional Fisheries Biologist, Region 1, Idaho Fish and Game, Coeur D' Alene. Mailing address is 2320 Government Way, Coeur D' Alene, Idaho 83814. And I am speaking on behalf of the Department in a prepared statement by our Director, Jerry M. Conley. "We appreciate the opportunity to comment on the proposed permit alteration for direct discharge of the Champion International Corporation mill effluent to the Clark Fork River. Although the tentative permit modification provided by the State of Montana indicates that changes will not violate either the Montana or specific Idaho water quality standards, we have serious concern in this matter. Pend Oreille Lake is one of the most important fishery and esthetic resources in the State of Idaho. The Clark Fork River is by far the major water source for the lake. The limited reach of river within our state supports some of the most important spawning and rearing habitat for the Pend Oreille Lake fishery. Unique populations of bull trout, kamloops, rainbow trout, and kokanee salmon are dependent on this river. In addition, we have plans for the development of a major hatchery system on the river near Cabinet Gorge. The hatchery will be dependent upon water supplies charged from the river and upstream reservoir, and it will also utilize the river as a migratory corridor for spawning fish. Justifiably, the Clark Fork River and Pend Oreille Lake have been designated as special resource waters within the state. Under that design, any pollutants that can or will result in

injury to a beneficial use represents a violation of state law. For several reasons, we believe this tentative permit may represent a significant threat to Idaho's beneficial use based on the fisheries resource. Number one, the Montana Department of Fish, Wildlife and Parks has indicated that unexplained fish kills have occurred in the Clark Fork River. It is quite possible that such kills have been associated with Champion. The proposed permit would allow Champion to discharge directly into the river, circumventing any use of storage and rapid infiltration basins. Such practice negates any safeguard for catastrophic events that storage capacity may have provided. If the chemical or primary treatment process should fail, untreated waste could be discharged directly to the river. If fish kills have been related to effluent problems in the past, the new permit may enhance the potential for more serious problems that may influence Idaho. Number two, the rapid infiltration basins at the plant have been plugged. To our knowledge, the nature and composition of the material plugging the system has not been described, though it is undoubtedly related to the effluent from the plant. Without a better description of that material and its chemical and biological composition, we can only conclude that it will now be deposited in the river rather than in the infiltration beds, with unknown effects on aquatic ecosystems. During periods of low flow, deposition of this material may be significant within Montana. During periods of high flow or low water temperature, already significant problems of sediment deposition could be aggravated within Idaho. Number

three, the proposed permit modification allows a nearly threefold increase in suspended solid loading on an annual basis. From available information, it appears that much of the increased load will be in the form of organic biomass. In addition, the new effluent will also contain an increased nutrient load. The Clark Fork River is already one of the most seriously polluted rivers in this area, suffering from mining, feedlot and municipal wastes and heavy land use development. Admittedly, Idaho is a long way from the point of Champion's discharge and much of the new loading may be assimilated within the reservoirs and river above us. However, with the degradation that has already taken place in this watershed, we suspect that the assimilative capacity may have already been seriously limited. During periods of high flow or low water temperature, the increased loading to Idaho's river and lake may well be detrimental. It is our belief that the information presented in the application and tentative permit do not adequately address the environmental concerns in this matter. An accurate prediction of downstream impacts of the new effluent disposal regime is impossible without a better description of the new effluent composition and assimilative capacity of the river. We strongly urge your Department to require a more thorough evaluation of the process. Due to the value of the Clark Fork River and Pend Oreille Lake, a complete environmental impact statement would be warranted. If the permit is issued, we believe a more comprehensive monitoring program is necessary to demonstrate that water quality is not degraded. Without a better descrip-

tion of the effluent, it is impossible to provide the assurance that water quality standards can even be met. We are a bit apprehensive that the permittee should have sole responsibility for monitoring. A more suitable program might be conducted through your Department and in cooperation with the Idaho Division of Environment. Funding for a comprehensive program could be provided by Champion. In summary, the Clark Fork River system represents an extremely important resource for the State of Idaho. The river has already been severely degraded by development within Montana. We do not feel that the application for permit modification being considered here has demonstrated that a change in Champion's effluent disposal system will not further degrade the river, affecting downstream values. It appears that the only alternative considered to solve the problem of plugged infiltration basins has been a revision of water quality standards. Certainly, alternative technologies exist to meet the current standards. Relaxation of permit requirements simply because of the failure of an existing treatment process seems like a dangerous precedent to set. Are the standards set to protect aquatic resources or are they set to match the limitations of the applicant? We strongly urge your closest consideration in this matter. Thank you for the opportunity to comment. Sincerely, Jerry M. Conley, Director, Idaho Department of Fish and Game." (#49) (APPLAUSE)

MR. SOLOMON: We want to thank you and your director for that comment. At this time, I'll indicate that Mr. Torma and Mr. Elser will be next up. We will

1 take a short recess to change the tape.
2 (BRIEF RECESS - TAPE CHANGE)
3 MR. SOLOMON: We have a number who have indicated
4 you are either waiving your right to speak, or you
5 can't stay, and so on. If you want to put that on
6 one of these slips or the slip that you signed,
7 we'll see that that's in the record. We're now
8 back on the record, and we have, I would approxi-
9 mate, 30 to 35 more people who wish to speak. And
10 we'll keep going until we get everybody on the
11 record. The custodian leaves at 1:00. Hopefully,
12 we'll be done by then. And we do appreciate the
13 assistance of the city officials, the mayor, the
14 council, and we appreciate your participation and
15 attendance and in bearing with us. Yes?
16 SPECTATOR: Have you already made the order of --
17 MR. SOLOMON: I have them right here and I'll --
18 SPECTATOR: Perhaps you could announce the order
19 and see if anybody would want to withdraw.
20 MR. SOLOMON: All right. Mr. Torma, Mr. Elser,
21 League of Women Voters -- Martha O-N-I-S-H-U-K -- I
22 believe she's already submitted written material.
23 (#46) Is she still here?
24 SPECTATOR: No.
25 MR. SOLOMON: Okay. Robert Klatt, Mary McFarland,
26 Evamae Mount --
27 MS. MOUNT: No. Take that one out.
28 MR. SOLOMON: All right, thank you. Greg Oliver,

1 Richard Hoffmaster, Susan Cottingham, William
2 Slack, Neil Halprin -- is Mr. Slack still here? He
3 had submitted some earlier -- some written testimony
4 earlier. Is Mr. Slack here? (NO RESPONSE) We do
5 have written testimony from him. (#6) Neil Hal-
6 prin, Ray Price -- or is that Prill?
7 MR. PRILL: That's Prill, and I have submitted
8 some written testimony. (#10)
9 MR. SOLOMON: Do you wish to comment, or --
10 MR. PRILL: No.
11 MR. SOLOMON: Thank you. Chris Kronberg, James
12 White --
13 MR. WHITE: Here.
14 MR. SOLOMON: Byron Weber, Fred Kennedy --
15 MR. KENNEDY: Here.
16 MR. SOLOMON: Vicki Watson?
17 DR. WATSON: Here.
18 MR. SOLOMON: Ron Erickson, Compton White -- is
19 Mr. White still here? Jack Wilkinson, Frances
20 Swanson --
21 MS. SWANSON: Here, but I've given my time to Steve
22 Herndon.
23 MR. SOLOMON: Okay, thank you. Leonard Kyer?
24 MR. KYER: We have a written submission in, so
25 we'll pull it. (#19)
26 MR. SOLOMON: Thank you. Karl Englund?
27 MR. ENGLUND: Here.
28 MR. SOLOMON: Myra Skipper, Paul Hart --

1 MR. HART: I'll pass. Use the written -- I
2 turned in a written -- (#24)
3 MR. SOLOMON: All right, thank you. Glenn McFar-
4 land --
5 MR. McFARLAND: Pass. I gave my time to Mr. Herndon.
6 MR. SOLOMON: All right, thank you, Sir. Debra
7 McKinnon -- (#47)
8 SPECTATOR: She had to leave.
9 MR. SOLOMON: Jerry Schelley?
10 MR. SCHELLEY: Here.
11 MR. SOLOMON: Fred Stewart, John W. Harbuck, Don
12 Essig, Karl Long --
13 MR. LONG: Here.
14 MR. SOLOMON: Bill Bevis, Howard E. Johnson -- is
15 Mr. Johnson still here?
16 MR. JOHNSON: (RAISES HAND)
17 MR. SOLOMON: And you already have submitted written
18 testimony (#60). Do you still wish to comment?
19 MR. JOHNSON: No.
20 MR. SOLOMON: All right, thank you, Sir. Tony
21 Hines --
22 MR. HINES: Here.
23 MR. SOLOMON: Leo Cummins -- Mr. Cummins? (NO
24 RESPONSE) Does that help? We'll start with
25 Mr. Torma, to be followed by Mr. Elser.
26
27 On behalf of DR. DEBRA McKINNON, JOHN TORMA, having been first
28 duly sworn upon his oath, testified as follows:

TESTIMONY BY DR. DEBRA McKINNON, AS PRESENTED BY JOHN TORMA

MR. TORMA: My name is John Torma. I have a residence in Superior, but I'm presently living in Missoula while I'm attending graduate school at the University. Dr. Debra McKinnon, who resides in Superior, had to leave and asked me to present to the Water Quality Bureau the petition which was signed by 495 residents of Mineral County and which reads, "We, the undersigned residents of Mineral County, Montana, strenuously oppose the introduction of any waste products into the Clark Fork River without prior scientific proof that such disposal will not adversely affect the water quality or aquatic habitat of the river. We see the proposal by Champion International Corporation to continuously dump effluent and approximately 6,000,000 pounds of waste products from its Frenchtown, Montana, linerboard mill, as a clear and proximate threat to the environment of the Clark Fork River downstream. We therefore demand that, before allowing such discharge, the Montana Water Quality Bureau conduct an environmental impact study to insure that, one, the present water quality of the Clark Fork River is maintained; two, to refuse the discharge permit applied for until such environmental impact study is conducted; three, conduct local hearings; four, grant discharge permits on a yearly basis subject to review." (#47)

MR. SOLOMON: May I pose a question? When you say, "local hearings," do you mean -- how local? Each community along the river? Any idea what they had in mind?

MR. TORMA: I'm sorry. I don't know.

MR. SOLOMON: All right, thank you --

MR. TORMA: I was merely to present this --

MR. SOLOMON: More local?

MR. TORMA: Yes.

MS. NOONAN: I think I can answer that because I talked to her this afternoon -- Dr. McKinnon -- and she said that it was -- she thought that at least we should have one hearing in Mineral County because that is the biggest distance that the river goes through Mineral County.

MR. SOLOMON: Thank you.

REPORTER: May I have your name, please?

MS. NOONAN: I'm Mary Noonan, Mineral County Commissioner.

MR. SOLOMON: Thank you, Commissioner.

JOHN TORMA, representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY JOHN TORMA

MR. TORMA: My testimony, Mr. Chairman, is brief and takes the form of a question or two. First of all, I would like to know -- and I think the public should know -- what was the design production capacity of the mill when it, and specifically, the settling and infiltration ponds at the mill, were built. I believe -- and I hope somebody from Champion will correct me if I'm wrong -- that the design

production capacity was in the neighborhood of 500 tons per day. The second question that I had was already answered by one of the representatives from Champion, and that question was what is the actual production output of the mill today and we were told that it is in the neighborhood of 1,900 tons per day, nearly four times the original design production capacity. Which leads me to my main question, which is, if the corporation is free to enjoy the profits of increased production, why is it unreasonable for the public to expect that corporation to bear the cost of dealing with the resultant increased waste products? I would like to offer the remainder of my five to ten minutes to Mr. Weeks or any of the other representatives from Diamond (SIC) and invite them to respond to this question.

MR. SOLOMON: As laid down in the groundrules, I will not permit direct examination or cross-examination during the balance of this hearing, and that will be addressed -- is Steve here? I think those kinds of issues and your questions will be addressed in the Department's response. What we can do is either excerpt that portion of the response or see that you're on the mailing list for the full response, and that will be addressed in that. I hesitate to do that, because we laid down that guideline earlier. We did not permit that kind of examination or cross-examination anywhere, and those were the groundrules for the hearing. Mr. Elser?

MR. ELSER: (HANDS COPY OF STATEMENT TO REPORTER)

ALLEN A. ELSER, representing the Montana Department of Fish, Wildlife and Parks, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY ALLEN A. ELSER

MR. ELSER: I am Allen A. Elser. I am Chief of the Fish Management Bureau, Department of Fish, Wildlife and Parks, 1420 East Sixth Avenue, Helena, Montana. Mr. Chairman, we appreciate the opportunity to offer our comments on this issue, and we would first like to thank Champion International personnel for taking the time to brief us on the situation and for voicing their concern for the fishery and the wildlife in the river. We applaud the cooperation of the Water Quality Bureau in supplying data and addressing the water quality issue. The Clark Fork River assimilates as much or more waste material than any other waterway in the State of Montana. Mine tailings continue to be distributed throughout the upper reaches, and copper criteria is exceeded during much of the year. The river also receives domestic waste from communities located throughout the Clark Fork Valley, including a major discharge from the City of Missoula. Suspended sediments originating from the Milltown drawdown and from mining, grazing, and logging in many of the Clark Fork drainages, combine to place additional demands on the assimilative capacity of the river. We acknowledge that riverways have a finite capacity to assimilate waste material;

however, we emphasize the present waste loading because we are fearful --

MR. SOLOMON: Mr. Elser, may I interrupt you, please? (TO REPORTER) Are you able to get this?

REPORTER: I think he's reading his statement. (TO WITNESS) Aren't you?

MR. SOLOMON: Is this a prepared statement?

MR. ELSER: Yes.

MR. SOLOMON: Okay. Go ahead. Thank you.

MR. ELSER: We emphasize the present waste loading because we are fearful that the river may be approaching its capacity, particularly during the low flow portion of the year. Evaluation of the preliminary environmental review as related to the issuance of the waste discharge permit presented several areas that we believe should be further addressed during the decision-making process. First, suspended organic material may accumulate in backwater areas and downstream reservoirs during low flow and cold weather when bacterial activity is minimal. Second, coating of the substrate with waste material during low flow periods may also be a problem. This could reduce spawning habitat and affect aquatic invertebrate populations. Third, alternative pollution control technologies that would be economically feasible and reduce the need for or the degree of direct discharge should be explored. If the permit is issued, we recommend a comprehensive, independent monitoring study be initiated and sustained. It should be conducted by or under the direct supervision of the Water Quality Bureau. We fully support the Water Quality

Bureau's proposed monitoring parameters, particularly the addition of hydrogen sulfide and flavor tainting parameters. In addition to the parameters listed in the permit, we submit that the study design should incorporate the following items. One, validation of oxygen-sag calculations specifically for the Clark Fork River. Two, the effects of seasonal temperature changes on biodegradation of organic material that is discharged and accumulates in the slow-moving areas or downstream reservoirs. Three, tendency of the discharge to coat substrates, particularly during low flows and in stagnant areas. Four, diurnal and seasonal changes in discharge quality and assimilative capacity of the river. And five, monitoring the condition of fish populations that may be affected by the discharge. As a closing point, we would emphasize that color standards have been exceeded in the past due to seepage during low flow periods. The direct discharge of wastes to the Clark Fork River is predicated on the assumption that the river has the capacity to assimilate this added waste load. The capacity of any river system to assimilate wastes is dependent on the existing quality and flow rate of the receiving waters. The Clark Fork River currently has no instream flow protection and is subjected to the effects of incremental dewatering and natural flow variations. Adequate streamflows can be protected only through a reservation of flow, according to Section BS-2-316, Montana Codes Annotated, Reservation of Waters. This Section states, in part, that, quote, "The state or any political subdivision or state agency thereof or the United States or any agency thereof may

apply to the board to reserve waters for existing or future beneficial uses or to maintain a minimum flow, level, or quality of water throughout the year or as such periods or for such length of time as the board designates," end of quote. The uncontrollable nature of the color violations during low flow periods underscores the need for instream flow protection, particularly during low flow periods. This would acknowledge that certain flows must be available to assimilate wastes not only from the Champion discharge, both seepage and direct, but also for other major waste contributors. We urge the Department of Health to review the waste loading of the Clark Fork River and consider requesting an appropriate flow reservation to insure that adequate flows are available to assimilate the current and proposed waste discharges. We should all reflect on the past efforts of Champion International to comply with water quality standards. We think that the joint program worked out with the Water Quality Bureau has been successful, as attested to by the fishery that exists in the Clark Fork River downstream. As we proceed with trying to resolve the current unfortunate dilemma caused by the plugging of the rapid infiltration ponds, let us not focus just on the short-term crisis, but rather on the long-term effort to enhance the water quality of the Clark Fork River and to continue working in the cooperative vein that has proven successful in the recent past. (#48) (APPLAUSE)

MR. SOLOMON: Thank you very much. Robert Klatt?

ROBERT G. KLATT, representing the Panhandle Health District #1, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY ROBERT G. KLATT

MR. KLATT: My name is Robert Klatt. I'm a member of the board of the Panhandle Health District #1, Northern Idaho. The Panhandle Health District is composed of the five northern counties. The seven members of the board are elected by the 15 county commissioners of these five counties. One of their main responsibilities of the Panhandle Health District has been the preservation of the quality of water in the Rathdrum Aquifer, which has been designated as a sole source of water for the downstream communities of Post Falls, Spokane Valley, and Spokane. We have implemented some rules and regulations that apply to the development over this aquifer. We feel that it is prudent that the studies similar to the studies undertaken for the development of these rules and regulations should apply on the Clark Fork River and recommend that adequate studies be made before a permit is given. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you, Sir. Ms. McFarland, would you like to comment, or is that written comment --

MS. McFARLAND: I gave mine to you. (#50)

MR. SOLOMON: Okay, thank you. Greg Oliver? To be followed by Richard Hoffmaster.

GREG OLIVER, representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY GREG OLIVER

MR. OLIVER: My name is Greg Oliver. I'm employed as a microbiologist at the Health Department. I'm not speaking in any capacity for the county. I'm curious as to how many of you people are Water Quality Bureau people. Are you the only representative -- both you guys? It seems like I should speak to you and not -- (REFERRING TO BENCH) -- to you people. My comments have become a little bit moth-eaten because I've X-d out everything that's been said fairly well by other people. I've got a few points left. The failure of the rapid infiltration system to treat pulp mill effluent is a central issue in Champion's request for modification of its discharge permit. Champion claims it should not be penalized because the experimental system did not meet expectations. Champion asserts the discharge requirements of the existing permit are no longer fair. The Water Quality Bureau has tentatively agreed with Champion's rationale. There are a number of problems with this tentative decision. I believe the Water Quality Bureau is in legal jeopardy, is clearly contradicting previous stated positions, and is simply failing to demonstrate good common sense and thorough procedures. Champion's original request to increase annual direct discharge of TSS three times that allowed by the existing permit has now been whittled down by EPA's Region VIII environmental engineer, Bob Shankland, to approximately double the current levels. Doubling the amount of TSS allowed to be dumped into the Clark Fork raises an interesting point. If there was currently no mill on the river and Champion proposed opening

a mill that would discharge two million tons of TSS annually, you can be sure an EIS would be required. I don't really see a difference in the situation now. Another concern is that the preliminary environmental review issued by the WQB looks like an outline for an introduction to a real PER. How can this very limited document justify the position that no EIS is required? No references are cited. Casual mention of CM_2 Hill's dissolved oxygen study and industrial studies is not sufficient to determine the potential impact to the Clark Fork River. If the Water Quality Bureau is determined to grant Champion's request for effluent dumping into the Clark Fork, a substantial PER is necessary and required by law. Consider the failure of the rapid infiltration system. According to a recent lecture by Larry Weeks at UM, the peak absorption rate of RI occurred in mid-1976. And then a radical drop occurred immediately afterward, leveling at a much lower rate around the end of the '70's, and then dropping further. The bad news about rapid infiltration was apparent some time ago. I have to wonder why the Water Quality Bureau didn't notice the problem earlier and respond to the previously-mentioned sections of the 1974 EIS and begin the process of developing a schedule for transfer to alternative wastewater treatment strategies. This is what was claimed to be done -- or would be done from the original EIS. Annual reports submitted to the Water Quality Bureau in fiscal years 1982 and 1983 show Champion met the standards of the original permit. How urgent is the request for increased dumping? The Water Quality Bureau should not grant the mill

a permit to double their dumping. The Water Quality Bureau should, in contrast, consider an array of other options, including a one- or two-year temporary permit contingent on progress for considering and developing alternative strategies. The Missoula sewage treatment plant is currently operating at a maximum capacity, receiving six million gallons a day. On heavy runoff days, the system is overloaded with up to 11 million gallons a day, overwhelming the delicate balance of the system and flowing into the Clark Fork relatively untreated. I raise this point for two reasons. The sewage treatment plant is one example of other impacts on water quality in the river and the plant is close enough to the mill to consider the combined effects. Second, Missoula is responding by installing a sludge dewatering system and another digester. I understand that they've spent $2.3 million to date and they plan on going to about $6 million. The City did not request a discharge modification to double the quantity of effluent allowed to be dumped into the Clark Fork over the next five years. They're paying the price for their problems. A logical response to Champion's request to modify its discharge permit is to consider what alternatives are available. One would expect an industry to seek the simplest, cheapest means to deal with its problem. That's why we have regulatory agencies. The Water Quality Bureau has not sufficiently reviewed existing literature or analyzed various cost-benefit scenarios for alternative effluent treatment. In 1974, the Department of Health and Environmental Sciences requested alternative treatment if this current situation

developed. And I suggest that that request is no less reasonable now. There are 27 operating pulp and paper mills in Washington, 17 in Oregon, and 41 in California, according to a 1980 EPA development document. There's only one in Montana. In many cases, those states have more stringent environmental quality regulations than Montana does. It's reasonable to assume some of those mills contend with problems similar to Champion. I'm certain the Water Quality Bureau could learn from these other states' experiences. I had -- the major portion of my written testimony concerns various reports and studies describing the state of the art for pulp and paper mill wastewater treatment technology, and I'm not going to go into all this now, but I think, from what I saw in a cursory review, it clearly demonstrates that the number of treatment strategies available to Champion would probably be reasonable economically. There are other options for Champion and the Water Quality Bureau concerning the effluent, such as a more effective secondary treatment system, utilizing activated sludge; holding effluent for longer periods in the aeration basins by expanding the pond's size and adding mechanical aerators; keeping it for maybe twelve to fourteen days, as compared to seven or eight days that it's kept now, could further reduce total suspended solids. Spills are unpredictable and drastically reduce the ability of secondary treatment organisms to break down the effluent because the sudden influx disturbs the carefully maintained balance of bugs and nutrients. Perhaps a separate basin for spills would reduce TSS. Sealing the ponds, especially those holding ponds that

1 border the Clark Fork with only permeable dikes separating
2 the effluent from the river water -- well, there are only
3 permeable dikes between the river and that effluent right
4 now. It just doesn't seem to make much sense. Let's seal
5 them up and that might reduce some of the color violations
6 that have occurred over the last ten years. I'm not suggest-
7 ing that one effluent treatment strategy will solve Champion's
8 problems. However, a combination of strategies could reduce
9 the mill's impact on an already burdened river.
10 MR. SOLOMON: Mr. Oliver, how much more material do
11 you have?
12 MR. OLIVER: Just a few lines.
13 MR. SOLOMON: All right.
14 MR. OLIVER: A different decision by the Water
15 Quality Bureau to Champion's modification request makes good
16 sense and conforms with positions taken by the Department of
17 Health and Environmental Sciences in the past. A different
18 response makes sense in light of the concerns of those commu-
19 nities downstream and because the delicate mechanisms of the
20 Clark Fork ecosystem are not fully understood. Finally, a
21 different decision than that tentatively proposed by the
22 Water Quality Bureau appears to be mandated by the nondegra-
23 dation section of the state water law. (#51) (APPLAUSE).
24 MR. SOLOMON: Thank you. Mr. Hoffmaster? To be
25 followed by Ms. Cottingham.
26
27 RICHARD K. HOFFMASTER, representing himself, having been first
28 duly sworn upon his oath, testified as follows:

TESTIMONY BY RICHARD K. HOFFMASTER

MR. HOFFMASTER: My name is Richard Hoffmaster. I'm presently living in Missoula, here, at 102 Ben Hogan Drive, and I'm a golf professional. However, in 1973 to 1980, I was a lead boatman on the Salmon River. I took a lot of people down that river and after six years' working commercially on the river, I saw the impact that we, the boaters, were making on it, and I submitted a job proposal to the government as a -- I'm a little nervous, here; a big crowd like this -- on any account, I was a river patrol on the main Salmon for -- I created the job and was the river patrol for two years, and we solved our problems in terms of the impact that we as boaters were making on the river. When you spend a lot of time on the river, forums don't really have a hell of a lot of credibility to you. You folks come down and test a sample of the river one day. You're removed from the high waters and low waters, the seasons, the fluctuations of it. And so I'm a little arrogant here, but a lot of you folks are really removed from the river in terms of its very sensitiveness, its very fragileness, just by itself. And yet here we are as a country and as a world throwing our garbage in the lakes and in the oceans and, in this instance, in a river. So that -- I'm impressed by, A, the mannerly behavior that this forum's been done. Twenty years ago, nothing like this could have occurred. A lot of diverse attitudes have been presented. I think everybody's -- it's been a hell of a good meeting. But what I really have to say is that the principal witness isn't here today. We're all secondary witnesses.

The principal witness is the river. That's what this is all about. And the river seems to me, from evidence submitted tonight, that it's not really handling the upriver traffic of the Rattlesnake and etcetera, much less what Champion is doing to it. So the river is speaking for itself. I have a few other general comments. Problems of river management never occur unless the dollar starts popping up, and as soon as it does, you've got some problems. Obviously, the river doesn't know what a dollar is, so it would prefer to be left alone. It really would. I do respect the work of the board and also the responsible manner that Champion has demonstrated itself. However, further concern is absolutely necessary. They must explore methods exclusive of the Clark Fork River to handling this discharge. The Clark Fork seems to be peaked out. This forum has represented itself in good faith, clear concern from all parties. The solutions have been voiced. It's up to the board to recognize it, to accept the responsibility and make some very difficult decisions. Minimum impact on the river is too much. Minimum impact is too much. It really is. If pollution is occurring upriver, it has to be addressed just as stringently as Champion's if the river is to remain just that, a river. Thank you for this opportunity. (APPLAUSE)

MR. SOLOMON: Thank you, Sir. Ms. Cottingham? To be followed by Neil Halprin.

SUSAN COTTINGHAM, representing the Montana Environmental Information Center, having been first duly sworn upon her oath, testified

as follows:

TESTIMONY BY SUSAN COTTINGHAM

MS. COTTINGHAM: Thank you, Mr. Solomon. My name is Susan Cottingham. I'm the Director of the Montana Environmental Information Center. Our mailing address is Box 1184, in Helena, Montana. I represent the 1,500 members of the EIC and we have been working on this issue for several months and are glad to be here tonight to finally voice some of our concerns. Most of what I had intended to say has been said much better by some very good technical people here tonight. And I really have to say how impressed I am with the public from Montana and Idaho, with the facts that they have brought to this hearing. I think it's really an incredible process. I'd like to highlight a couple of problems we have had with the whole permit process. We will be submitting some written testimony this week. First of all, I would have to say we're highly critical of the way the whole process has been handled on the permit. We requested a PER verbally, in a phone conversation in August, and said we are interested in this process and wanted to be kept informed, but never did receive the document. When we went to the Enviromental Quality Council which, by law, should have gotten the document under MEPA, they had not gotten it either, and I must say that when we finally got the PER and saw the page-and-a-half, I wondered what all the fuss was about. But I think that it's very important that the Department recognize that these laws are in place. MEPA, the Montana Environmental Policy Act, is in

place for a reason and that reason is the people that are in this room here tonight. The second point I think that I was going to make has been made very well by other people. What the PER does not address. We've seen that the PER does not address the problem of depositing of organic material in the river; what's going to happen downstream; how far this material is going to be covered. It does not address at all the monitoring problems that have happened in the past. And in fact, it says water quality standards will be maintained as they are presently, and I would question that assumption. It also doesn't address the cumulative impacts on the river, and as we know, Champion is not the only polluter in the Clark Fork, and I think that these cumulative impacts have to be addressed. I think it doesn't address the economics of what's going to happen to the other river users. It just seems to assume that Champion can't meet their economic goals, and I think that's some pretty poor assumptions there. I think several people have suggested a number of available technologies that might be used and I think the Department needs to look into those. I guess another issue that we have raised with the Department is the whole issue of using the volume of the Clark Fork and assuming that that volume will protect the river in the discharge, without going ahead and filing for reservations under the Montana reservation system. And a member of the Department said that they felt that the reservation was not necessary because Washington Water Power basically had reserved the Clark Fork at the Noxon Dam and they didn't think that there would be much fluctuation. I

have a real problem with relying on Washington Water Power to uphold Montana's water quality laws, and I think the Department should immediately move to begin the process of filing for reservation so that the flows of the Clark Fork will be insured. I guess another -- the major problem that we have with the whole permit is that it just blandly states that if Champion does not meet the permit limitation, then they will have to stop discharging. And what this is doing is putting us into a situation where we're going to be under job blackball. And I think that's really unfortunate for everyone concerned. I think it's been shown here tonight that Champion has known of the problem for a long time. They didn't file for a permit until July. They've given the State very little time to review it, and subsequently, the public. And I think that it's unfortunate for us to be under this kind of pressure. It's even more unfortunate if we go ahead and issue a permit based on very little factual knowledge and then down the line have to say that Champion cannot discharge. I think that's going to be a very untenable political situation. And finally, I just guess I would like to appeal to Montana's government to be a good neighbor. I think we have a lot of people from Idaho here tonight that have come long distances to present some very good information. We've been in a similar position. We go to Canada. We ask them about Cabin Creek and what's going to happen to Flathead Lake, and I think that it's an impossible situation for us to appeal to our neighbors to the north for cooperation on a very severe problem and then turn around and not assume that Idaho might

be impacted downstream and consider the testimony that they have given here tonight. So I would appeal to your cooperation in this matter. Thank you. (APPLAUSE)

MR. SOLOMON: You have also indicated that you would be submitting written testimony. Thank you. Mr. Halprin? To be followed by Chris Kronberg.

NEIL HALPRIN, representing Missoula County Libertarian Party, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY NEIL HALPRIN

MR. HALPRIN: My name is Neil Halprin. I'm the Vice-Chair of the Montana Libertarian Party.

MR. SOLOMON: Would you please use the microphone?

MR. HALPRIN: Oh. Thank you. I just have a few points to make, since so many other points have been made so well. First, I'd like to compare the way the process went on the wood smoke regulations and the way the process goes on Champion International's request to dump in the river. It seems when we were talking about regulating Joe Average here in Missoula County, federal pollution standards were much too lenient. We were told that we needed much stricter standards, maybe twice as strict as the federal government would suggest. We had special studies that were independently commissioned. We were told that the problem is an obvious emergency. All we had to do was look. We were told by a state agency employee what the state was going to do to us if we didn't pass regulations. But when it comes to telling Champion Inter-

national what to do, it seems that state agencies roll over and play dead. The Federal Clean Air (SIC) Act's efforts to prevent discharge of pollutants into navigable waters are ignored or abandoned. We simply say there isn't any problem, and suddenly it has disappeared. It's amazing. No independent studies need to be made. Champion International told us there's no problem. They said the water will be fit to drink. Surely we don't have to go any further than that. Why don't we just believe them? Million of gallons of chemically-enriched wastes get dumped in the Clark Fork River, but there's no obvious problem. There's no emergency. The river has been dying for the past four years and almost everybody who lives in this state or in Idaho knows it, but there is no problem. I don't see a problem. Do you see a problem? It seems to me that there certainly is a problem and it's that industry seems to be able to get sweetheart deals out of state agencies that the individual Montanan --

MR. SOLOMON: Mr. Halprin, I'm going to remind you, as I reminded the gentleman earlier, that you are under oath.

MR. HALPRIN: Thank you. It seems that they can get deals that we can't get. Then there's the famous clause in Montana's Constitution about the right to a clean and healthful environment. I heard a lot about that during the wood smoke hearings. It apparently applies to wood burners but it doesn't apply to anyone with clout. I'd also like to talk a little bit about water rights. Water rights are something that are supposedly protected in this state and in other

states. Well, what good does having the right to water for drinking purposes do if the water you get suddenly needs to be filtered or treated in order to be useful? Again, Champion International tells us that this water is going to be fit to drink. I'd like to see them drink it on a regular basis after they start this dumping. Because I don't think it's going to be fit to drink. And they're threatening the water rights of every community downstream that's planning to use this for drinking water. I think it's a very good, litigatable issue. And I think they have a good chance of winning. Because in fact, Champion International doesn't own this water, and sooner or later, the people who do have a right to this water -- superior water rights, if I might add -- are going to say that they don't have to go for this kind of treatment. I'd also like to point out finally that the economic impacts are not just on Champion International. Tourism is big business in Western Montana. It's big business in Northern Idaho. What we're going to do is we're going to trade Champion International's economic health, basically, for the economic health of the entire tourism industry in this part of the country. We're going to say that, well, if the fish die and if the wildlife that use the river are in trouble, if all of a sudden, the things that attract tourists to this area aren't there anymore, well, at least we saved Champion International some money. How nice. We'll have saved Champion International some money. I think everybody knows there's a problem, and I think Champion International should have been willing to spend the money to solve it when

they knew there was a problem. And that was back in '75 or '76. And I might say finally that I don't think we need an environmental impact statement. What we need is the guts to say no to a request that's outrageous on its face. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you. Chris Kronberg? Followed by Mr. White.

CHRIS KRONBERG, representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY CHRIS KRONBERG

MR. KRONBERG: My name is Chris Kronberg. I'm a biologist, currently under contract through the Trout and Salmon Foundation, but I'm not representing them tonight. I think we do need an EIS. When I was a graduate student at the University here in Missoula, I wrote a paper called, "The Biological Effects of Water Pollution in the Clark Fork River." I had to stop that study at about Missoula because there is no good data -- there are no good data on the river downstream of Missoula. I cannot understand how someone can assume that there's no degradation occurring in the Clark Fork when there is no -- where there are no good studies or data in existence. I think, quoting from the Water Quality Bureau's own publication on water quality in Montana, 1982, under municipal and industrial wastes, I think this sums up their total knowledge of what's going on in the Clark Fork downstream of Champion. Champion pulp mill, northwest of

Missoula, introduced organic contaminants, measures biochemical oxygen demand, color, to the Clark Fork alluvial aquifer. I think that's about all they know. They don't say anything about what the effects are and, if anything, the data that I've seen from the Department of Fish, Wildlife and Parks indicates there are effects. If there is any information available, apparently Hoerner-Waldorf has it, and I have requested several times from Larry Weeks to see their studies but have never been able to get ahold of it. We definitely have to have an EIS on this subject, and I was -- I came tonight hoping to hear what the biological rationale was to allowing them to dump in the river. I never heard anything tonight from them about that. And the answer is simply because they don't know. (APPLAUSE)

MR. SOLOMON: Thank you. James E. White? And Byron Weber will be next.

JAMES E. WHITE, representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY JAMES E. WHITE

MR. WHITE: My name is James E. White, from Clarkfork, Idaho. I've lived there all my life. I'm 57 years of age. I've lived on the Clark Fork River all my life. I've watched the -- below the stream for the past 50 years, and in the past few years, I've watched the streambed become a pollution with hairy-like substance, mucilage in the stream itself. I don't know where this has come from, but it seems

to emanate from about 175 miles upstream from Pend Oreille Lake at the Champion paper mill. I followed the Clark Fork River in 1974, when they had a high runoff with a very dark, olive-drab material polluting the river, that was emanating from Champion at Frenchtown. We've watched this algae-like material forming on the beds of the Clark Fork River, and it has now become to a depth of probably a 64th to a 32nd of an inch in thickness on every rock in the bedstream in the Clark Fork area. We watched the spawning of the kokanee in the mouth of the river go from a count, I believe it was in 1966, of some 555,000 fish was the estimate by the Fish and Game Department of Idaho, down to, in 1974, it was down to some 555 fish in the same area. These fish that were spawning were found in areas that were agitated and where the -- any agitation, I created most of it myself with a cat and a scraper in the bed of the river, and it dislodged this mucilage-like material, and that's where most of the fish were found to be spawning. I have considerable experience in wetland excavation and tailing pond management, in slop and slime, and presently am under contract with Western Nuclear, over in Wellpinit, Washington, doing tailing pond management-type work with them. I'm sure that Champion could assess their problems and, with proper management of their tailing ponds, certainly preclude a lot of pollution in the Clark Fork River, and we need it. We need to have this pollution stopped. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you. Mr. Weber? To be followed by Fred Kennedy.

BYRON WEBER, representing Five Valleys Audubon Society, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY BYRON WEBER

MR. WEBER: My name is Byron Weber. I live near Lolo, Montana. I'm President of the Five Valleys Audubon Society, which encompasses the area which is presently -- that we're concerned about right now. I am glad to be speaking at this meeting, because we almost didn't have a meeting, from what I understand. Had not some of us written letters requesting a meeting, we might not even be here. I'm absolutely amazed at the political naivete of the Department of Health for not telling us there would be a meeting when the permit was first asked for. We shouldn't have to go asking for a meeting on such a serious issue, and just go on record that anytime the Department comes in this area regarding water and air pollution, send us notices of your meetings rather than us asking to have a meeting. I note with a touch of humor that an early 1970's environmental slogan has re-surfaced. That states, "The solution to pollution is dilution." And I'm surprised that it comes up, because we have some recent evidence showing that this, in fact, is more of a fallacy than just a cute line. The entire acid rain problem that's occurring right now in the Midwest is a result of this philosophy. It's my understanding that dilution is what we're talking about in this entire issue. And we're all concerned about the Clark Fork River. I have some questions regarding this particular situation. Number one, if the

effluent is "clean" -- and I put that in quotation marks -- when it enters the river, how much groundwater will be required to form the dilution? Nobody has mentioned the term, groundwater, tonight, and I think that we had better investigate this because we're finding out that groundwater is, indeed, a very serious problem throughout the western states. How will this affect the groundwater throughout this area? Secondly, if the standards of color, dissolved oxygen, toxic substances, pH, etcetera, are not maintained, what will happen? The preliminary environmental review states, quote, "The discharge will not be allowed." Well, when I read this, I am inferring that the mill will be closed down if it would not be allowed. I also believe that this is politically and economically infeasible, and so I'm led to believe that what we're going to have is a system of delays and further delays and further delays and further delays. It's always going to be cleaned up but it never is cleaned up. Page 139 of the final environmental impact, for the Hoerner-Waldorf expansion, states, "If rapid infiltration proved to be totally or partially unsuccessful, other treatment means could be installed to allow disposal without additional water degradation." What if this system that is proposed doesn't work? What will be the next course of action? Obviously, the one that -- the rapid infiltration, which we hoped would work, has not worked. Again, in the final EIS, "Because of the nature of underground water flow, no localized high concentrations of effluent results, as would be the case at the end of a discharge pipe." It seems that this is just what we have now. We're

talking about discharge, and here in the final EIS, the discharge pipe is downgraded and the rapid infiltration is what they're talking about. Well, what we wanted is not working, so now we're going to the discharge. I'm very, very concerned about this, and I think that if we're going to talk about discharge, we had better answer some of these questions that we've been asking here tonight. A couple other points. Many of these have been covered already. Three studies that I've located regarding the taste of fish -- nobody's talked about the taste of fish, tonight. It's all been about production of fish. One study, fish below the sewage treatment plant had a definite abnormal taste while those below Hoerner-Waldorf were normal. This was with the rapid infiltration system. A 1974 Fish and Game study stated that the fish below the mill had less flavor and desirability than the control fish. Is there any reason to believe that the taste of the fish will not be affected by the issuance of this permit? And lastly, what will happen to the discharge when the Clarkfork River experiences a low for a year or more? What happens if we have a periodic drought that occurs for a couple years when there is just very, very little water in the Clark Fork River? What's going to happen, then? (#52)

MR. SOLOMON: Thank you. Mr. Kennedy? To be followed by Vicki Watson.

FRED R. KENNEDY, representing Bonner County Pend Oreille Lake Property Owners, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY FRED R. KENNEDY

MR. KENNEDY: My name is Fred Kennedy. I'm on the Board of Directors of the Bonner County Pend Orielle Lake Property Owners. I'm also on the Bonner County Water Waste Commission, and I've been dealing in water all my life. I'm also a marine contractor. Ninety percent of my work has been on the Clark Fork or Pend Orielle Lake or Snake River, any place you go. So I'm well acquainted with what -- very aware of what the effluent has done to our river up there. At one time, I talked the Washington Water Power into shutting the dam off for four hours. I was a contractor and that's why they done that for me. And when they shut that off, I took the tractor up there and went out on the spawning beds, where the slime and the effluent got into it, and I run the tractor back and forth and I cleaned it, just to see if I could clean it up. It did clean it up pretty well, where my tractor ran back and forth through the harrow. Now, this was my own experiment at my own expense, and I found out that it could be cleaned up. And I'm almost positive it came from a pulp mill. Quite a few years ago, I rebuilt the Long Lake Dam, two spillways on it, and at that time, the City of Spokane, there was a pulp mill that was dumping all their effluent in that lake. It was so bad, it started getting green. It smelled so bad you couldn't hardly stand it. And I understand, since that time, Spokane had to spend $50 million to put in a settling pond to get rid of it, filter it out, dump it in the lake, and the lake is finally coming back after several years. The same thing happened over at Coeur D'

Alene Lake. Mine tailings were dumped into that lake for many years. The first thing you know, there's no fish in the lake. And I believe that's what's going to happen to ours. They finally made the mines put in the ponds to keep it out of the lake water at Coeur D' Alene and it took about 20 years before that lake came back to the fishing. There is a few fish right now. So it took that long. And I'm afraid if they keep dumping this effluent in our lake, it's going to ruin our fishing completely. Now, I just finished a contract with the Army Engineers in October. I spent six weeks, off and on, up on that river. And where I parked my barge -- I was driving piling off it -- was this gray-white substance -- lichen, they call it. They say it's biodegradable, microscopic, and a lot of names. But if he got that -- these two bottles out of that river, I could go down to Pend Oreille Lake and get stuff you couldn't even see through. The bottle, the jug he had here awhile ago. And it's not understandable to me that that came out of the river, even. There have been many times that lichen, they call it, has been down our river. You see it, you can fly from the Clark Fork right to the mill and trace it right to it. And I've gone through the lake and I drive down the lake and it's just slickery slime all over. It had to have come from the pulp mill. There's no other place it could come from. Because of my business on the lake, many people from Hope called me up and talked to me about this chocolate-colored lichen and say why don't they do something about it? It's been going on several years. Well, I said, I don't know why they don't but there's nothing I can

do about it. So I believe -- I think they can do something about it. In fact I read the Seattle paper -- you probably all heard about Mr. Ruckelshaus. He was appointed by President Nixon as head of the EPA when Nixon was in office. He was the first man to administer the EPA. He did quit and go to work as an executive for Waterhouse, in Tacoma. Recently, EPA got so bad, everybody's seen on television, read in the paper, what happened to the EPA. And finally they fired the head of the EPA for not doing her job right. She took a lot of that measure out of water quality -- I don't know what you'd call it -- but anyway, Reagan finally talked Mr. Ruckelshaus into going back in as head of the EPA. I read a piece in the paper -- the Seattle paper this last week where Ruckelshaus stated that the EPA is in such bad shape, the water quality has gotten so bad, he says, "I'm going in there; I'm going to clean it up and raise the standards by the industry," so I think that's one point in our favor. And the way it looks to me, there's only two things the pulp mill has to do with it, and one is inexpensive, and that is to put in an aeration pond or something to take that -- the flow through that and put it back in our river -- they'll never drink it, I know that, but it should be that pure -- and put it back in there, pure water. That would satisfy we people down in Idaho. The other thing they could do is spend a lot of money and make their effluent pure enough to put back in the river. There's one of two things they've got to do. One's expensive and one isn't. But they will never satisfy us downriver unless they do that. Now, we have never had the

expensive reports like the CH_2M Hill, the engineering, and so forth, down on paper because we just don't have that kind of money. But at our last board meeting, if they issue that permit, we're going to hire -- raise money, if it costs several thousand dollars -- maybe a hundred to five hundred thousand -- we're going to make an attempt to raise that money and hire some technical engineers. That's what we want. We have all kinds of fishermen -- including myself, Jim White -- we used to be able to see the bottom and you can't hardly see it anymore. And after they gave permission, recently, to temporarily dump their effluent in the river, when I was working there about two or three weeks ago, I saw particles come down there I couldn't believe.

MR. SOLOMON: Mr. Kennedy, how much more material do you have to present?

MR. KENNEDY: Just a few, is all.

MR. SOLOMON: Okay, go ahead.

MR. KENNEDY: And I really believe that it's really going to pollute our river and our lake and we will have no more fishing in it. (APPLAUSE)

MR. SOLOMON: Thank you, Sir. Vicki Watson? And then Mr. Erickson.

V. J. WATSON, Ph.D., representing the University of Montana, having been first duly sworn upon her oath, testified as follows:

TESTIMONY BY V. J. Watson, Ph. D.

DR. WATSON: My name is Vicki Watson. I'm professor

of pollution biology at the University of Montana. I live here in Missoula. I can be most easily found at the Botany Department if you're looking for me. I want to state that I'd like to voice support for the statements made by the staff of the Missoula City-County Health Department, Trout Unlimited, and Mineral County Commissioners, and Fish, Wildlife and Parks. I'm going to try to avoid covering the same ground they did, but there may be some repetition to insure continuity of my statement. I'd like to confine my statements to about three main points and those are that, one, the existing monitoring scheme and data base for the Clark Fork River and the Champion mill are inadequate to assess the impacts of the current load on the river, much less an increased load or load shifted to year-around discharge. Secondly, what data does exist has been inadequately analyzed to determine either the short-or long-term effects of the current load or of the proposed increased load. And thirdly, the monitoring proposed in the tentative permit is inadequate to assess impacts of the proposed increased load or to protect the river from those impacts. First, on the inadequacy of the existing monitoring to assess current impacts, currently, the river is monitored for dissolved oxygen -- or DO -- and color at the top of the water column. Samples are collected weekly during spring discharge and monthly during non-discharge periods. There is one upstream sampling site and two downstream sites. Such a scheme is extremely unlikely to detect all dissolved oxygen violations. As has been stated, dissolved oxygen is more likely to become depleted near the

sediments and in slow-moving areas of the river. Additionally, the organic matter carried in the water column will reach its maximum oxygen demand at different distances down the river from the mill at different times of the year. This is because the location of this maximum oxygen need is dependent on the rate of flow of the river and on the temperature. So two fixed sampling sites cannot possibly detect the most severe incidences of dissolved oxygen depletion. Thus, the existing monitoring is unlikely to detect instances where the current loading drives dissolved oxygen in certain parts of the river below the level that fish can tolerate. The fish kills mentioned this summer in the Alberton area are strong evidence of this. But even more serious than this inadequate monitoring of dissolved oxygen is the inadequate list of river quality parameters that are currently being monitored. Some of the most important effects of the present discharge probably will not become obvious until it's too late to take action on these. Instream water quality parameters like color and DO are not really good early warning signals for long-term river impacts. By the time we see violations in these parameters or a species that we particularly care about begins to suffer enough for us to notice it, many less noticeable species may have succumbed, and many long-term physical and chemical changes in the river may have occurred. Some of these have been mentioned, such as the gradual accumulation of sludges on the river bed in slow-flow areas and sloughs which could harm spawning areas or harm insect population. Less has been said about the possibility of dissolved organics

moving through saturated soils from the ponds and into the river, which may then come out of solution on reaching more oxic conditions in the river or in its bed. There in the river bed the substances might clog river sediments or, on reaching the water column, they could, on coming out of solution, then be moved downriver and inland to deposit again in slow-moving areas. But in either case, reducing the flow of cold water recharge into the river bed, such substances could in this way harm insect populations and spawning areas. Such effects could require reaching a critical threshold before enough areas become affected or before the long-lived game populations begin to suffer enough for us to notice. By this time -- by the time these changes become obvious, it will be too late to correct them, and the degradation could require a very long time to be naturally cleansed from the river. Secondly, on the point of inadequate analysis of data to determine future impacts, well, obviously, if the current monitoring can't assess the impacts of present loadings, it doesn't provide a very adequate base on which to predict the impact of the proposed increased load or a load shifted to low-flow season. What little data has been gathered, there has been little or no independent analysis to allow prediction of future impacts. The only analysis that I'm aware of that's been performed on the existing data was that done in the water quality modeling exercise that was performed by the consultant hired by Champion. I think that this is the only analysis that was actually referred to by the Water Quality Bureau in their preliminary environmental review. According

to Champion's spokesmen, the model predicts that Champion could increase its total suspended solids load to the river and discharge throughout the year and still meet instream standards for DO and color. The Bureau, in its September, 1983, preliminary environmental review, accepted those conclusions and stated that there would be no significant impacts on the river system or on any uses of the river. This suggests a rather amazing amount of trust on the part of the Water Quality Bureau, given that the model was only presented to them yesterday, I believe. As far as I know, the model is still not available to the public. Because I have a great deal of experience in equatic ecosystem modeling, I've been trying to find out just how relevant and reliable this particular model is for the questions raised in connection with this permit. Thus far, all I've been able to find out about the model, which seems to be a well-guarded secret, is that it includes or is a river dissolved oxygen model called, QUAL 3. I have some familiarity with this particular model, but as far as I can determine, it deals only with dissolved oxygen in the water column and therefore cannot address the other impacts that I and others have already mentioned, such as the changing sediment chemistry and impacts on the biota. Since it deals with none of these, it cannot be used to conclude that there will be no significant effects. In addition, QUAL 3, despite its merit as a river dissolved oxygen model, like all models, it can be abused because its predictions are sensitive to the values that are chosen for certain coefficients -- we sometimes call them fudge factors

-- in the model. I think that I could probably get that model to predict that the Clark Fork River could handle New York City's sewage. I could probably also make it say that it couldn't handle my spitting in the river. So the model is only as good as the data you put into it, and since one of the assumptions put into that model is that there will be no change in biological oxygen demand, I wouldn't expect it to predict that there would be any change in dissolved oxygen in the river. But I don't think we can make the assumption that there will be no change in biological oxygen demand. The Health Department pointed out that the monitoring scheme for effluents that is proposed will be inadequate to actually assess what the actual loadings are, and therefore, the BOD loadings may increase despite the claims that they have not increased. So the Water Quality Bureau has definitely not demonstrated that the proposed increase in discharge, in shifting to year-around discharge, will not degrade the river. And lastly, the inadequacy of proposed monitoring to assess future impact to protect the river, my reading of the proposed permit and the PER suggests that the Water Quality Bureau takes the following position. Even if we've made a mistake -- as they guess they did when they believed the rapid infiltration ponds would work -- this level of loading does degrade the river below the minimum standard for DO, and Champion's monitoring will detect this, they will report it to us, we will require the discharge halt, and the river will quickly recover -- I wonder how many people in the Water Quality Bureau still put a tooth under their pillow for the

tooth fairy -- but the problems that I see with this are that the proposed monitoring scheme is not very different from the present one. In fact, in some ways it's worse. It appears that one of the downstream stations was actually eliminated. So during direct discharge, Champion is to monitor at one upstream station and one downstream station for DO. Monitoring will occur every other day when DO is less than ten parts per million, weekly when it's greater than ten parts per million. Discharge is to stop when DO falls below 7 parts per million, and then no monitoring is required when no discharge is occurring. So no monitoring -- in addition, no monitoring is required for suspended solids, sludge accumulations, impacts on the biota, etcetera. All of these are much more likely to be of significance under these increased low-flow loadings. It's not clear if the Bureau plans to do any of this monitoring. The Bureau has little or no baseline data for comparison even if they do institute monitoring. I understand that the Bureau has just begun some baseline studies very recently, but I'm not sure how meaningful one month of baseline studies can be considered. So as was true of existing monitoring, the new proposed scheme will almost certainly miss the main areas of oxygen sag in the river. Additionally, it does not assess those effects that accumulate gradually and that will not go away quickly once discharge ceases. Even if the DO in the top of the river column rises above 7 parts per million, which would allow discharge to resume, the river will not have had time to recover from these other effects. So the proposed monitoring does not

insure that the river will be protected from such harmful effects. I'd like to go through a few fast recommendations.

MR. SOLOMON: You've had ten minutes.

DR. WATSON: Okay. I think that, given that so much information has just been available tonight for the first time to the public, that it's necessary to extend the comment period at least two months and make all the existing data and analyses that have just been provided available to concerned citizens. One week is not really enough time to digest all that information, especially since I'm sure it won't get into our hands probably until the end of next week. I think that the Water Quality Bureau should withdraw the proposed permit and prepare an EIS. This would permit adequate public involvement, allow appropriate review of possible impacts and alternative solutions, and make it possible to establish a more meaningful monitoring scheme. And third, we should initiate a meaningful study of the Clark Fork to determine what has been the effects of past discharges of all sources on the river. An attempt should be made to assess the carrying capacity of the river, the accumulation of organic deposits, the quality and quantity of groundwater inflow, the effects of the above on spawning areas, on aquatic insects, attached algae, bacteria and fungi, and the interaction of all of the above with water withdrawals from the river and with other loadings, such as the upstream heavy metal load. And I think I'll leave it at that. (#26) (APPLAUSE)

MR. SOLOMON: Thank you.

DR. WATSON: The County Commissioners of Sanders County had to leave earlier, and they asked me to turn in their comments. They basically ask for an environmental impact statement. (#53)

MR. SOLOMON: Thank you. Mr. Erickson? To be followed by Compton White.

RON ERICKSON, representing the Environmental Studies Program, University of Montana, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY RON ERICKSON

MR. ERICKSON: Thank you, Mr. Solomon. My name's Ron Erickson. I'm the director of the Environmental Studies Program at the University of Montana, and I have, at times, taught course in water quality, environmental impact statements. It's sort of deja vu, a bit, in this room and I think it is for perhaps a few people from the Water Quality Bureau. It certainly is for a number of us who remember April of 1974 and May of 1974, when promises were made. The first promises were those that were made in April of 1974 when the State Water Quality Bureau, in fact, took over the MPDES system from the feds. And the basic promise that was made -- because we were very, very concerned -- was that the State promised to do a better job of enforcement than they had done in the past. And that was going to happen particularly because there would be new legal help. Well, what we've seen, in the case of the Clark Fork River, from Hoerner-Waldorf, now the

Champion International firm, is that in fact, there have been a great many violations for some nine years, and those old promises on enforcement have not been kept. There were promises again in May of 1974, again in this room, and I would like to recommend that, in fact, the Water Quality Bureau go back to the transcripts that also exist for that hearing and to take a look at some of the promises that were made, because at least some of us remember, remember promises that suggested that if the rapid infiltration method didn't work -- and by the way, there were a very large number of people in this room who suggested at the time that it would not -- that if that system did not work, that there was going to be no danger, that there would be no degradation following it. There was another promise that others have already referred to in the EIS. That came in December of 1974, the series of promises that all of us remember. It's interesting to find out what evidence you have that the river won't be degraded, and I think that one of the ways one might try to think about that would be to take a look at the Federal Register, 1974, for the Environmental Protection Agency, what the effluent guidelines and standards ought to be for pulp mills, and to see those final guidelines and to discover what was it that happened when various groups tried to have input into what ought to be regulated. For example, our major concern here tonight, total suspended solids, there were comments that came from the pulp and paper industry. They thought that there shouldn't be any regulations at all for total suspended solids. There were a number of commentors

who suggested that. The agents of EPA did not go along with that suggestion, and let's see what it is that they said. Why did they say that we ought to have total suspended solids regulation? Was it the kind of information that we've heard tonight, that suggests that it's dissolved oxygen, and it's dissolved oxygen only that you're basing your permit on? The agency believes that the total suspended solids from pulp and paper mill biological treatment systems have the following detrimental effects upon receiving water environment. Number one, it increases the turbidity of the receiving water, resulting in reduced light transmission and accompanying effects such as reduced photosynthesis. Two, esthetic effects. Three, settling of suspended solids to the bottom of receiving waters. Obviously, some others have already talked about this, but EPA was recognizing it quite awhile back and I'm afraid the Water Quality Bureau has not yet recognized it. Finally, exertion of BOD by the biological suspended solids. BOD exerted by the biological suspended solids is only partially measured by the BOD_5 test, as the BOD_{20} test would be more descriptive of the oxygen-consuming effects. That's where we get to the folks from Idaho. One has to recognize that BOD_5 and predictions that way aren't what's important. They obviously are already seeing some downstream effects. The people of Idaho seem to be right. Let's do some more testing, as Dr. Watson has suggested recently. And the agency ends up saying, thus, the agency believes that suspended solids from pulp and paper mill biological treatment systems are pollutants which cause detrimental receiving

water effects. Detrimental effects. That does seem to me to be degradation. It seems to me that if we're doubling the amount of total suspended solids allowed, that that's degradation. It seems to me that we've had some promises in the past -- public promises. I hope that now those promises might finally be kept. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you. We have to take a quick break, here, and change the tape.

(BRIEF RECESS - TAPE CHANGE)

MR. SOLOMON: At this time, we'll go back on the record. Mr. White? And we apologize for the late hour.

COMPTON I. WHITE, JR., representing Memaloose Sewer District, Lake Pend Oreille, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY COMPTON I. WHITE, JR.

MR. WHITE: Thank you. My name is Compton I. White, Jr., Box 8, Clarkfork, Idaho. I am the chairman of the Memaloose Sewer District. I'm also a former member of Congress from the 1st District of Idaho. I feel for Mr. Solomon, sitting here at this late hour. I have to tell him, though, I've sat until 5:00 in the morning listening to testimony and asked them to reduce it to allowing us to include it in the record and allow them to just generalize what they said. And they say, "yes," and then read the whole darn thing. I do feel that there are some things I'd like to

say and I'll have to also say that the quality of the testimony that I've heard here this evening is far more than I expected to hear when I left home. I think the main thing that I would like to point out is, when I was in Washington, D.C., I told my children if they fell into the Potomac, to run to the nearest hospital and get into bed. About the same time, there was a boy in the East River that found a watermelon floating in the East River, undamaged, unblemished, unscarred, so he cut it and ate it and ended up with typhus. I was in Congress in the '60's, at the beginning of the environmental protection attitude of the people of this country, and I was on the wilderness hearings all over this entire United States. And I was on a conference committee that finally passed the bill out the House of Representatives to the Senate of the United States, that ended up as the beginning of the wilderness system. I have a sincere and abiding interest in industry and what it means to a community. I've been involved in mining. I've fought tiling piles, tailing ponds, and I had to keep the material out of creeks. I know what that is, too. But I also know, and I feel, that what has happened in the eastern part of the United States we should try to avoid here, every way that we possibly can. I think it's so important that we have that example to show what happened there and perhaps we can not have it happen here. That's why I'm on that sewer district. I've got a big septic tank that's working and it's putting the stuff right into Lake Pend Oreille. I can't figure out where else it could go, but I'd like to see it not go into Lake Pend

Oreille. So we have taxed ourselves, in a very small district, to the tune of $10,000 already, just to set up a district trying to figure out -- we've been having trouble trying to find if there's any grant money, and we're worrying right now whether we can make it work. And I don't want to be a part of a system where I do this, when Missoula cleans up its effluent, where all the other efforts all over this area are to do something good for the streams, for the environment, for the habitat, for the fishery, for everything that we have, and then have someone come along and put something into that void that's going to ruin it. I'm not going to be a part of providing a home for the effluent of Champion. I don't think it's fair to ask me. I don't think it's fair to ask anybody, from the beginning of this river, all the way down to Astoria, to say, "you're going to clean it up and we're going to dirty it." And that's what's happened and that's what's happening. By admission here this evening, "we're dumping pollutants, we've exceeded our norm, we've plugged up our ponds, so now you take it in the river, absorb it in your lake." And I don't want to do that, so I'm going to ask, don't do it. I'm also going to suggest that enough is enough, that the buck is on Champion, not on me. They're going to have to figure out a way to do it. We've shut down Bunker Hill, in the Kellogg district. We've cleaned up the Coeur D' Alene River. We've done everything we can to try and improve our environment. So I would suggest to you to put the pressure on to see that these things are done, not to just blindly accept what they say is unharmful. They tried

to tell us, in the Coeur D' Alene mining district, that the tailings going into the river were a good thing. Better put some more in, because they were killing the other things that were in the river. That the acids that were added were killing the germs in the sewage. That's an awful, awful fallacy. They threw them both out. Now, Lake Coeur D' Alene has a fishery in it. It has a recreation potential. You have the same thing here. I come over here and I fish Flathead, I fish Koocanusa, I fish Ashley, I fish all these other lakes, and I'd hate to see those destroyed. I don't want to see Lake Pend Oreille destroyed. And I'd like to ask one question. I'd like to ask a question about why there are no fish above Cabinet Gorge Dam, why there are no fish above Noxon Rapids Dam. Why is the State of Montana trying to introduce ling cod as the only fish they think might do the job to provide some recreation above those two dams. They've tried trout; they've tried hybrids; they've tried everything and nothing has stayed there. It's stirring. I won't say anything's causing it, but I'd like to know. I've got some ideas. And I sometimes wonder, well, maybe the reason the people in Helena are so anxious to approve this discharge of effluent into the Clark Fork is because there's nothing to hurt down there. Well, I'm not going to belabor you. The hour is late. And I sometimes wonder if I made a mistake when I put on the slip what my former connection was. I thought maybe it might help in getting to talk a little earlier. Apparently, it put me at the bottom of the pile. (LAUGHTER) (APPLAUSE)

MR. SOLOMON: Thank you for your comments. Mr. Wilkinson? To be followed by Mr. Englund.

JACK WILKINSON, representing the East Hope City Council and the Lake Pend Oreille Idaho Club, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY JACK WILKINSON

MR. WILKINSON: Thank you, Mr. Solomon, Mr. White. My name is Jack Wilkinson. My address is P. O. Box 351, Hope, Idaho 83864. My occupation is businessman. I wear quite a few different hats in that business community. My affiliation is as a Councilman of the City of East Hope and past president for two years of the Lake Pend Oreille Idaho Club. I happen to be a property owner of lakeshores on Lake Pend Oreille, which I'm very proud of. And I'm very honored to be the holder of two 25-pound patches of our nice, beautiful fish in Lake Pend Oreille. I am also very impressed with the testimony that I've heard here this evening. I hope it does not fall on deaf ears. Mr. White's comment about the Thompson Reservoir or the Noxon Reservoir or the Clark Fork Reservoir is something that has concerned me for quite awhile. I have lived in northern Idaho for over ten years, and have done a lot of fishing on a lot of the waters in the area. The negative response on the fish and game in Montana on those very holding ponds has been very, very negative response on the fish and game on any cold water fish that they've tried to get to inhabit and continue to live in that water. At

present, I understand that they're trying some warm water fish, as Mr. White has commented. I also heard smallmouth bass. I think we all understand that the oxygen level for those fish is -- indeed, is quite a bit less so maybe they'll make it. I also wear another hat along with my co-owner of a company of which we derive our livelihood quite a bit out of the Clark Fork River also. I am co-owner of a fishing lure company and consequently, we need Class I water for our lures to sell. And Sir, you and Champion, I would hope that you and I could work out something together to where we could both make a living. You know, I can't make it if that water gets much worse. If our lake and Lake Pend Oreille gets the way the Thompson and Noxon or Cabinet Gorge Reservoir is, our company is in big trouble. As there was other testimony about Mr. Ruckelshaus, and I understand from the radio comments that I heard that he has mandated that all states will update their water quality standards. I would hope that that has some credence. Comments on self-monitoring. That scares me. How many times must we be forced to look back on a situation. On numerous counts, we can look at the news just about every evening on some sort of dump, waste problem, to where we find out years in the past our relatives are having a cancer problem or something from waste dumps. Let's not allow this to be one of those. It seems like we always have to have a problem get so bad that finally the Health Department decides that the fish are not fit for consumption, the water is not fit for drinking, naturally, nor is it allowed to be swam in. Let's not allow the Clark Fork River to

become one of those. I'm sure that everyone is aware of the prestige that Lake Pend Oreille, some 100-plus miles down-river from here, has the prestige of holding, presently, the world record freshwater rainbow trout, 37 pounds; the world record bull trout, 32 pounds. Two world record fish out of our lake, in Lake Pend Oreille. Those records were set a long time ago, and that should tell us a little bit of something, also. The fish being caught lately aren't even close to those. And in finalizing here, Sir, I also am a derivative from Champion products. I happen to own some businesses which I purchased from Champion. I'm an end-line purchaser, which means a volume buyer, not from this particular paper mill but from others, and I, as a purchaser and selling their product as a retail, would be more than happy to bear the cost on the products that we buy, to produce a system that will put the effluent back in the river as clean as it was when they took it out. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you. Mr. Englund? Followed by Myra Skipper.

KARL ENGLUND, representing the West Slope Chapter, Trout Unlimited, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY KARL ENGLUND

MR. ENGLUND: My name is Karl Englund. I'm an attorney here in Missoula, and I represent the West Slope Chapter of Trout Unlimited. This is the second time in the past two-and-a-half years that the members of the West Slope

Chapter of Trout Unlimited have had to go through the process of hiring attorneys to try and explain to the Water Quality Bureau of the Department of Health the requirements of state law. Two-and-a-half years ago, we were involved in a situation involving a drawdown of Milltown Dam. We tried very hard to work with the Water Quality Bureau. We tried very hard to have the Water Quality Bureau understand their obligations under the Water Quality Act and under the Montana Environmental Policy Act. We were not successful in doing that, and unfortunately, we ended up going into District Court, here, and proving to them that we were correct at that time. I'm not trying to rub salt in any wounds or go, "Nerny-nerny-nerny, we were right then; therefore, we're right now." But I'm saying the same things then -- the same things now that we said then. And that is that there's two particular sections of Montana law that the Water Quality Bureau has completely ignored. The first one is the nondegradation policy contained in 75-5-303 of the Montana Codes. A lot of people have discussed that section tonight. It doesn't really need a great deal of discussion. Suffice it to say that the statute is very clear that the decision to degrade the quality of the Clark Fork River is not one that the Department can make. That is a decision that can only be made by the Board of Health and it can only be made after it has been affirmatively demonstrated to the Board that a change is justified or was a result of necessary economic or social development and that that change will not preclude present and anticipated use of those waters. Second, there

is a provision in the Montana Environmental Policy Act that provides that there has to be an environmental impact statement for any major state action significantly affecting the quality of the human environment. Now, we have precious little law in Montana about what that key phrase means, but we do have a recognition in Montana that that phrase is patterned exactly, word-for-word, after the federal National Environmental Policy Act, and that Montana recognizes the federal case law on that act, and that federal case law provides that if the impacts are significant and if the impacts would not have occurred absent the state action, then the state action is a major state action which significantly affects the quality of the environment. It is the duty of citizens not to prove that those impacts are significant, and it is not the duty of the citizens to demonstrate exactly what has to be in that impact statement. Rather, it is the duty of citizens simply to allege facts which, if true, would show that the proposed project could materially degrade any aspect of environmental quality. This standard simply does not require someone challenging the decision not to do an impact statement, to show whether or not the project will, in fact, have significant impact, but only to show that there is some possibility of that. I think what you've heard tonight is that there is, indeed, some possibility of that. That there is, indeed, a rather uniformity in the opinion of the fisheries biologists, of the pollution biologists, of the chemists in Western Montana, that this proposed action is something that could materially degrade the quality of the

human environment. Therefore, this action cannot occur without a full-blown environmental impact statement that addresses the effects on the river, the effects on the economy, the effects on Missoula, that looks at the proposed action, that looks at alternatives to that proposed action, and then, any decision on this permit cannot simply be made by the Department alone but must be made by the Board. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you very much. Myra Skipper? (NO RESPONSE) Jerry Schelley? (NO RESPONSE) I believe that was one of the gentlemen who just had to leave. Don Essig? (NO RESPONSE) Fred Stewart?

FRED STEWART, Ph.D., representing himself, having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY FRED STEWART, Ph.D.

DR. STEWART: Thank you. My name is Fred Stewart, and for the record, I'd like to say that I have a Ph.D. in natural resource economics, and I have eight years of experience working on long-range planning and project analysis that deals with natural resource uses. I hope to be able to comment on the economic aspects of the proposed request. However, I have not been able to find any information in terms of what those economic impacts might be. I would submit that it's impossible for any official to make a responsible decision concerning this request without an analysis of the economic impacts of alternative methods of dealing with

the effluent that comes from the pulp mill. There are more options that need to be considered other than the two extreme measures of either closing down the mill or allowing the request to be granted. In order to carry out appropriate economic analysis, it's necessary to consider all of the costs and benefits over time for each alternative considered. The benefits associated with the permit modification must be balanced against the very real cost which includes many of the factors that people have spoken about this evening, such as changes in recreation values and the potential of exclusion of future industrial development. The benefits are very real and they accrue to the industry. The costs also are very real, and it depends upon the decision that's made here who is going to bear the costs. If the effluent is required to be properly cleaned up, then the company will have to bear those costs. If, however, the environment is going to bear the cost, then it's the resources associated with that environment that will bear the costs. The costs are transferred away from the site whenever that effluent is allowed to be placed into the river without being treated first. At the present time, without the information available, it's impossible to make any type of informed judgement concerning the economic impacts associated with the requested permit modification from Champion International. For that reason, I would request the permit modification be delayed until such economic impacts or alternative treatments are made available. Thank you. (APPLAUSE)

MR. SOLOMON: Thank you very much. Bill Bevis? And

then Leo Cummins. And Mr. Bailey.

MR. WEEKS: Leo Cummins submitted his written testimony and he left. (#54)

MR. SOLOMON: Oh. Okay.

BILL BEVIS, representing the Citizen's Association for River Planning (CARP), having been first duly sworn upon his oath, testified as follows:

TESTIMONY BY BILL BEVIS

MR. BEVIS: Bill Bevis, 2500 Raymond, Missoula. I represent a new organization in Missoula, CARP, the Citizens Association for River Planning. I will -- I have a written testimony that I will submit to you, and I will try and touch only on points that have not been raised tonight. There are a few. The Clark Fork is perhaps the major urban trout stream in the United States. It flows through about 100,000 people, from Anaconda to St. Regis, and very few trout streams in the world flow through the middle of an urban population. As far as we can tell, this is a rare situation, and CARP was formed last November, in 1982, to publicize and protect local economic interests in a healthy river. Retail sales of non-motorized boats, fishing gear and accessories in Missoula alone last year exceeded four million dollars, and those sales are partly to be attributed to the availability of excellent water nearby on the Bitterroot and the Blackfoot and the Clark Fork. If you've lived here or if you're in the retail business, you would know that in the last decade,

river use has increased tremendously. Kayaks, canoes, rafts, guided trips are now common, where a decade ago, none had ever been seen. This situation, then, of an urban recreational river is an unusual one. Our river is not protected under wild and scenic rivers acts. It's unprotected partly because it's so rare that no one bothers to give it a category, and our organization exists partly to bring -- to dramatize that fact. We didn't come into being for this meeting. We came into being a year ago and have not gone public because we were doing all sorts of research. The situation of the Clark Fork is delicate. We're convinced of that. And I would remind you that our organization is composed of business at least as much as it is of environment. The Clark Fork is understudied and it's overstressed. No one knows -- and I am more convinced now, after hearing the testimony tonight -- no one knows at what point a small incremental increase in pollution will cross a threshold and dramatically change the health of the Clark Fork River. Now, as a friend of both business and the environment our organization, CARP, would like very much to consider Champion's request fairly, and what I'm going to address is the timing, the schedule that we're on tonight, and how that has affected our group. About four months ago, Champion announced publicly that the ponds were plugging up, and about one month ago, the Bureau -- the Water Quality Bureau announced that it was leaning towards granting the permit, which had not been the case -- which had not been the information we had gotten in our newspapers prior to a month ago. And that within about a

month, this meeting would be held tonight and that would be the last chance for comment. Now I know the comment period has been extended a week or ten days, whatever. If the Clark Fork were at present thoroughly studied, if the exact effect of, say, double the particulate year-around were known, then in one month, all the interested parties -- in that one month, all the interested parties could have plugged these new data into known equations and have taken their stands, given their special interests. We think that was impossible. The fact is we don't know the present state of the Clark Fork. That is not the fault of Champion that the river has not been monitored. It's not the fault of the Water Quality Bureau that the river has not been sufficiently monitored, but it is a fact that we don't know enough about it to possibly calculate the effect of this pollutant -- this additional pollutant, even if it's incremental, on the Clark Fork in one month, and certainly in one month no one can design and implement a research program that's going to deliver that kind of information. Not only, in one month, are we unable to determine whether or not the discharge is locally significant, in one month, we're unable to organize downstream interests -- though tonight they've been remarkable -- but it was unorganized. One month is not sufficient time to ask Alberton, its railroad recently gone, to consider whether or not in 20 years, a healthy Clark Fork might not be the basis of its economy. And if that's true, what moves do they want to take and how strictly would they like to interpret the standards? Because we're only talking about minimal environ-

mental standards, here. They might like maximum ones for their economy, for their children. So the timetable has prevented, we think, a reasonable projection, a reasonable prediction of the effects of this request, and it has prevented political and social bodies, who move very slowly, downstream from being able to respond. Now, while 30 days has been insufficient for a response to this problem, ten years was sufficient time for Champion to anticipate the problem. And I won't go into that because it's been recited tonight. And my organization would -- if there's one way in which we feel we must criticize Champion in this matter -- and I'm not here to criticize Champion -- it would be, why are they following this schedule? In July, to announce that the ponds are plugging up, is either bad management -- for they should long ago have known that the ponds were plugging and have approximately known the schedule on which the ponds were plugging up -- it's either bad management or, I'm afraid, a convenient way to request the cheapest and easiest solution. Now, we don't blame a business for seeking a cheap and easy solution. It is, however, the responsibility of a State agency to protect the public interest and we feel, therefore, the burden falls on the Water Quality Bureau to examine this request. Of course, I'll skip by things that have been covered. Now, consider the situation at which my organization finds itself. We're not purely environmental. We're not purely business. We're trying to consider this request and take a stance. Your schedule, the timetable, has forced automatic kneejerk responses from every special-interest

group and is polarizing the community needlessly. My organization exists because in Missoula, we have a natural alliance, now, which is quite exciting to us, between business interests and environmental interests. There's a strong retail dollar in this town right now tied to a clean river. It's no longer wilderness versus growth. Healthy environment and business in Western Montana has been touched on tonight, but I'm saying it directly. That is already a fact. There is no need for this polarization. CARP would like to work with Champion. We would welcome a representative of Champion on our board, if you would like to join. We would like to work for the long-range economic health of the region and we feel hurt that the schedule is forcing the kind of polarity that you have tonight. Only a kneejerk response can be made in one month, with the data available to us. Champion -- and I'll say it directly -- Champion cannot assert, and neither do I think -- especially on the basis of the testimony tonight -- that there will be -- that there will absolutely be no degradation, nor can the environmentalists assert exactly what kind of awful degradation there will be. I'm going to skip our five proposals because every one of them has been proposed. You all have them on paper. Instead, I want to conclude with the heart of the debate tradition. I want to refer to a few things that were said earlier in the evening by people on a number of sides and reply to them, because after all, that's the fun of these things. First of all, again, let me remind you that I represent an organization that came here quite open-minded. We found out what we

could, which wasn't much. I also came here ready to change my text a great deal on the basis of testimony from Champion and the Water Bureau. Now, what did I learn tonight? First of all, abstract models were used in 1974 and now, and you've heard a lot of data from people who know more than I do. I'm appalled that the biosystem of the river as a whole, as a present, working, practical system, was not more recognized in 1983 in making these projections. Instead, effluent's effect on clean control water was measured. "Minor adjustments" -- quote, unquote -- were made for the Clark Fork. A number of people have spoken technically to these models, and by Champion's own admission, using such models, which leave out the question of the carrying capacity of the river as we have it now, using such models, quote, "the impact would be very small." Now, that's a quote from a Champion representative. The impact would be very small. But there would be an impact.

MR. SOLOMON: Mr. Bevis?

MR. BEVIS: Yes?

MR. SOLOMON: You've had ten minutes.

MR. BEVIS: Oh, that's terrible. I'll finish in one minute, all right? The EPA guidelines, we've been told, do not consider the receiving body of water, the same theme. Exactly what we must consider is the special case of the exact river we have in this town, which is already stressed, and we are not predicting the outcome on the basis of the models given tonight, and the presentation by the Water Bureau disappointed me tremendously. Particulate is no

problem. Plugging is no problem. And frankly, when you said there will be no degradation -- and I believe that's a quote -- I'm surprised that I did not hear the gavel and the reminder of an oath when that statement was made. Very little degradation. Maybe a degradation we can live with. You know? But no degradation cannot be the case. We know that you all don't have the budget to do this monitoring. Write grants; do something -- an EIS helps you get the money. But we believe the situation must be studied more before a decision can be reached. Thank you very much. (APPLAUSE)

MR. SOLOMON: Thank you, Sir. Mr. Bailey? (NO RESPONSE) Mr. Bailey? (NO RESPONSE) That ends the list of people who have indicated they wished to present material or testify tonight. Again, we'll remind you that the record will be held open until 5:00 next Friday. I want to thank you all for being here, for staying, for your comments, and we particularly appreciate the involvement of the folks throughout Western Montana and North Idaho. At this time, we will close this portion of the hearing and once again indicate that material may be sent to Steve Pilcher, at the Water Quality Bureau, or me, in care of the Director's Office, Department of Health and Environmental Sciences. And thank you all very much. We'll close the record at this time.

(CONCLUDED - 12:10 A.M.)

1 C E R T I F I C A T E

2 STATE OF MONTANA)
3 County of Lewis and Clark) ss.

4 I, Paulette M. Duncan, a Notary Public for the State of
5 Montana, and reporter duly sworn to report a hearing before the
6 Department of Health and Environmental Sciences, in the matter of
7 the Proposed Modification of MPDES Permit Number MT-0000035, Mill
8 Operations/Packaging, Frenchtown Mill, Champion International
9 Corporation, Missoula, Montana, do hereby certify that the above
10 and foregoing transcript is a full, true and correct transcript
11 of, and contains all of the testimony and proceedings offered
12 during the hearing held in the Missoula City Council Chambers,
13 201 West Spruce, Missoula, Montana, beginning at 7:05 P.M.,
14 Thursday, November 10, and concluding at 12:10 A.M., Friday,
15 November 11, 1983.

16 IN WITNESS WHEREOF, I have hereunto set my hand and affixed
17 my Notarial Seal this _____ day of November, 1983.

18
19
20
21 (S E A L) NOTARY PUBLIC for the State of Montana
22 Residing at Helena
My Commission expires 10/5/85
23
24
25
26
27
28

cc: E. Clem
R. Wiggen 12/7

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

HELENA, MONTANA 59620

November 29, 1983

Daniel T. Potts
Operations Manager
Frenchtown Mill
Champion International Corp.
Drawer D
Missoula, MT 59801

Dear Mr. Potts:

Per our telephone conversation, I am enclosing a copy of the transcript of the November 10 hearing re. the proposed modification of Champion's MPDES Permit Number MT-0000035.

In order to help offset the cost of transcription, a transcript fee is charged. The fee is determined by the number of parties requesting the transcript; i.e., if no one else requests a copy, your cost will be $1.50 per page, plus postage. Should there be other requests, charges will be reduced accordingly. We'll bill you at a later date.

Because of their volume, I haven't included copies of the letters and other documents that were accepted into the record during the hearing or submitted subsequent to that time. Should you find that you wish to have copies of any of those materials, please let me know.

If I can be of further assistance, please don't hesitate to contact me.

Sincerely,

Paulette M. Duncan
Hearings Reporter

att.

cc: Benjamin S. Bilus, Assistant Counsel,
Champion International

File - Frenchtown
(leftside) - MPDES Permit

Permit No.: MT-0000035

MONTANA DEPARTMENT OF HEALTH
AND
ENVIRONMENTAL SCIENCES

AUTHORIZATION TO DISCHARGE UNDER THE

MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Section 75-5-101 et seq., MCA, and ARM 16.20.901 et seq., and 16.20.601 et seq.,

Champion International Corporation
Mill Operations/Packaging Division
Drawer D
Missoula, Montana 59806

is authorized to discharge from the Frenchtown Mill

to receiving waters named the Clark Fork River,

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

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, March 31, 1986.

FOR THE MONTANA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES

Steven L. Pilcher

Steven L. Pilcher, Chief
Water Quality Bureau
Environmental Sciences Division

Dated this 6th day of April, 1984.

Exhibit 24

A. EFFLUENT LIMITATIONS

Immediate Effluent Limitations and Discharge Conditions

Effective immediately and lasting through March 31, 1986, the permittee is authorized to discharge from outfall (s) serial number (s) 001 002, 003, and 004, and by seepage. Such discharges shall be limited and conditioned as specified below:

Discharges 001, 002, 003, and Seepage

Specific discharge requirements are as follows. Whichever limitation provides the most stringent control shall govern.

1. Color - The combined discharge shall not cause violation of the 5 SCU net increase water quality standard. Instream color measured at Six Mile Station shall not exceed instream color at Harpers Bridge by more than 5 SCU.

2. The combined annual discharge shall not contain more than 5.7 pounds of total suspended solids per ton of off-machine production. The annual load limit for TSS shall equal $5.7 \frac{\text{lbs}}{\text{ton}} \times P \text{ tons}$ where P= total annual off-machine production for the year July 1-June 30. In no case shall the annual load of TSS exceed 4,000,000 pounds.

3. Total annual discharge of BOD_5 in the direct discharge and seepage combined shall not exceed 3.0 pounds of BOD_5 per ton of off-machine production.

   The annual load limit for BOD_5 shall equal $3.0 \frac{\text{lbs}}{\text{ton}} \times P$ tons where P= total annual off-machine production for the year July 1-June 30. In no case shall the annual load of BOD_5 exceed 2,100,000 pounds.

4. The direct discharge through points 001, 002, and 003 shall also comply with the following limitations:

Parameter	Collective Daily Max. Concentrations 1/	Collective 30-day Average Concentrations 2/
BOD_5	161 mg/l	87 mg/l
TSS	312 mg/l	162 mg/l

5. The pH of the discharge shall be within the range of 6.0 and 9.0 standard units.

6. There shall be no discharge of floating solids or visible foam in other than trace amounts.

7. There shall be no discharge of polychlorinated biphenols (PCB's).

8. There shall be no use of chlorphenolic-containing biocides in the facility.

9. Fish flavor bioassays shall be conducted on the effluent as required under Monitoring Requirements.

10. The permittee shall maintain continuous specific conductance monitoring at the clarifier with an alarm system to the mill and daily pH monitoring at the clarifier for early detection of spills or process upsets. This data need not be reported to the Department; however sufficient current data shall be kept on hand to verify functioning to inspecting Department personnel.

11. Direct discharge occurring at times other than during spring high flows shall be discharged into the river through a diffuser outfall approved by the Department.

12. Direct discharge shall not occur when flow in the river at USGS station 12-3530 is less than 1900 cfs.

1/ Collective daily maximum concentrations are determined on the basis of composite samples composed of flow weighted portions of a minimum of four grab samples of each active outfall except 004, collected at two hour intervals. That is, the concentration will be determined from either (a) the flow weighted average of the composite samples taken from each discharging outfall or (b) one composite sample made up of four flow weighted grab samples from each discharging outfall.

2/ Collective 30-day average concentrations are determined on the basis of not less than three composite sample and analyses as defined in 1/ above, collected at intervals of not less than seven days during any 30-day period.

Discharge 004

Waste discharge through outfall 004 shall consist entirely of uncontaminated cooling water and shall be limited to a maximum amount of heat discharged per day. The maximum heat limitation shall be determined by the following formula: (Td) (Qd) = BQr where Qd is the cooling water discharge rate in CFS, Q_r is river flow rate (Q_r in cfs, 897 to be used for Q_r if river flow is less than 897 cfs), and Td is the temperature of the cooling water discharge in degrees Fahrenheit. Both Q and the Td shall be instantaneous measurements. B is defined as follows; based on mid-day river temperature, Tr, at Harpers Bridge: If Tr 66°F, B=1; if Tr is between 66° and 66.5°F, B=(67-Tr); if Tr 66.5°F, B=0.5.

pH of this discharge shall be within the range of 6.0 and 9.0. standard units.

B. MONITORING REQUIREMENTS

1. The permittee shall monitor each pond containing at least one-fourth of its capacity of stored wastewater once per month for BOD_5 and sodium. Ponds containing less than one-fourth of capacity of stored wastewater shall be reported as such. In addition, the remaining capacity of each pond at the end of each month shall be [illegible]

2. River Flow shall be measured at U.S.G.S. Station 12-3530.

3. Flow measurements in the discharge pipes must indicate values within 10% of the true flow value. Adequacy of the flow measuring equipment shall be determined by the Environmental Protection Agency and the Department.

4. The permittee shall sample and test the contents of each pond containing waste in accordance with the following schedule:

Parameter	Frequency	Sample Type
	Once not more than 14 days before discharge from each pond.	
BOD_5	" " "	Grab
Color	" " "	Grab
pH	" " "	Grab

5. The permittee shall monitor each direct outlet discharging waste from ponds prior to entry into the river in accordance with the following schedule:

Parameter	Frequency	Sample Type
Flow	Continuous	Recorder
BOD_5	Weekly	Grab
Total Nitrogen as N	Weekly	Grab
Total Phosphorus as P	Weekly	Grab
Total Suspended Solids	Weekly	Grab
Color	Weekly	Grab
pH	Weekly	Grab

6. The permittee shall note on a daily basis for each direct discharge outlet the ponds being discharged and estimated flow from each pond.

7. The river shall be sampled for color at Harper's Bridge and Six-Mile at least twice daily and the river flow shall be obtained daily. Upstream downstream paired sampling times shall be reasonably close together and shall be reported along with the color data.

8. The permittee shall monitor test wells 1R, 2R, 4R, 5R, 404, 421, 423, and 514 once every two months for BOD_5, Color and Sodium, and twice per year for total nitrogen and total phosphorus. In addition, the elevation of the water level in each test well shall be determined once every two months.

9. Discharge #004 shall be monitored for flow, temperature and pH by instantaneous measurement once a week in the drain ditch prior to entry into the river. River temperature shall be measured at mid-day, at Harper's Bridge on days that discharge #004 is monitored. Corresponding river flows shall also be recorded.

10. Discharge #004 shall be monitored by visual inspection daily for the presence of oil sheen or foam.

11. During direct discharge the permittee shall monitor the Clark Fork River at Harper Bridge and Six Mile Station for dissolved oxygen (D.O.). D. O. monitoring shall be every other day when river D.O. is less than 10 mg/l, weekly for river D.O. at or above 10 mg/l. D. O. sampling shall occur during the one-hour period preceding sunrise. Should the dissolved oxygen content of the river drop below 7.0 mg/l (the minimum allowable level set by the State's Water Quality Standards) for any reason, Champion International Mill shall immediately cease direct surface discharge and shall so notify the Department as soon as is reasonable. This dissolved oxygen content monitoring requirement may be terminated at that time at Champion International's option. However, if dissolved oxygen monitoring is continued, if the dissolved oxygen content of the river again exceeds 7.0 mg/l (during the low portion of the diurnal curve) the permittee will be allowed to commence direct surface discharge once again upon receiving Department approval.

12. Bi-weekly hydrogen sulfide monitoring is required in discharges 001, 002, and 003, through March 31, 1986. After March 31, 1986, the data will be evaluated to determine if further monitoring or controls are necessary.

13. During July, August and September, the permittee shall monitor the Clark Fork River at Harper Bridge and Six Mile Station for total Nitrogen as N and total phosphorus as P. This nutrient monitoring shall be accomplished weekly.

14. Flavor tests shall be performed on fish maintained in dilutions of effluent and river water twice before March 31, 1986. Dilutions and testing procedure shall be as required by State Department of Fish Wildlife and Parks Pollution Control Biologist.

B MONITORING AND REPORTING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. Instream sampling shall be representative of the impact of the discharge upon the receiving stream.

2. Reporting

Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. Self-monitoring adaptable to modified reporting forms shall be reported on those forms as acceptable to the Department.

Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Department and the Regional Administrator at the following addresses:

(a) Montana Department of Health
and Environmental Sciences
Water Quality Bureau
Room A-206, Cogswell Building
Helena, Montana 59620

(b) Regional Administrator
U. S. Environmental
Protection Agency
1860 Lincoln Street
Denver, Colorado 80295
ATT: Water Mgt. Div.
Compliance Branch

NOTE:
If no discharge occurs during the reporting period, "no discharge" shall be reported, in letter form, to the above agencies. Data not adaptable to the above form shall be included as attachements on modified reporting forms.

3. Definitions

(a) The "Act" means the Federal Water Pollution Control Act.

(b) The "Administrator" means the administrator of the United States Environmental Protection Agency.

(c) The "Department" means the Montana Department of Health and Environmental Sciences.

(d) The "EPA" means the United States Environmental Protection Agency.

(e) A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

(f) An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement using acceptable monitoring equipment.

(g) The "Regional Administrator" means the administrator of the region of EPA with jurisdiction over federal water pollution contol activities in the state of Montana.

(h) For compliance purposes, the "daily average" concentration means the average concentration during a calendar month. Where less than daily sampling is required by this permit, the average concentration shall be determined by the summation of all measured daily samples divided by the number of days during the calendar month when the measurements were made.

(i) For compliance purposes, the "daily maximum" concentration shall be determined by the analysis of a properly preserved composite sample composed of a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow at the time of sampling.

(j) "Net" value, noted under Parameter, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and therefore shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements, of each parameter in the discharge irresspective of the quantity or quality of those parameters in the intake waters.

(k) A "composite" sample, for monitoring requirements, is defined as a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow.

(l) For compliance purposes, the "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

(m) For compliance purposes, the "daily maximum" discharge means the total discharge by weight during any calendar day. This limitation shall be determined by the analyses of a properly preserved composite sample composed of a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow at the time of sampling.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published in or subsequent revisions to Part 136, Title 40 of the Code of Federal Regulations. Sample collection and preservation shall be in accordance with the best methods technologically feasible, and shall be in a manner acceptable to the Department. (The Department's Treatment and Preservation Guide should be consulted for acceptable sample collection and preservation techniques.) Color procedure may be as presented in the National Council for Air and Stream Improvement, "Technical Bulletin 253," December, 1971.

All flow-measuring and flow-recording devices used in obtaining data submitted in self-monitoring reports must indicate values within 10 percent of the actual flow being measured.

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 Discharge Monitoring Reports. 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 Department or the Regional Administrator.

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 MPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Department of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any effluent limitation specified in this permit, the permittee shall provide the Department and the Regional Administrator 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.

3. 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.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to state 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.

5. Bypassing

Any diversion from or bypass of treatment or control facilities or systems 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 Department and the Regional Administrator in writing of each such diversion or bypass.

If, for other reasons, a partial or complete bypass of the wastewater treatment facilities is considered necessary, a request for such bypass shall be submitted to the Department and to the Regional Administrator at least sixty (60) days prior to the proposed bypass. If the proposed bypass is judged acceptable by the Department and by the Regional Administrator, the bypass will be allowed subject to limitations imposed by the Department and the Regional Administrator.

If, after review and consideration, the proposed bypass is determined to be unacceptable by the Department and the Regional Administrator, or if limitations imposed on an approved bypass are violated, such bypass shall be considered a violation of this permit; and the fact that application was made, or that a partial bypass was approved, shall not be defense to any action brought thereunder.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering state waters.

7. Power Failures

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

(a) In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

(b) Take such precautions as are necessary to maintain and operate the facility under his control in a manner that will minimize upsets and insure stable operation until power is restored.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the head of the Department or 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 kept; and

(b) At reasonable times to have access to and copy and 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 discharges 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 Department and the Regional Administrator.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department 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 75-5-633, MCA.

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 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 "Bypassing" (Part II, A-5), and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

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. 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 any infringement of Federal, State or local laws or regulations.

9. 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 circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Reapplication

If the permittee desires to continue to discharge beyond the expiration date of this permit, he shall reapply, in writing, to the Department at least 180 days prior to the expiration date of this permit.

C. ADDITIONAL REQUIREMENTS

Storage

The permittee shall provide at least 10 days retention time following aeration of the wastewater before it is direct discharged to the Clark Fork River.

Cessation of Direct Discharge

The permittee shall immediately cease direct surface discharge upon receipt of verbal or written instructions to do so by the Department.

Violation of Water Quality Standards

If river data resulting from the water quality monitoring program show violation of established water quality standards, including the introduction of taste and odor problems, this permit may be modified to specify additional control measures to ensure compliance with water quality standards.

Permit Modification

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301 (b) (2) (C), and (D), 304 (b) (2), and 307 (a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(a) contains different conditions or is otherwise more stringent than any other effluent limitaton in the permit; or,

(b) controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

Additional Wastewater Monitoring and Reporting

The permittee shall keep a record of the volume of wastewater disposed of through the rapid infiltration system and report the total monthly volume to the Department and the EPA on a monthly basis. The report should also include the number of days during the month that the system was dosed.

The permittee shall sample wastewaters disposed of through the rapid infiltration system once per month. Such samples shall be grab in nature and shall be analyzed for BOD_5. The samples shall be taken of wastewaters as they are being discharged to the rapid infiltraton system during the filling cycle of a basin. The results of such analyses shall be reported to the Department on a monthly basis.

The permittee shall report on a monthly basis cumulative BOD_5 and TSS loads discharged, beginning July 1 of each year.

Technique for Calculation of Total Annual BOD Discharge Limitations

1 The total annual BOD_5 discharge shall be the sum of the total BOD_5 discharged by direct surface discharge and the total BOD_5 discharged to
2 the ground waters by seepage. The term seepage shall include the volume of wastewater percolated through all storage ponds and the volume disposed of through the rapid infiltration system. The procedure for calculating the amount of BOD_5 contributed by seepage shall be approved by the Department.

Permit No.: MT-0000035

MONTANA DEPARTMENT OF HEALTH
AND
ENVIRONMENTAL SCIENCES

AUTHORIZATION TO DISCHARGE UNDER THE

MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Section 75-5-101 et seq., MCA, and ARM 16.20.901 et seq., and 16.20.601 et seq.,

Champion International Corporation
Mill Operations/Packaging Division
Drawer D
Missoula, Montana 59806

is authorized to discharge from the Frenchtown Mill

to receiving waters named the Clark Fork River,

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

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, March 31, 1986.

FOR THE MONTANA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES

Steven L. Pilcher

Steven L. Pilcher, Chief
Water Quality Bureau
Environmental Sciences Division

Dated this 6th day of April, 1984.

24

A. EFFLUENT LIMITATIONS

Immediate Effluent Limitations and Discharge Conditions

Effective immediately and lasting through March 31, 1986, the permittee is authorized to discharge from outfall (s) serial number (s) 001 002, 003, and 004, and by seepage. Such discharges shall be limited and conditioned as specified below:

Discharges 001, 002, 003, and Seepage

Specific discharge requirements are as follows. Whichever limitation provides the most stringent control shall govern.

1. Color - The combined discharge shall not cause violation of the 5 SCU net increase water quality standard. Instream color measured at Six Mile Station shall not exceed instream color at Harpers Bridge by more than 5 SCU.

2. The combined annual discharge shall not contain more than 5.7 pounds of total suspended solids per ton of off-machine production. The annual load limit for TSS shall equal $5.7 \frac{\text{lbs}}{\text{ton}} \times P \text{ tons}$ where P= total annual off-machine production for the year July 1-June 30. In no case shall the annual load of TSS exceed 4,000,000 pounds.

3. Total annual discharge of BOD_5 in the direct discharge and seepage combined shall not exceed 3.0 pounds of BOD_5 per ton of off-machine production.

   The annual load limit for BOD_5 shall equal $3.0 \frac{\text{lbs}}{\text{ton}} \times P$ tons where P= total annual off-machine production for the year July 1-June 30. In no case shall the annual load of BOD_5 exceed 2,100,000 pounds.

4. The direct discharge through points 001, 002, and 003 shall also comply with the following limitations:

Parameter	Collective Daily Max. Concentrations 1/	Collective 30-day Average Concentrations 2/
BOD_5	161 mg/l	87 mg/l
TSS	312 mg/l	162 mg/l

5. The pH of the discharge shall be within the range of 6.0 and 9.0 standard units.

6. There shall be no discharge of floating solids or visible foam in other than trace amounts.

7. There shall be no discharge of polychlorinated biphenols (PCB's).

8. There shall be no use of chlorphenolic-containing biocides in the facility.

9. Fish flavor bioassays shall be conducted on the effluent as required under Monitoring Requirements.

10. The permittee shall maintain continuous specific conductance monitoring at the clarifier with an alarm system to the mill and daily pH monitoring at the clarifier for early detection of spills or process upsets. This data need not be reported to the Department; however sufficient current data shall be kept on hand to verify functioning to inspecting Department personnel.

11. Direct discharge occurring at times other than during spring high flows shall be discharged into the river through a diffuser outfall approved by the Department.

12. Direct discharge shall not occur when flow in the river at USGS station 12-3530 is less than 1900 cfs.

1/ Collective daily maximum concentrations are determined on the basis of composite samples composed of flow weighted portions of a minimum of four grab samples of each active outfall except 004, collected at two hour intervals. That is, the concentration will be determined from either (a) the flow weighted average of the composite samples taken from each discharging outfall or (b) one composite sample made up of four flow weighted grab samples from each discharging outfall.

2/ Collective 30-day average concentrations are determined on the basis of not less than three composite sample and analyses as defined in 1/ above, collected at intervals of not less than seven days during any 30-day period.

Discharge 004

Waste discharge through outfall 004 shall consist entirely of uncontaminated cooling water and shall be limited to a maximum amount of heat discharged per day. The maximum heat limitation shall be determined by the following formula: (Td) (Qd) = BQr where Qd is the cooling water discharge rate in CFS, Q_r is river flow rate (Q_r in cfs, 897 to be used for Q_r if river flow is less than 897 cfs), and Td is the temperature of the cooling water discharge in degrees Fahrenheit. Both Q and the Td shall be instantaneous measurements. B is defined as follows; based on mid-day river temperature, Tr, at Harpers Bridge: If Tr 66°F, B=1; if Tr is between 66° and 66.5°F, B=(67-Tr); if Tr 66.5°F, B=0.5.

pH of this discharge shall be within the range of 6.0 and 9.0. standard units.

B. MONITORING REQUIREMENTS

1. The permittee shall monitor each pond containing at least one-fourth of its capacity of stored wastewater once per month for BOD_5 and sodium. Ponds containing less than one-fourth of capacity of stored wastewater shall be reported as such. In addition, the remaining

2. River Flow shall be measured at U.S.G.S. Station 12-3530.

3. Flow measurements in the discharge pipes must indicate values within 10% of the true flow value. Adequacy of the flow measuring equipment shall be determined by the Environmental Protection Agency and the Department.

4. The permittee shall sample and test the contents of each pond containing waste in accordance with the following schedule:

Parameter	Frequency	Sample Type
	Once not more than 14 days before discharge from each pond.	
BOD_5	" " "	Grab
Color	" " "	Grab
pH	" " "	Grab

5. The permittee shall monitor each direct outlet discharging waste from ponds prior to entry into the river in accordance with the following schedule:

Parameter	Frequency	Sample Type
Flow	Continuous	Recorder
BOD_5	Weekly	Grab
Total Nitrogen as N	Weekly	Grab
Total Phosphorus as P	Weekly	Grab
Total Suspended Solids	Weekly	Grab
Color	Weekly	Grab
pH	Weekly	Grab

6. The permittee shall note on a daily basis for each direct discharge outlet the ponds being discharged and estimated flow from each pond.

7. The river shall be sampled for color at Harper's Bridge and Six-Mile at least twice daily and the river flow shall be obtained daily. Upstream downstream paired sampling times shall be reasonably close together and shall be reported along with the color data.

8. The permittee shall monitor test wells 1R, 2R, 4R, 5R, 404, 421, 423, and 514 once every two months for BOD_5, Color and Sodium, and twice per year for total nitrogen and total phosphorus. In addition, the elevation of the water level in each test well shall be determined once every two months.

9. Discharge #004 shall be monitored for flow, temperature and pH by instantaneous measurement once a week in the drain ditch prior to entry into the river. River temperature shall be measured at mid-day, at Harper's Bridge on days that discharge #004 is monitored. Corresponding river flows shall also be recorded.

10. Discharge #004 shall be monitored by visual inspection daily for the presence of oil sheen or foam.

11. During direct discharge the permittee shall monitor the Clark Fork River at Harper Bridge and Six Mile Station for dissolved oxygen (D.O.). D. O. monitoring shall be every other day when river D.O. is less than 10 mg/l, weekly for river D.O. at or above 10 mg/l. D. O. sampling shall occur during the one-hour period preceding sunrise. Should the dissolved oxygen content of the river drop below 7.0 mg/l (the minimum allowable level set by the State's Water Quality Standards) for any reason, Champion International Mill shall immediately cease direct surface discharge and shall so notify the Department as soon as is reasonable. This dissolved oxygen content monitoring requirement may be terminated at that time at Champion International's option. However, if dissolved oxygen monitoring is continued, if the dissolved oxygen content of the river again exceeds 7.0 mg/l (during the low portion of the diurnal curve) the permittee will be allowed to commence direct surface discharge once again upon receiving Department approval.

12. Bi-weekly hydrogen sulfide monitoring is required in discharges 001, 002, and 003, through March 31, 1986. After March 31, 1986, the data will be evaluated to determine if further monitoring or controls are necessary.

13. During July, August and September, the permittee shall monitor the Clark Fork River at Harper Bridge and Six Mile Station for total Nitrogen as N and total phosphorus as P. This nutrient monitoring shall be accomplished weekly.

14. Flavor tests shall be performed on fish maintained in dilutions of effluent and river water twice before March 31, 1986. Dilutions and testing procedure shall be as required by State Department of Fish Wildlife and Parks Pollution Control Biologist.

B MONITORING AND REPORTING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. Instream sampling shall be representative of the impact of the discharge upon the receiving stream.

2. Reporting

Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. Self-monitoring adaptable to modified reporting forms shall be reported on those forms as acceptable to the Department.

Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Department and the Regional Administrator at the following addresses:

(a) Montana Department of Health
and Environmental Sciences
Water Quality Bureau
Room A-206, Cogswell Building
Helena, Montana 59620

(b) Regional Administrator
U. S. Environmental
Protection Agency
1860 Lincoln Street
Denver, Colorado 80295
ATT: Water Mgt. Div.
Compliance Branch

NOTE:
If no discharge occurs during the reporting period, "no discharge" shall be reported, in letter form, to the above agencies. Data not adaptable to the above form shall be included as attachements on modified reporting forms.

3. Definitions

(a) The "Act" means the Federal Water Pollution Control Act.

(b) The "Administrator" means the administrator of the United States Environmental Protection Agency.

(c) The "Department" means the Montana Department of Health and Environmental Sciences.

(d) The "EPA" means the United States Environmental Protection Agency.

(e) A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

(f) An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement using acceptable monitoring equipment.

(g) The "Regional Administrator" means the administrator of the region of EPA with jurisdiction over federal water pollution contol activities in the state of Montana.

(h) For compliance purposes, the "daily average" concentration means the average concentration during a calendar month. Where less than daily sampling is required by this permit, the average concentration shall be determined by the summation of all measured daily samples divided by the number of days during the calendar month when the measurements were made.

(i) For compliance purposes, the "daily maximum" concentration shall be determined by the analysis of a properly preserved composite sample composed of a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow at the time of sampling.

(j) "Net" value, noted under Parameter, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and therefore shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements, of each parameter in the discharge irresspective of the quantity or quality of those parameters in the intake waters.

(k) A "composite" sample, for monitoring requirements, is defined as a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow.

(l) For compliance purposes, the "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

(m) For compliance purposes, the "daily maximum" discharge means the total discharge by weight during any calendar day. This limitation shall be determined by the analyses of a properly preserved composite sample composed of a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow at the time of sampling.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published in or subsequent revisions to Part 136, Title 40 of the Code of Federal Regulations. Sample collection and preservation shall be in accordance with the best methods technologically feasible, and shall be in a manner acceptable to the Department. (The Department's Treatment and Preservation Guide should be consulted for acceptable sample collection and preservation techniques.) Color procedure may be as presented in the National Council for Air and Stream Improvement, "Technical Bulletin 253," December, 1971.

All flow-measuring and flow-recording devices used in obtaining data submitted in self-monitoring reports must indicate values within 10 percent of the actual flow being measured.

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 Discharge Monitoring Reports. 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 Department or the Regional Administrator.

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 MPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Department of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any effluent limitation specified in this permit, the permittee shall provide the Department and the Regional Administrator 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.

3. 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.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to state 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.

5. Bypassing

Any diversion from or bypass of treatment or control facilities or systems 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 Department and the Regional Administrator in writing of each such diversion or bypass.

If, for other reasons, a partial or complete bypass of the wastewater treatment facilities is considered necessary, a request for such bypass shall be submitted to the Department and to the Regional Administrator at least sixty (60) days prior to the proposed bypass. If the proposed bypass is judged acceptable by the Department and by the Regional Administrator, the bypass will be allowed subject to limitations imposed by the Department and the Regional Administrator.

If, after review and consideration, the proposed bypass is determined to be unacceptable by the Department and the Regional Administrator, or if limitations imposed on an approved bypass are violated, such bypass shall be considered a violation of this permit; and the fact that application was made, or that a partial bypass was approved, shall not be defense to any action brought thereunder.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering state waters.

7. Power Failures

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

(a) In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

(b) Take such precautions as are necessary to maintain and operate the facility under his control in a manner that will minimize upsets and insure stable operation until power is restored.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the head of the Department or 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 kept; and

(b) At reasonable times to have access to and copy and 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 discharges 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 Department and the Regional Administrator.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department 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 75-5-633, MCA.

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 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 "Bypassing" (Part II, A-5), and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

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. 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 any infringement of Federal, State or local laws or regulations.

9. 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 circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Reapplication

If the permittee desires to continue to discharge beyond the expiration date of this permit, he shall reapply, in writing, to the Department at least 180 days prior to the expiration date of this permit.

C. ADDITIONAL REQUIREMENTS

Storage

The permittee shall provide at least 10 days retention time following aeration of the wastewater before it is direct discharged to the Clark Fork River.

Cessation of Direct Discharge

The permittee shall immediately cease direct surface discharge upon receipt of verbal or written instructions to do so by the Department.

Violation of Water Quality Standards

If river data resulting from the water quality monitoring program show violation of established water quality standards, including the introduction of taste and odor problems, this permit may be modified to specify additional control measures to ensure compliance with water quality standards.

Permit Modification

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301 (b) (2) (C), and (D), 304 (b) (2), and 307 (a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(a) contains different conditions or is otherwise more stringent than any other effluent limitaton in the permit; or,

(b) controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

Additional Wastewater Monitoring and Reporting

The permittee shall keep a record of the volume of wastewater disposed of through the rapid infiltration system and report the total monthly volume to the Department and the EPA on a monthly basis. The report should also include the number of days during the month that the system was dosed.

The permittee shall sample wastewaters disposed of through the rapid infiltration system once per month. Such samples shall be grab in nature and shall be analyzed for BOD_5. The samples shall be taken of wastewaters as they are being discharged to the rapid infiltraton system during the filling cycle of a basin. The results of such analyses shall be reported to the Department on a monthly basis.

The permittee shall report on a monthly basis cumulative BOD_5 and TSS loads discharged, beginning July 1 of each year.

Technique for Calculation of Total Annual BOD Discharge Limitations

The total annual BOD_5 discharge shall be the sum of the total BOD_5 discharged by direct surface discharge and the total BOD_5 discharged to the ground waters by seepage. The term seepage shall include the volume of wastewater percolated through all storage ponds and the volume disposed of through the rapid infiltration system. The procedure for calculating the amount of BOD_5 contributed by seepage shall be approved by the Department.

LOWER CLARK FORK RIVER MONITORING PLAN

1984 - 1985

REVISED MARCH 1984

REVISED APRIL 1984

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

WATER QUALITY BUREAU

ROOM A206 COGSWELL BUILDING

HELENA, MONTANA 59620

INTRODUCTION

A large amount of public concern has been expressed in recent months over the general health of the lower Clark Fork River system. The proposed modification of the existing wastewater discharge permit for the Champion International paper mill at Frenchtown has generated much of this concern. Other sources of wastewater, namely the City of Missoula wastewater treatment plant (WWTP) and historic metals deposits originating upstream from Milltown Dam, have also been mentioned as possible sources of stress on the river.

The preliminary environmental review (PER) of the proposed permit modification for Champion International (Water Quality Bureau, January 1984) outlined a water quality and biological monitoring program that would establish existing conditions and attempt to measure any changes that may result from the proposed permit modification. Comments received on the PER included several suggested changes and additions to the monitoring program. This document incorporates many of those suggestions and describes more completely the monitoring program that the Water Quality Bureau initiated in March 1984.

This document does not describe: 1) the self and compliance monitoring that will be involved in administering the Champion and City of Missoula wastewater discharge permits; 2) annual macroinvertebrate surveys funded by Champion International and conducted by the Institute of Paper Chemistry; or 3) any studies or monitoring conducted by personnel from the Montana University System, the State of Idaho, or other state and federal agencies in Montana, such as the U.S. Geological Survey and the Department of Fish, Wildlife and Parks (DFWP).

This last agency has expressed a desire to study fish populations in the lower Clark Fork River in order to determine: 1) major spawning and rearing areas; 2) migration patterns, including tributary use; 3) food habits and growth rates; and 4) age structure. In addition, the Water Quality Bureau will try to find someone who is capable of conducting in situ bioassays on trout eggs or fry at selected locations along the river. These fish bioassays and population studies would be conducted concurrently with the monitoring described herein.

The Water Quality Bureau welcomes comments on this monitoring plan. Groups and individuals are invited to rendezvous with Bureau field personnel and observe monitoring procedures. The Bureau is also seeking volunteers to record water quality conditions along the river. Interested persons may call 444-2406.

This monitoring will be funded jointly by the State of Montana Department of Health and Environmental Sciences (DHES), the U.S. Environmental Protection Agency, and Champion International. Field work will be accomplished by personnel from the Water Quality Bureau. Laboratory chemical analyses will be performed by the Chemistry Laboratory Bureau of the DHES. Biological laboratory work will be done by Water Quality Bureau staff or contracted to private consultants. A final report on this and related monitoring in the Clark Fork River will be prepared by the Water Quality Bureau, with input from DFWP and Champion International.

OBJECTIVES

1. To establish a chemical, physical, and biological water quality baseline for the lower Clark Fork River in Montana.

2. To measure any changes in water quality that may result if and when Champion International is allowed to discharge year-round.

3. To determine the contributions, environmental effects, and downstream fate of water quality contaminants from various wastewater sources and tributaries along the river.

GENERAL DESCRIPTION

This monitoring plan encompasses about 225 miles of the lower Clark Fork River from Turah (upstream from Milltown Dam) downstream to the Idaho border, including the Blackfoot, Bitterroot and Flathead Rivers (Figure 1). In addition to 31 fixed water quality stations on the river, its four mainstream reservoirs and three major tributaries, the Bureau will collect samples from up to six deepwater pools between Frenchtown and Thompson Falls Reservoir. Sampling will be conducted several times per year for a minimum of two years beginning in 1984. A variety of chemical, physical and biological water quality variables will be measured in several hundred samples collected from both shallow waters and from the bottoms of deepwater pools and reservoirs. In addition to the scheduled sampling, field personnel will look for and record any incidental evidence of water quality degradation.

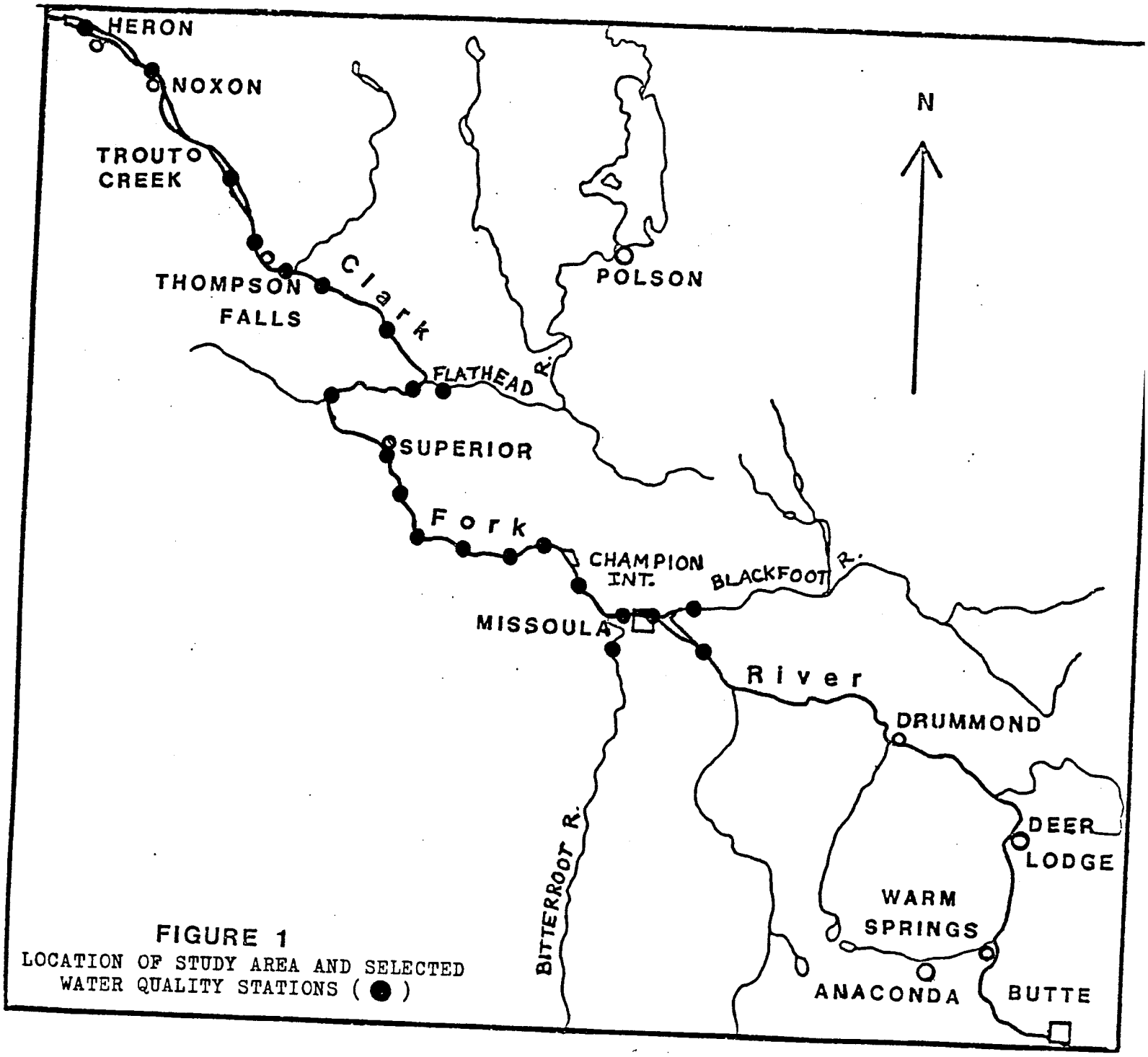

FIGURE 1
LOCATION OF STUDY AREA AND SELECTED WATER QUALITY STATIONS (●)

METHODS

Unless otherwise specified, samples will be collected, preserved and analyzed using standard procedures contained in one of the following references:

American Public Health Association, American Water Works Association, and the Water Pollution Control Federation. 1981. Standard Methods for the Examination of Water and Wastewater. 15th Edition, 1980. American Public Health Association, Washington, D.C.

U.S. Environmental Protection Agency. 1982. Handbook for Sampling and Sample Preservation of Water and Wastewater. EPA-600/4-82-029.

U.S. Environmental Protection Agency. 1983. (Revised). Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020.

Weber, C.I. (ed.). 1983. Biological Field and Laboratory Methods for Measuring the Quality of Surface Water and Effluents. EPA-670/4-73-001.

Specific procedures are referenced below as appropriate.

MONITORING APPROACH

The types of samples that will be collected and some of the water quality variables that will be measured are listed in Table 1. Table 2 identifies the water quality stations at which each type of sample will be collected. The following narrative explains the reasons for collecting each type of sample and for measuring some of the more significant water quality variables.

Surface Grabs (Low Flow)

These samples will attempt to quantify the contributions of water quality contaminants from various waste sources and the major tributaries. With the high-flow samples below, they will help establish nutrient and suspended solids budgets for the river and assess the instream consequences of cumulative contaminant loading. Existing streamflow gaging stations will be used to measure or estimate river and tributary discharge. With estimates of river travel time between stations, an attempt will be made to follow downstream and to sample at each station the same "slug" of water. This is called synoptic water quality monitoring. Low-flow samples for all variables will be collected in March, August, and November at 31 stations.

Surface Grabs (High Flow)

Additional samples for total suspended solids, volatile suspended solids and algal nutrients will be collected at 16 stations several times each year during snowmelt runoff and periodically during base flow. Besides helping to establish loads and budgets, these high-flow samples will help to estimate the amount of deposition of organic and inorganic solids in the mainstem

Table 1. SAMPLE TYPES AND WATER QUALITY VARIABLES

SURFACE GRABS (LOW FLOW)

Field dissolved oxygen
Field temperature
Field pH
Biochemical oxygen demand
Chemical oxygen demand
Color (natural pH and pH adjusted)
Metals (total recoverable As, Cu, Cd, Zn, and Fe plus SCAN)
Total suspended solids } depth-integrated sample
Volatile suspended solids } depth-integrated sample
Nutrients (nitrate, nitrite, ammonia and kjeldahl nitrogen, ortho-phosphorus and total phosphorus
Lab pH
Specific conductance
Hardness

SURFACE GRABS (HIGH FLOW)

Total suspended solids } depth-integrated sample
Volatile suspended solids } depth-integrated sample
Nutrients (same as low flow grab)

BOTTOM AND SURFACE GRABS

Field dissolved oxygen
Field pH
Field temperature
Metals (arsenic, copper, zinc, lead, cadmium, iron, manganese, chromium and silver - dissolved and total recoverable)
Hardness
Lab pH
Specific conductance

BOTTOM SEDIMENT (3 replicate samples per station)

Field hydrogen sulfide (qualitative)
Percent organic content
Metals (same as list above - total and total recoverable)

DEEPWATER BIOLOGY (3 replicate samples per station)

Benthic macroinvertebrates (Ponar grab)

SHALLOW-WATER BIOLOGY (natural substrates)

Macroinvertebrate traveling kicknet samples
Composite periphyton collections
Periphyton chlorophyll/biomass grab samples

SHALLOW-WATER BIOLOGY (artificial substrates)

Periphyton chlorophyll/biomass accrual
(3 replicates per station - summer only)

OPEN-WATER BIOLOGY

Phytoplankton composition and density
Phytoplankton chlorophyll
Secchi Disc transparency

SURFACE DIURNAL DISSOLVED OXYGEN (summer only)

Dissolved oxygen
Field temperature
(every 3 hours for 24 hours)

FOAMING TENDENCY AND STABILITY

Surface grab sample

Table 2. WATER QUALITY STATIONS

Stations	Discharge*	Surface Grabs (low flow)	Surface Grabs (high flow)	Bottom and Surface Grabs Bottom Sediment and Deepwater Biology	Shallow-water Biology (Natural Substrates)	Shallow-water Biology (Artificial Substrates)	Open-water Biology	Surface Diurnal Dissolved Oxygen	Foaming Tendency and Stability
CFR at Turah	E	X	X		X	X		X	
Blackfoot R. nr. mouth	M	X	X		X				
Milltown Reservoir		X		X			X		
CFR blw. Milltown Dam	M	X	X		X				
CFR abv. Missoula	M	X			X				
CFR abv. Missoula WWTP	E	X	X		X	X		X	X
Missoula WWTP Effluent	M	X	X						X
CFR blw. Missoula WWTP	E	X			X	X		X	
CFR at Sheffields	E	X	X		X	X			X
Bitterroot R. nr. mouth	E	X	X		X				X
CFR at Harper Bridge	M	X	X		X	X		X	X
Champion Outfall (or pond water)	M	X	X						X
CFR .5 mi blw. Outfall	E	X			X	X			
CFR 5 mi blw. Outfall	E	X			X				
CFR at Huson	E	X	X		X	X		X	X
CFR at Ninemile	E	X							
CFR at Alberton	E	X							
CFR at Tarkio	E	X						X	
CFR at Lozeau	E	X			X			X	
CFR at Superior	E	X						X	X
CFR blw. St. Regis River	M	X	X		X			X	
CFR abv. Flathead River	E	X						X	
Flathead R. nr. mouth	M	X	X		X			X	X
CFR at Plains	M	X			X			X	
CFR abv. Thompson Falls Res.	E	X	X		X		X		X
CFR in Thompson Falls Res.		X		X			X		
CFR blw. Thompson Falls Dam	E	X	X		X				X
CFR in Noxon Reservoir		X		X			X		
CFR blw. Noxon Dam	M	X	X		X				X
CFR in Cab. Gorge Res.		X		X			X		
CFR blw. Cab. Gorge Dam	M	X	X		X				
Total Stations.		31	16	10	20	7	5	12	12

(Bottom and Surface Grabs: up to 6 deep pools)

* E = Estimated
M = Measured

reservoirs when retention time is shortest and when Champion International is discharging directly to the river.

Bottom and Surface Grabs

Identical water samples will be collected at the same time from the surface and near the bottom of the four mainstem impoundments (Milltown, Thompson Falls, Noxon and Cabinet Gorge) and from up to six deepwater pools between Frenchtown and Thompson Falls. This type of sampling is designed to determine whether dissolved oxygen and pH are depressed near the bottom of deepwater areas, and whether such depressions result in a mobilization (solution) of heavy metals that may be contained in the bottom sediments. (See "Bottom Sediment" below.) Water will be brought up from the bottom using a pump or a Kemmerer or Van Dorn water bottle lowered from a boat. The key variables here are dissolved oxygen, pH and selected heavy metals. The importance of dissolved (and biologically effective) metals in this context will require filtering one set of metals samples in the field.

Bottom Sediment

In light of the quantities of heavy metals that have been reported in the sediments behind Milltown Dam, it is reasonable to assume that there are elevated levels of heavy metals in the sediments of downstream pools and reservoirs. Samples of sediment will be collected with a Petite Ponar Grab (bottom dredge) from the same ten pools and reservoirs sampled for bottom and surface grabs. (See above.) The sediment will be analyzed for concentrations of heavy metals, percent organic content, and the presence or absence of hydrogen sulfide. Comparing the organic content of sediments

from behind Milltown Dam to those of still, deep waters downstream may indicate whether there is appreciable deposition and accumulation of organic solids originating from the Missoula WWTP, Champion International, terrestrial or instream sources (algae production).

Cantillo, A.Y., S.A. Sinex and G.R. Helz, 1984. Elemental Analysis of Estuarine Sediments by Lithium Metaborate Fusion and Direct Current Plasma Emission Spectrometry. Analytical Chemistry, Vol. 56, No. 1, pp. 33-37

Deepwater Biology

From the same ten reservoirs and pools, replicate samples of benthic macroinvertebrates will be brought up with a Petite Ponar Grab. These benthic biology samples will be used to assess environmental conditions in the bottom sediments, including the biological effects of any heavy metals and organic deposits and the presence or absence of dissolved oxygen.

Shallow-Water Biology

Riffles are the most productive habitats in rivers for benthic algae and macroinvertebrates (fish food). The kinds and diversity of organisms living in these habitats tell a great deal about the nature and degree of stress placed upon a river by various water quality contaminants. Analysis of chlorophyll and biomass in grab samples of slime (microbial growth) from natural substrates on the river bottom will indicate the relative importance of producers (algae) and consumers (bacteria, fungi, etc.) in the benthic community, and in turn the significance and cumulative effects of organic loading to the river. Measurements of algae production on artificial

substrates (glass slides) will indicate the biostimulation effects of nutrients discharged by the Missoula WWTP and Champion International.

Lowe, R. L. 1974. Environmental Requirements and Pollution Tolerance of Freshwater Diatoms. EPA-670/4-74-005.

Lange-Bertalot, H. 1979. Pollution Tolerance of Diatoms as a Criterion for Water Quality Estimation. Nova Hedwigia, Beiheft 64, pp. 285-304.

Open-Water Biology

The concentration of chlorophyll in the phytoplankton (suspended algae) communities of the four mainstem reservoirs will be measured during spring, summer, and fall. Chlorophyll concentrations will be converted to algal biomass and compared to ambient nutrient concentrations in order to assess eutrophication potential in Clark Fork River reservoirs according to criteria published by the U.S. Environmental Protection Agency. Secchi disc transparency will be measured on each visit.

Strickland, J.D.H. and T.R. Parsons. 1972. A Practical Handbook of Seawater Analysis. Bulletin 167 (2nd Edition), Fisheries Research Board of Canada, Ottawa.

Mills, W.B., J.D. Dean, D.B. Porcella, S.A. Gherini, R.J.M. Hudson, W.E. Frick, G.L. Rupp, and G.L. Bowie. 1982. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants. EPA-600/6-82-004a.

Surface Diurnal Dissolved Oxygen

Dissolved oxygen and water temperature will be measured every 3 hours over a 24-hour period at low flow in midsummer. The 12 stations will bracket the Missoula WWTP and Champion International, with 8 stations clustered below the

latter facility in order to pinpoint the reach of river subject to the maximum depression in dissolved oxygen. The data collected from this intensive effort will help to model and predict dissolved oxygen concentrations at different stations under varying conditions and to determine the probability of violation of the State's dissolved oxygen standard at different levels of organic loading.

Foaming Tendency and Stability

A procedure is available for measuring foaming tendency and foam stability in terms of equivalent concentrations of alkyl benzene sulfonate (detergent). Although it was developed for pulp and paper mill effluents, it can and will be used on natural waters and other types of effluents, including the effluent from the Missoula WWTP. This test will assess the relative importance of wastewater effluents and natural agents as foam producers in the Clark Fork River system.

Carpenter, W.L. and I. Gellman, 1967. Measurement, Control, and Changes in Foaming Characteristics of Pulping Wastes During Biological Treatment. Tappi, Vol. 50, No. 5, pp. 83A-86A.

Water Quality Reconnaissance

During the course of the monitoring program described above, field personnel will look for and record any incidental evidence of water quality degradation and environmental stress. They will make a written and photographic record of their observations and look particularly for the following: foam, sludge deposits, slime growth, stained rocks, colored or cloudy water, foul-smelling water, wastewater discharges, dead or sickly fish. Sludge deposits and slime growth will be collected and analyzed

microscopically for constituent micro-organisms. Sickly or recently dead fish will be collected and frozen for autopsy and tissue analysis. Apparatus will be carried along to collect biological organisms, to measure temperature, pH and dissolved oxygen, and to detect hydrogen sulfide. An extra supply of sample containers and preservatives will be included for sampling biological communities, contaminated water, dicharges and other potential sources of pollution.

PRELIMINARY BUDGET

1984

Salaries	$30,000
Benefits (18%)	5,400
Overhead (13%)	4,602
Per Diem (225 days at $38.50)	8,662
Travel (10,000 vehicle miles at $0.25)	2,500
Boat and motor rental, fuel	1,000
Sampling supplies	500
Laboratory supplies (biological)	250
Chemical analyses (DHES Chemistry Lab.)	59,261
Biological Analyses (contracted services)	8,820
	$120,995

1985

Salaries	35,000
Benefits (18%)	6,300
Overhead (13%)	5,369
Per Diem (225 days at $38.50)	8,662
Travel (10,000 vehicle miles at $0.25)	2,500
Boat and motor rental, fuel	1,000
Sampling supplies	500
Laboratory supplies (biological)	250
Chemical analyses (DHES Chemistry Lab.)	59,261
Biological analyses (contracted services)	8,820
Typing, printing, and postage	750
	$128,412

Total	$249,407

Preliminary Environmental Review
Proposed Permit Modification
Champion International
(Revised January 1984)
(Revised March 1984)

In September of 1983 the Water Quality Bureau, DHES prepared a Preliminary Environmental Review (PER) on the proposed modification of an existing waste discharge permit for Champion International. That document summarized the conclusion reached following our review of the technical data but contained a minimal amount of the information utilized during our evaluation. During the public review process it became apparent that people were concerned as to whether adequate data existed to conduct such an evaluation. In an attempt to answer that question and to respond to questions and issues raised during the public review process we have significantly revised the original PER.

The decision presently before the agency is whether the current permit (MT-0000035), re-issued in October of 1982 should be revised to allow direct discharge of treated wastewater to the Clark Fork River at times other than during spring runoff. As such the environmental review required under the Montana Environmental Policy Act (MEPA) is limited to the potential impact of the modification rather than the impact of the entire wastewater disposal system. Champion International currently has a valid wastewater discharge permit which allows them to dispose of their treated wastewater into the river until October of 1987. The company is authorized to discharge in accordance with the conditions of that current permit.

The majority of comments received during the public review process were relative to long term impacts from the existing wastewater disposal system rather than the impact associated with the proposed modification. While the revised PER concentrates on issues surrounding the impacts of the proposed permit modification we have attempted to answer as many of the questions raised as we can with available information. While most of the comments could not be supported by scientific documentation it is obvious that people as far downstream as Idaho are concerned with possible downstream impacts.

Based on these concerns, the State of Montana is expanding monitoring efforts in the lower Clark Fork River. We are also coordinating our efforts with the State of Idaho in an attempt to provide answers to these questions. Input from a citizens advisory committee will also be considered throughout the expanded monnitoring effort. A proposed monitoring plan is attached to this PER, and was initiated the week of March 6, 1984. Champion International may be asked to support a portion of the additional monitoring effort.

In summary we feel this document provides a good assessment of the potential impacts of the proposed permit modification. Considerable time and effort has gone into our review and the development of this document. We feel it puts us in a position to make a decision that will provide adequate water quality protection of a valuable water resource.

Summary and Conclusions:

The expanded environmental review has revealed no area of significant environmental impacts from the modification and no further environmental review is recommended at this time on the modification. The revised PER addresses the impact of those water quality parameters that would be affected by the proposed modification of the existing Champion International wastewater discharge permit. The most obvious impact would be in the yearly allowable increase in total suspended solids (TSS) which would increase by 2 million pounds. While that number seems significant it results in only a 0.4% increase above natural TSS loads in the Clark Fork River, an increase which would be difficult to measure accurately. Impacts to other parameters such as color, dissolved oxygen and others are even less significant.

Our review has indicated that the tentative permit would require some revision if the decision were made to modify the permit. These revisions would provide further control over the quality of wastewater being discharged and are shown below:

(1) Flow should be monitored by continuous recorder,

(2) Color monitoring should be by paired samples collected at least twice daily,

(3) Expiration date should be 18-24 months rather than 5 years as proposed,

(4) Monitoring for phosphorous and nitrogen should be reinstated,

(5) A minimum retention time in the storage ponds should be provided to maximize settling.

While available water quality information shows no significant impacts from Champion's existing wastewater disposal system enough concern has been expressed that the Department is initiating an expanded monitoring program as outlined in the separate monitoring plan attached. The monitoring program will be financially supported in part by Champion and will be coordinated with the Idaho Division of Environment. This monitoring was initiated the week of March 6, 1984.

The results of this monitoring program will be utilized in any further review and reconsideration of a permit for this facility. A condition in the tentative permit requires that if river data show a violation of water quality standards the permit will be modified to ensure compliance.

Champion International must recognize that further evaluation of treatment alternatives is necesssary and periodic meetings between the Department and Champion will be held to ensure that this is being done.

ALLOWABLE DISCHARGES

Table 1 shows theoretically allowable discharge flows for Champion based on the formula $Qd=(1/Cd)\ (5Qr - 0.1855\ Sc)$. In the formula, Qd = allowable discharge flow in cubic feet per second (cfs), Cd = discharge color in standard color units (SCU) , Qr = Clark Fork River flow in cfs, Sc = color (in lb/day) contributed to river from pond seepage and rapid infiltration, and 0.1855 is the conversion factor to convert lb/day into cfs-SCU. The formula assumes a linear dilution of color in the river, imposes the 5 SCU instream color standard, and makes an allowance for the contribution to river color from seepage by subtracting that amount from the allowable 5 units by dilution. According to this formula, theoretically allowable surface discharge goes to zero at just under 1900 cfs flow in the river, assuming 1000 SCU color in the discharge. This occurs because of a relatively constant color contribution to the river by seepage.

The calculated discharge flow values in Table 1 are conservative; that is, they exceed the actual amounts that Champion will be able to discharge in real situations. A summation of the values in Table 1 would indicate Champion could direct discharge almost 76% of its produced wastewater. In actuality, they will be able to direct discharge only about 40%. This is true because of the following: 1. In adjusting discharge flows to meet the 5-unit instream color standard, Champion will have to operate at about 4 units river color change on the average in order to have a reasonable factor of safety to prevent numerous swings in river color change above 5 units. This alone will result in actual discharge flows being 20 % less than theoretical. 2. During very high river flows, adverse hydraulic head prevents Champion from discharging all the volume that they would be theoretically allowed and hence they lose the ability to take full advantage of those high flows. 3. At times when high river flows are present, Champion may not happen to have sufficiently full ponds to discharge a correspondingly high volume of effluent. In response to all these effects, actual direct discharge flows will average only about 53% of those calculated.

However, during lower river flows (i.e., average August and September flows when the river would supposedly be under most stress), even the theoretically allowable discharge flows would be diluted at more than 1000 to 1 in the river. This is because the seepage contribution of color is taking up most of the allowable 5 unit increase in the river.

Table 1

Projected Champion Mean Monthly Discharge
Levels Based On River Mean Monthly Flows

Monthly Mean Discharges 1930-79 Period of Record

Flow** Month	River Flow Mean (CFS)*	Champion Discharge
October	2800	4.7
November	2800	4.7
December	2570	3.6
January	2270	2.1
February	2490	3.2
March	3060	6.0
April	6430	22.9
May	15400	67.7
June	17500	78.2
July	6030	20.9
August	2300	2.2
September	2290	2.2

*Waltemeyer and Shields, 1982

**calculated allowable discharge flow

assumptions
1. direct discharge color = 1000 SCU
2. seepage color input = 50,000 lb/day constant

SELF-MONITORING HISTORY FOR COLOR VIOLATIONS 1980-1983

Table 2 presents a summary of self-monitoring data submitted to the Department by Champion International during the past 4 years, 1980-1983, which could be interpreted to show a possible violation of the river color standard of 5 Standard Color Units (SCU) increase between the upstream and downstream sampling points. It should be emphasized that the two sampling points were set up in order to show the total in-river color increase as a result of the three types of discharge at Champion; i.e., the continuous contribution to river color from (1) seepage and (2) rapid infiltration of waste, and (3) the seasonal contribution from direct surface discharge of waste.

Because of differences in discharge permit requirements between the two MPDES permits covering the period, the apparent violations of standards from each year will be discussed separately. The 1978 permit controlled discharges until the issuance of the currently effective permit in November, 1982. The 1978 permit contained limitations on the amount of direct discharge, the most stringent of which was a formula based upon color dilution in the river intended to maintain the 5 unit instream increase color standard.

In 1980, as in previous years, Champion chose to control their direct discharge flows by adjusting the flows to maintain a 5 SCU or less color increase in the river. They accomplished this by a series of instream color measurements coupled with any necessary flow adjustments throughout each day. Champion still performed the other required checks with regard to bioassay, BOD, TSS, pH, etc., but these were always met easily in the process of meeting the color standard.

Table 2 shows that there were 13 possible color standard violations during 1980. These are viewed as apparent (or possible) water quality standard violations because they represent the minimum of the daily values sampled at the upstream station (Harpers) subtracted from the maximum of the daily values sampled at the downstream station (Six Mile). On only one day in 1980 (5/11/80) did the difference exceed 5 color units on an average basis, when a 5.4 unit difference was recorded. Because the apparent standard violations were comparisons of maximum vs. minimum values and the fact that the permit condition required only that the discharge formula be met, which it was, no enforcement action was taken.

In 1981 there were 48 apparent color standard violations during direct discharge and 6 apparent color standard violations during no discharge. In 1981 Champion changed their discharge control approach to sampling their discharge and the upstream river station for color, then adjusting their discharge flow as per the permit condition formula $D = \frac{Q(5)}{C_d-(C_r+5)}$ where D is the rate of discharge in cfs, Q is the river flow in cfs, C_d is the color of the discharge in SCU, and C_r is the background color of the river in SCU. Champion also sampled downstream river color at the Six Mile station on a daily basis so the instream color change could be checked.

Results of this type of control coupled with the daily upstream-downstream color sampling in 1981 showed rather conclusively that the dilution formula condition in the 1978 permit was inadequate to achieve

the 5 SCU color standard, apparently because the seepage contribution to instream color wasn't adequately taken into account. It was obvious at that point that a change in the permit was necessary, so the condition was added in the "permission for direct discharge" letter for the 1982 direct discharge season that Champion must adjust their discharge flow to meet the 5 SCU instream color standard. The letter also informed them that, upon renewal of the permit, the formula would be removed in favor of the instream monitoring condition.

Under Section 75-5-103(5) of the Water Quality Act (the definition of pollution),"... A discharge, seepage, drainage, infiltration or flow which is authorized under the pollution discharge permit rules of the board is not pollution under this chapter." Because of the foregoing section and the fact that Champion had discharged in 1981 according to permit conditions under the color formula, we concluded that a formal enforcement action against Champion for the apparent violation of the water quality color standard was not the best method for accomplishing our goal of compliance with the Water Quality Standards.

In 1982, according to the condition imposed by the 1982 "permission for direct discharge" letter, Champion was required to adjust their discharge to meet the instream color standard. Table 2 shows that there were 12 apparent color violations during 1982. Here again, the method of reporting causes some uncertainty as to what constitutes a violation. The values listed for 1982 represent those times when the daily maximum color reading at Six Mile (downstream station) exceeded the average reading at Harpers Bridge (upstream station) by more than 5 SCU. This means that there could have been a violation that day based on a given set of upstream-downstream observations. However, when averages are compared, only one violation, at 7 SCU on 4/17/82, occurred. That day Champion ceased direct discharging when discovering the violation and did not resume until 4/19/83. The Water Quality Bureau determined that the 1982 violations were not significant enough to warrant enforcement action.

In 1983, reporting and discharging situations were similar to 1982, with one violation at 6 SCU average occurring during the non-discharge season (2/9/83) and one violation at 6 SCU average occurring on 4/30/83 during direct discharge. The maximum-minus-average format showed 17 apparent violations in 1983. No enforcement action was taken in 1983. In 1983 the discharge was governed by the current or 1982 permit, wherein Champion was required to regulate the combined discharge to meet the 5 SCU instream color standard.

As a possible resolution to the problem of interpretation of self-monitoring data on instream river color, the WQB is requiring that self-monitoring reports include all river color sample results with associated sample times. This will enable the Bureau to compare upstream-downstream river sample results on a paired basis. Instream river sampling is still difficult to interpret, due to varying travel times of waste in the river between sampling points, possible non-representative sampling in the large river cross section, varying input from seepage and other nonpoint sources, and natural instream fluctuations. However, the WQB feels that control through instream sampling is still the best way to insure compliance with the instream water quality standard for color.

Table 2

Summary of

Champion International Color Violations

1980-1983

Note:

1980 direct discharge

dates: 4/19 -7/12

Date	Max (Six Mile) minus Min (Harpers)	Avg (Six Mile) minus Avg (Harpers)
4-29-80	6 SCU	4 SCU
5-11-80	8 SCU	5.4 SCU
5-14-80	7 SCU	5 SCU
5-16-80	19 SCU	4 SCU
5-25-80	13 SCU	2 SCU
5-28-80	6 SCU	5 SCU
5-31-80	6 SCU	5 SCU
6-2-80	6 SCU	4 SCU
6-5-80	6 SCU	4 SCU
7-2-80	12 SCU	5 SCU
7-3-80	7 SCU	2 SCU
7-4-80	7 SCU	3 SCU
7-6-80	6 SCU	5 SCU

Table 2 cont.

Note: 1981 direct discharge

dates: 3/18, 3/30-6/18

Date	Max (Six Mile) Minus Min (Harpers)	Avg (Six Mile) minus Avg (Harpers)	
3-19-81	9 SCU	5 SCU	
3-28-81	8 SCU	5 SCU	
3-30-81	6 SCU	4 SCU	
4-3-81		8 SCU	only 1 sample
4-4-81		8 SCU	only 1 sample
4-5-81		8 SCU	only 1 sample
4-6-81		7 SCU	only 1 sample
4-7-81		7 SCU	only 1 sample
4-8-81		7 SCU	only 1 sample
4-9-81		9 SCU	only 1 sample
4-10-81		8 SCU	only 1 sample
4-11-81		9 SCU	only 1 sample
4-12-81		9 SCU	only 1 sample
4-13-81		8 SCU	only 1 sample
4-14-81		10 SCU	only 1 sample
4-15-81		9 SCU	only 1 sample
4-16-81		9 SCU	only 1 sample
4-17-81		8 SCU	only 1 sample
4-18-81		8 SCU	only 1 sample
4-19-81		6 SCU	only 1 sample

Table 2 cont.

Date	Max (Six Mile minus Min (Harpers)	Avg (Six Mile) minus Avg (Harpers)	
4-20-81		7 SCU	only 1 sample
4-21-81		7 SCU	only 1 sample
4-22-81		9 SCU	only 1 sample
4-23-81		7 SCU	only 1 sample
4-24-81		8 SCU	only 1 sample
4-26-81		8 SCU	only 1 sample
4-27-81		8 SCU	only 1 sample
4-28-81		8 SCU	only 1 sample
4-29-81		7 SCU	only 1 sample
4-30-81		8 SCU	only 1 sample
5-4-81		6 SCU	only 1 sample
5-6-81		6 SCU	only 1 sample
5-7-81		8 SCU	only 1 sample
5-10-81		7 SCU	only 1 sample
5-11-81		6 SCU	only 1 sample
5-12-81		7 SCU	only 1 sample
5-13-81		7 SCU	only 1 sample
5-14-81		8 SCU	only 1 sample
5-15-81		7 SCU	only 1 sample

Table 2 cont.

Date	Max (Six Mile) minus Min (Harpers)	Avg (Six Mile) Minus Avg (Harpers)	
5-17-81		6 SCU	only 1 sample
5-19-81		9 SCU	only 1 sample
5-20-81		6 SCU	only 1 sample
5-22-81		6 SCU	only 1 sample
			5/22-24 extremely high river flow
5-23-81		8 SCU	only 1 sample
5-24-81		20 SCU	only 1 sample
5-25-81		6 SCU	only 1 sample
6-1-81		6 SCU	only 1 sample
6-3-81		6 SCU	only 1 sample
7-18-81		6 SCU	only 1 sample
7-26-81		9 SCU	only 1 sample
8-1-81	6 SCU	5 SCU	

	Max (Six Mile) minus Avg (Harpers)	Avg (Six Mile) minus Avg (Harpers)
8-29-81		6 SCU
9-9-81	6 SCU	4 SCU
9-16-81	6 SCU	5 SCU

Table 2 Cont.

Note: 1982 direct

discharge dates: 4/12 - 7/14

Shut off on 4/17 due to

river color Resume 4/19

Date	Max (Six Mile) minus Avg (Harpers)	Avg (Six Mile) minus Avg (Harpers)
4-16-82	6 SCU	5 SCU
4-17-82	13 SCU	7 SCU
4-22-82	6 SCU	4 SCU
5-3-82	6 SCU	4 SCU
5-5-82	6 SCU	4 SCU
5-6-82	6 SCU	5 SCU
5-11-82	6 SCU	5 SCU
5-18-82	8 SCU	5 SCU
5-22-82	8 SCU	4 SCU
5-27-82	7 SCU	5 SCU
6-8-82	6 SCU	4 SCU

Table 2 cont.

Note: 1983 direct

discharge dates:

3/14, 3/15, 4/23-7/14

Date	Max (Six Mile) minus Min (Harpers)	Avg (Six Mile) minus Avg (Harpers)
6-15-82	6 SCU	5 SCU
2-9-83	6 SCU	6 SCU
3-15-83	7 SCU	4 SCU
4-27-83	6 SCU	4 SCU
4-30-83	6 SCU	6 SCU
5-12-83	6 SCU	5 SCU
5-18-83	6 SCU	5 SCU
5-27-83	6 SCU	5 SCU
5-28-83	6 SCU	5 SCU
6-1-83	8 SCU	5 SCU
6-4-83	7 SCU	5 SCU
6-6-83	6 SCU	5 SCU
6-12-83	7 SCU	5 SCU
6-18-83	7 SCU	5 SCU
6-21-83	7 SCU	3 SCU
6-23-83	6 SCU	4 SCU
6-24-83	8 SCU	5 SCU
7-11-83	6 SCU	2 SCU

The Water Quality Bureau has also requested and received the paired upstream-downstream color sample data (Table 3) from Champion in order to compare them to the summary of data (Table 2) that was compiled by the Water Quality Bureau from previous self-monitoring reports. As can be seen by comparing the two tables, the paired observations verify how maximum-minimum values from several pairs of samples each day can indicate unrealistically large "apparent" violations of the color standard. In 1980, 1982 and 1983, where more than one set of paired color samples was taken per day, the number of actual days that exceedences of the color standard occurred was reduced from the apparent 49 to 34. More importantly, the magnitude of color change never exceeded 8 units in the paired samples, and reached 8 on only 4 days.

Table 3 also verifies the statements previously made about uncontrollable changes in instream river color at the upstream sampling station, but shows that in spite of the difficulties, a fairly good degree of river protection can be maintained by instream sampling and concurrent adjustment of the discharge flow.

CLARK FORK RIVER COLOR

Date	Harper's (SCU)	Six-Mile (SCU)	Difference (SCU)
4-29-80	18	23	5
	17	21	4
5-11-80	21	27	6
	19	25	6
	21	25	4
5-14-80	16	23	7
	16	18	2
5-16-80	2	6	4
	17	21	4
5-25-80	26	34	8
	21	17	-4
5-28-80	32	38	6
	32	36	4
5-31-80	21	26	5
	20	25	5
6-02-80	19	25	6
	23	24	1
6-05-80	24	30	6
	24	26	2
7-02-80	11	17	6
	5	9	4
7-03-80	12	13	1
	6	8	2
7-04-80	9	11	2
	13	16	3
7-06-80	6	12	6
	6	9	3
3-19-81	7	15	8
	7	12	5
	6	10	4
3-28-81	10	13	3
	8	16	8
	8	12	4
3-30-81	8	12	4
	9	14	5
8-01-81	6	12	6
	2	6	4
9-09-81	7	12	5
	4	8	4
9-16-81	6	11	5
	4	8	4

TABLE 3 Continued

CLARK FORK RIVER COLOR

Date	Harper's (SCU)	Six-Mile (SCU)	Difference (SCU)
4-27-83	15	18	3
	15	21	6
	18	22	4
4-30-83	11	17	6
	11	17	6
	12	17	5
5-12-83	12	19	7
	12	17	5
	14	19	5
5-18-83	13	19	6
	13	17	4
5-27-83	26	30	4
	28	33	5
5-28-83	29	35	6
	30	37	7
	33	36	3
	33	36	3
6-01-83	27	33	6
	23	26	3
6-04-83	18	24	6
	16	21	5
6-06-83	16	20	4
	16	22	6
6-12-83	18	24	6
	19	25	6
	19	22	3
	18	21	3
6-18-83	11	18	7
	11	14	3
6-21-83	12	18	6
	10	16	6
	11	14	3
6-23-83	11	14	3
	13	18	5
6-24-83	11	18	7
	10	14	4
	9	14	5
7-11-83	20	22	2
	29	30	1

TABLE 3 Continued

CLARK FORK RIVER COLOR

Date	Harper's (SCU)	Six-Mile (SCU)	Difference (SCU)
4-16-82	21	27	6
	20	25	5
4-17-82	16	23	7
	7	13	6
	7	13	6
	12	18	6
4-22-82	11	15	4
	10	13	3
	10	16	6
	9	15	6
5-03-82	30	34	4
	27	29	2
	19	22	3
	28	31	3
5-05-82	31	35	4
	29	31	2
	28	34	4
5-06-82	25	29	4
	25	31	6
5-11-82	19	24	5
	18	22	6
5-18-82	28	36	8
	29	31	2
	28	31	3
5-22-82	16	18	2
	20	26	6
5-27-82	31	34	3
	30	34	4
	30	37	7
6-08-82	15	18	3
	16	19	3
	16	22	6
6-15-82	28	34	6
	29	34	5
	30	35	5
2-09-83	4	10	6
	3	9	6
3-15-83	20	23	3
	12	17	5

TOTAL SUSPENDED SOLIDS

The proposed permit decreases the allowable mean monthly and daily maximum concentrations of total suspended solids (TSS) from 240 to 162 mg/l and from 360 to 312 mg/l, respectively. The proposed permit allows a doubling of the allowable total yearly load of TSS from 2 million pounds to 4 million pounds.

Table 4 compares the actual and added loads of TSS. The total calculated yearly natural or background TSS load at Clark Fork, Idaho is 232 million pounds. The yearly TSS load increase of 2 million pounds would cause increases of 0.4% and 0.8% in the natural TSS loads in the Clark Fork River below the discharge and at Clark Fork, Idaho (if it all reached this point), respectively. The largest increase (at the discharge point), based on monthly mean values would be 1.7%. The worst case or the largest increase would occur when instream TSS was very low, the stream flow to discharge flow ratio was 200:1, and the discharge TSS concentration was at its maximum permitted value of 312 mg/l. An example of very low TSS instream (2 mg/l) occurred in April, 1982. Using this value and the assumptions above, the proposed discharge would have increased the instream TSS concentration to 3.5 mg/l.

Under the existing permit 100% of the allowed annual load of 2 million pounds of TSS is discharged in the direct discharge period which usually starts in April and ends in July. The proposed permit will allow continuous direct discharge but over 85% of the direct discharge water will still be discharged in the same time period (during spring runoff, Table 4).

Table 4. Mean monthly tons of background total suspended solids (TSS) in the Clark Fork River and additional TSS resulting from the proposed discharge

	Clark Fork River above discharge Mean Monthly Flow (cfs) *	TSS (tons/month)	Direct Discharge Mean Monthly Flow (cfs) **	TSS (tons/month) ***	*****	% Increase
October	2800	2790	4.7	63.7	43.9	1.5
November	2800	2700	4.7	63.7	43.9	1.6
December	2570	2770	3.6	47.2	32.5	1.1
January	2270	1860	2.1	28.5	19.7	1.1
February	2490	1820	3.2	39.2	27	1.5
March	3060	3317	6.0	81.4	56.1	1.7
April	6430	14460	22.9	300.5	207	1.4
May	15400	87141	67.7	918	633	0.7
June	17500	105870	78.2	1026	708	0.7
July	6030	13082	20.9	283.4	195	1.5
August	2300	1860	2.2	29.8	20.5	1.1
September	2290	1800	2.2	29.8	20.5	1.1
Sum (tons)		237796		2911.2	2006.6	
Sum (pounds)		475×10^6		5.8×10^6 ****	4×10^6	

*Waltemeyer and Shields, 1982
**based on meeting color standard
***based on 162 mg/l TSS monthly average concentration
****exceeds yearly load limit
*****reduced by .69 so the total TSS = total maximum allowable yearly load of 4.0×10^6 pounds

There are three possible instream impacts of increases in TSS: 1. The increased TSS could settle on the stream bed and physically interfere with the biota; 2. The increased TSS could cause short or long term toxicity; and 3. The increased TSS could reduce the concentration of dissolved oxygen. These three possibilities will be discussed in order.

In the kraft mill effluents which have been examined, 80 to 95% of the TSS are bacteria or bacterial fragments (ncasi 1978A, 1978B, 1978C). These particles are very small, with a specific gravity near 1, and form colloidal suspensions (ncasi, 1978B) thus many of these particles remain in suspension indefinitely, even in quiescent ponds. The proposed permit includes a requirement that the effluent be held in ponds for at least 10 days after treatment, to allow for settling of the larger particles to occur.

One of the factors which reduces settling is agitation or turbulence. Because the turbulence in the Clark Fork River and probably even in its reservoirs is greater than in the ponds at the plant, it is reasonable to assume that TSS which won't settle in 10 days in a pond won't settle in the stream or its reservoirs. Sludge deposits have not been found at the stream sites below pulp mills which have biological treatment (ncasi, 1978B). In fact, such deposits have not been reported below any treated pulp mill effluent in the Pacific Northwest (Dan Bodien, technical expert on pulp and paper mill wastewater treatment, US EPA, Region 10, Seattle, Wash., personal communication, December 30, 1983).

Because these TSS are primarily biological particles, they serve as a food source for stream insects and actually increase the secondary productivity of experimental streams (ncasi 1978B, 1978D, 1982). This also indicates that deposition on the stream bed is unlikely.

Toxicity resulting from these TSS is very unlikely as bioassays performed using whole effluent and rainbow trout (more than 150 bioassays, from 1975 through 1982) indicate that usually more than one half of the fish exposed to 100% effluent survived for more than 96 hours; that is, the 96 hr. LC50 exceeded 100% effluent (unpublished data, WQB files). In addition life cycle bioassay using microcrustaceans in 1983 indicated no toxicity with 100% effluent (unpublished data, WQB files). These results were with 100% effluent. The proposed permit requires a dilution of at least 200 to 1 so the chance of short term toxicity instream is remote. A literature survey by Davis (1976) indicated that for all salmonid species tested the average sublethal threshold concentration was 0.16 of the 96 hr. LC 50 and ranged from 0.006 to 0.33 of the 96 hr. LC 50. The responses at the sublethal threshold concentration inclued changes in growth rate, "cough" frequency, avoidance behavior and blood chemistry, in other words a measurable effect. This indicates that at a dilution of 200 to 1 or at 0.005 of the 96 hr. LC 50 (which is required in order to meet the instream color standard) there should be no measurable effect on fish in the Clark Fork River.

If these TSS accumulated instream they could increase the solubility of heavy metals through pH effects and result in increased toxicity. However, as mentioned previously, these TSS will not accumulate.

The effects of TSS on dissolved oxygen concentrations could be either due to an accumulation of this material and its resultant localized oxygen demand or to its relatively constant oxygen demand throughout the receiving water. As has already been pointed, out the possibility of this material accumulating instream is remote. Because of the small volume, rapid turnover rate (0.05 to 2 days) and thus relatively high turbulence in Thompson Falls Reservoir, settling is also very unlikely to occur in this reservoir. Settling in Noxon Rapids Reservoir is possible as the turnover time is considerably longer (from 1.9 to 78 days, United States Geological Survey data, WQB calculations). However, because the effluent will have 10 days in relatively quiescent ponds for settling to occur and because the remaining material forms a colloid, it is unlikely that significant settling will occur.

One study, which used radioactive carbon to trace TSS from the treated effluent of a boxboard manufacturing plant in a stream, indicated about 20 - 25% of the TSS was oxidized or assimilated in the receiving stream in less than 4 hours. This work was done during September, 1977 in New York State (ncasi, 1978D). It is not possible to directly compare the composition of the benthic community in the Clark Fork River to the one in New York. However the same types of filterfeeding organisms are apparently very abundant in both streams. Community respiration (a measure of total oxidation) did not change by more than an order of magnitude from winter to summer in the aquatic habitats examined by Odum (1956). Community respiration changes by about one order of magnitude from summer to winter in both the Flathead and Kootenai Rivers (Jack Stanford, Director, Yellow Bay Biological Station, Big Fork, Montana, January 10, 1984.). During low flow the estimated times of flow from the discharge are: to Thompson Falls Reservoir, 3.4 days; to Thompson Falls Reservoir discharge, 5.4 days; to Noxon Reservoir, 6.9 days; to Noxon Dam discharge, 85 days; to Cabinet Gorge Dam discharge, 89 days (volume of Cabinet Gorge reservoir provided by Washington Water Power, volume of other reservoirs from USGS, calculations made by WQB staff). Thus during September (using the 25% in 4 hours rate of the stream in the New York study and applying it to the Clark Fork River) over 99% of the TSS discharged by the paper mill would probably be oxidized or assimilated before reaching Thompson Falls Dam. Of course as the flows increase the travel times decrease but the load of natural TSS increases. This will mask the effects of the discharged TSS at high flows. The rate of oxidation and/or assimilation could be lower at lower winter temperatures. However, according to Odum (1956) and Stanford (see above) it would probably still take less than 4 hours to respire (oxidize) 2.5% of the TSS. If it did take 4 hours or less to oxidize and/or assimilate 2.5% of the TSS, during the winter, then during winter low flow about 1% of the discharged TSS would remain in the water after 30 days. Thus essentially none would reach Lake Pend Oreille.

BIOCHEMICAL OXYGEN DEMAND

The proposed permit decreases the allowable mean monthly and daily maximum concentrations of biochemical oxygen demand (BOD) from 120 to 87 mg/l, and from 180 to 161 mg/l respectively. The total allowable yearly load is decreased from 2.25 to 2.1
million pounds per year. The proposed permit does allow a change in the distribution of this load throughout the year. BOD as addressed in the permit, is based on a 5 day test. Thus the ultimate or complete BOD is greater than the permit limits. The few tests done on the proposed discharge

indicate the ultimate BOD is about 4 X the reported BOD (unpublished data, WQB files). Ultimate BOD is usually approximately equivalent to the chemical oxygen demand (COD) (American Public Health Association, 1979). There are very limited data on the BOD of the Clark Fork River, especially for the recent past; that is after sewage treatment improvements at Missoula in 1976 and inception of wastewater treatment at the Kraft mill in 1974. There are COD data (in the STORET* system) for the USGS station just above the mill and for the Idaho Department of Health and Welfare Station at Clark Fork, Idaho. The yearly COD load above the mill is about 267 million pounds and the mean concentration is 20 mg/l. At Clark Fork Idaho the yearly COD load is 404 million pounds and the mean concentration is 8.7 mg/l. The approximate yearly COD load from the proposed discharge is 8.4 million pounds and the approximate average concentration is 348 mg/l. After the 200 to 1 dilution required to meet the color limit the discharge would increase the average instream COD from 20 mg/l to about 20.6 mg/l. Thus based on yearly average the proposed discharge could lower the instream dissolved oxygen (DO)concentration by about 0.6 mg/l in total or by 0.15 mg/l in five days (COD of 0.6/4 = BOD_5) if there were no reaeration or photosynthesis in the stream. Table 5 shows the background and COD increases based on monthly average values.
A study done for Champion International by CH2M Hill (1983) which projected the impacts of year round discharge on dissolved oxygen concluded that the concentration of dissolved oxygen would be lowered by a maximum of 0.11 mg/l in August. This value is substantiated by WQB calculations and the fact the

*National Water Quality Data base maintained by US EPA

Table 5 Mean monthly tons of background Chemical Oxygen Demand (COD) in the Clark Fork River and additional COD resulting from the proposed discharge.

	Clark Fork River above discharge Mean Monthly Flow (cfs) *	COD (tons/month)	Direct Discharge Mean Monthly Flow (cfs) ***	COD(tons/month) ****	*****	% Increase
October	2800	2578	4.7	137	92	3.6
November	2800	2268	4.7	133	89	3.9
December	2570	1936	3.6	105	70	5.4
January	2270	3800**	2.1	61	41	1.1
February	2490	4424	3.2	84	56	1.3
March	3060	5122**	6.0	175	117	2.3
April	6430	9375	22.9	646	433	4.6
May	15400	39.958	67.7	1972	1321	3.3
June	17500	28,350**	78.2	2204	1477	5.2
July	6030	6561	20.9	609	408	6.2
August	2300	3850**	2.2	64	43	1.1
September	2290	11871	2.2	62	42	0.4
Sum (tons)		120093		6252.2	4189	
Sum (pounds)		$240.X\ 10^6$		$12.50\ X\ 10^6$		

*Waltemeyer and Shields, 1982
**no monthly data, used yearly mean concentration value
***based on meeting color standard
****based on BOD limit of 87 mg/l and BOD X 4 = COD
*****reduced by .67 so that total BOD = total maximum allowable yearly load of $2.1\ X\ 10^6$ pounds

recorded DO depressions during discharge periods and during low flow periods have been in this range (Braico, 1973; Knudsen and Hill, 1978; US EPA, 1973). During low flow perods in the past the only discharge was through seepage. In order to comply with the color limitatons of the proposed permit direct discharge during low flow periods will be limited and most of the discharge will be through seepage (table 1). Although there have been no documented problems associated with BOD discharges and none are expected, it does appear that previous DO monitoring may not have been done far enough downstream to detect the maximum effect (CH2M Hill, 1983; WQB calculations, 1983). Thus sampling will be done during 1984 to determine the downstream point at which the maximum DO effect occurs. The permit requirement of stopping the direct discharge whenever DO concentration in the river is at or below 7 mg/l will be maintained, and if future monitoring shows the maximum depression to occur below the present monitoring point, then either the monitoring point will be changed or the shut off value will be increased.

PLUGGING OF RIVER BED

The factors causing plugging of the rapid infiltration (RI) basins are not well understood. Nevertheless, plugging of the river bed similar to what has happened in the RI basins is not expected because of the following differences: (1) waste in the RI basins is at full strength; it is diluted a minimum of 200 to 1 in the river; (2) the bottoms of the RI basins are anaerobic; the river bed is not, (3) the bottoms of the RI basins are undisturbed; the river bed is periodically disturbed; (4) the direction of flow into the bottom of the RI basins is always the same; the direction of flow into the river bed is not; (5) the amount of flow into the bottom of the RI basins is probably very large compared to the volume of flow into the bottom of the river.

TOXICITY FROM SCUM, FOAM AND CHLORINATED COMPOUNDS

The lack of toxicity of the effluent has already been discussed. This demonstrates that chlorinated compounds in the effluent are not present at toxic levels. It is possible that toxic organics could be concentrated in scum or foam. In order for toxicity to occur the fish would have to be exposed to an accumulation of this material. This exposure could occur through contact at the water surface during feeding or if the fish actually ate the material deliberately (highly unlikely) or accidently (possible). Thus exposure is possible, but the amount of exposure for those fish which are exposed is probably limited and most fish are likely not exposed at all. No effect of this material on fish has been documented. In fact, the relative abundance of foam above and below the discharge has not been documented. The section on monitoring describes the actions we will take to resolve the questions of foam abundance and toxicity.

NONDEGRADATION AND THE GOAL OF ZERO DISCHARGE OF POLLUTANTS

Nondegradation with regard to TSS applies only if adverse impacts will result. The surface water non-degradation rule defines "degradation" as follows:

> An applicable water quality standard for ... suspended solids ... has been violated.

There is no absolute quantifiable standard for TSS. Rather, the standards

use terms such as "creation of a nuisance"; rendering state waters "harmful, detrimental, or deleterious"; creating "acute or chronic problem levels"; forming "objectionable sludge deposits"; or creating conditions "which produce undesirable aquatic life." Thus if no adverse impacts result from the introduction of TSS, non-degradation does not apply. In this case the introduction of TSS will not cause such an adverse impact. The effects of TSS are discussed in the section on TSS.
The 1985 goal in the Clean Water Act of no discharge of pollutants is just that, a goal. It is not a requirement of the Clean Water Act.

INCREASED NUTRIENT LOAD

The Water Quality Bureau (WQB) has received a large number of comments on the draft Preliminary Environmental Review (PER) concerning nutrients. And some new information on nutrients and algal production in the Clark Fork River has been uncovered since the January 1984 draft of the Champion PER was released. In this section the WQB will attempt to respond to those comments and, in light of the new information, predict what effects the projected nutrient application rates will have on the river and its mainstream impoundments. Some questions cannot be answered until additional studies have been completed on the lower Clark Fork River and Lake Pend Oreille.

Eutrophication and The Limiting Nutrient

Of the many nutrients required by algae and other aquatic plants, nitrogen (N) and phosphorus (P) are the two elements usually in the shortest supply in nature relative to the needs of the plant. This means that the growth of algae is often directly proportional to the concentration of N or P, or both, in the water column. As concentrations of N and P increase in rivers and lakes, algae proliferate or "bloom," sometimes causing aesthetic problems or conditions that are deleterious to other aquatic life. The common term for such problems and conditions is eutrophication.

Mills and others (1982) suggest computing the ratio of total nitrogen (TN) to total phosphorus (TP) in the water to determine which nutrient is limiting. If the ratio is larger than 10, P is likely limiting; if the ratio is less than 5, N is likely limiting; if the ratio is between 5 and 10, a determination cannot be made.

The U. S. Geological Survey (USGS) measured TN and TP a total of 25 times in water years 1980 through 1982 at its water quality station below Missoula (No. 12353000). The average TN to TP ratio for these 25 analyses was 10, ranging from 3.5 to 77. Sixteen of the ratios were larger than 10, seven fell between 5 and 10, and two were less than 5. There were no obvious seasonal trends in these ratios. These results indicate that either N or P may limit the growth of algae in the Clark Fork River below the Champion Mill and that the effects of adding both nutrients should be assessed.

Measurement of Nutrients

At least two individuals commented on what they perceived to be a failure on the part of WQB to account for the nutrients tied up in suspended organic solids to be discharged to the river. All nutrient values used in this

review are of TN or TP. These forms are measured after digestion of whole, unfiltered samples. Hence they represent both the dissolved and the particulate nutrient fractions. As the name implies, they are truly total measurements. In Champion's storage ponds and rapid infiltration beds, only about 15 percent of the TN is not associated with the TSS.

Since the potential for producing nuisance growths of algae in the rivers depends more on sustained instantaneous nutrient concentrations than on nutrient loading over time, a doubling of the allowable yearly load of total suspended solids (TSS) will be of little consequence in the river from the standpoint of nutrient enrichment and eutrophication. On the other hand, loadings are more critical than concentrations in lakes. But since so little of the additional TSS (and their incorporated nutrients) will actually reach Lake Pend Oreille, the eutrophication effect on this lake will not be significant. (See section on TOTAL SUSPENDED SOLIDS.)

Nutrient and Chlorophyll Concentrations in the Clark Fork River

At the USGS water quality station below Missoula for water years 1980 through 1982, TN averaged 0.8468 mg/l and TP averaged 0.0848 mg/l (USGS, 1980, 1981, and 1982). Nutrient concentrations tended to be larger in winter and spring than in summer and fall.

In 1982, fourteen measurements of chlorophyll a in the water of Thompson Falls Reservoir and in the Clark Fork River below the Reservoir averaged 2.42 mg/m^3 (Montana Power Company, 1982). Chlorphyll a is the principal photosynthetic pigment in algae. Since algae contain 1 to 2 percent chlorophyll a, the weight of the dry algal cells will be 50 to 100 times the chlorophyll a content or 0.12075 to 0.2415 mg/l.

The standing crop of algae in and below Thompson Falls Reservoir in 1982 was clearly larger in March than in July. The average chlorphyll a concentration was 3.11 mg/m^3 in March and 1.17 mg/m^3 in July.

Nutrient Criteria

Concentrations of TN and TP likely to cause obnoxious or nuisance growths of algae in rivers are listed in Table 6. These criteria are based on empirical data for nutrients and algal biomass collected from a variety of rivers. Since no two rivers are alike, the eutrophication potential of nutrient concentrations in a given river must be interpreted with caution.

A relatively steep-gradient, fast-flowing river like the Clark Fork may produce less algal biomass per unit of nutrient than the empirical norm presented in Table 6. Such appears to be the case. While the average TN and TP concentrations measured below Missoula would put the Clark Fork near the "problem likely to exist" threshold, the average algal biomass measured in and below Thompson Falls Reservoir is less than 20 percent of the "problem threshold."

Pending the collection of additional chlorophyll a and nutrient data from the Clark Fork River, one might conclude that the nutrient criteria in Table 6 are about an order of magnitude too low for assessing the eutrophication potential in this river.

Procedures for assessing the eutrophication potential in lakes are far more complex. Thompson Falls Reservoir and Cabinet Gorge Reservoir have relatively short residence times and can probably be treated as slower-moving segments of the river. But in Noxon Reservoir, and especially Lake Pend Oreille, a variety of factors must be considered in assessing eutrophication potential, including residence time, nutrient loading from all sources, bioavailability of nutrients, lake morphometry and general limnology. The WQB does not have sufficient data in these areas to assess the potential for algal blooms in either body of water as a result of the modified Champion discharge. The WQB has begun limnological investigations on all three mainstem reservoirs in order to collect data sufficient to establish their trophic status, nutrient budgets, and eutrophication potential. The greatest effort will be expended on Noxon Reservoir, the largest of the three.

Nutrient Recycling and Plant Decay

At least three reviewers have noted that the additional nutrients associated with the organic solids released by Champion International under the modified permit will be used by river algae to fix more carbon. This internally generated organic matter may then settle and thereby compound any oxygen depletion and heavy metal release problems caused by the original organic solids.

One problem with this argument is that in order to be available for uptake by algae, the nutrients must first be "released" from the organic solids upon their oxidation in the river. Hence the two processes (nutrient release and uptake) are largely interdependent and there can be little or no compounding of the effects of biomass oxidation. Whatever fraction of the nutrients released by Champion and the Missoula wastewater treatment plant that is not lost to river sediments or to the atmosphere, will probably be recycled many times over before it reaches Idaho and Lake Pend Oreille. Because of these losses and the recycling that will occur, it is problematic what fraction of the additional nutrients released by Champion will actually reach Lake Pend Orielle and what form they will be in at the time, whether bacteria cells, algal biomass, bug bodies, organic solids, absorbed into sediment or dissolved in the water.

Nutrient Application and Nutrient Loading Trends at Champion International

There is a relatively small amount of N and P in wood. Hence, large amounts of N and P must be added to Kraft paper mill wastewaters in order to promote biological treatment. From 1976 through 1982, Champion added an average of 160 lb/day N as ammonia and 80 lb/day P as phosphoric acid to its wastewater stream (Bill Henderson, pers. comm., December 19, 1983).

Historic nutrient application and loading rates at Champion International are graphed in Figures 4 and 5. Champion self-monitoring data were used to calculate loading. The following assumptions were also employed:

1. Concentrations of nutrients in seepage and in direct discharge to the river equal concentrations in Champion test wells, and in storage ponds and rapid infiltration beds, respectively.

2. Seepage from the storage ponds and rapid infiltration beds accounts for 60 percent of the mill's daily wastewater output of 16 million gallons (Larry Weeks, pers. comm., December 22, 1983) and all of this seepage enters the river.

3. The remaining 40 percent of the mill's wastewater output is discharged directly to the river.

After an initial period of adjustment, nutrient application and loading rates appear to have achieved a degree of equilibrium. In the case of both N and P, nutrient loading rates have exceeded nutrient application rates in recent years, by a factor of 1.2 for N and a factor of 2.6 for phosphorus. This may indicate other sources of nutrients in the wastewater stream, release of nutrients stored in pond sludge or attached to soil particles, nutrient buildup in the groundwater, or all of the above.

Champion believes it will need to increase its nutrient application rates in order to meet the lower biochemical oxygen demand (BOD) limits set in te modified discharge permit. Present nutrient application rates are about 1000 lb/day N and 100 lb/ day P. These rates may be increased further, even doubled, in order to achieve the targeted BOD concentrations in the discharge (Larry Weeks, pers. comm., December 15, 1983, and Bill Henderson, pers. comm., December 21, 1983).

No one can predict for certain what Champion's nutrient loading rates will be once they increase their nutrient application rates. If loadings respond to nutrient additions as they have over the last several years, then the present and future loadings will be as shown in Figures 4 and 5. Self-monitoring of nutrients by Champion International, which was suspended in 1983, will be reinstated under the modified permit so that nutrient loading rates can be monitored and loading projections verified or corrected.

It should be emphasized that the loading rates presented here are hypothetical maximum rates. Not all of the seepage from the storage ponds and rapid infiltration beds will enter the river. And not all of the nutrients measured in the groundwater test wells will find their way to the river; some will be tied up and stored.

Nutrient Contributions by Champion International and The City of Missoula

Recent and projected nutrient loading rates by the two major discharges on the lower Clark Fork River are presented in Table 7.

Until now, the Missoula wastewater treatment plant has contributed three times as much N and half again as much P as the Champion International paper mill. While nutrient loads from the Missoula plant are not expected to increase significantly in the near future, loads from the Champion mill will. At some point, nutrient loads from the paper mill are expected to double or even quadruple those from the wastewater treatment plant.

Loads from these same two sources for 1980-1982, the present and the future, are presented in Table 8 in terms of the percentages these

sources contribute to the total nutrient loads in the Clark Fork River downstream from the Champion mill. These percentages assume that all of the Champion nutrients find their way to the river (they don't) and that nutrient loadings from the Missoula plant will remain the same in the near future. Self-monitoring for nutrients should be reinstated at both Missoula and Champion in order to track the total loading from both sources should eutrophication problems develop downstream.

Predicted Nutrient Concentrations in the Clark Fork River

Since the rate of algae growth is directly proportional to water temperature, any prediction of nutrient concentrations should be made for the warmest month of the year. Water temperatures in the Clark Fork River below Missoula are generally highest in August (Aagaard, 1969).

In Table 9, nutrient predictions are made for the mean monthly and mean minimum monthly discharges for August at the U. S. Geological Survey water quality station below Missoula. These flows are 2300 cfs and 810 cfs, respectively (Waltemeyer and Shields, 1979). Since Champion will not be allowed to discharge treated wastewaters directly to the river below a river flow of about 1900 cfs, all of Champion's nutrient contributions to the river at a river flow of 810 cfs will be in the form of seepage.

Two additional assumptions were used to calcuate the nutrient concentrations in Table 9:

1. Concentrations of nutrients in seepage and in direct discharge to the river equal concentrations in Champion test wells, and in storage ponds and rapid infiltration beds, respectively.

2. Residual concentrations of TN and TP in storage ponds, rapid infiltration beds and test wells are directly proportional to N and P application rates.

Comparing the concentrations in Table 9 to the criteria in Table 6, it appears that instream concentrations of both TN and TP would exceed the "problem likely to exist" level. However, it should be remembered that not all of Champion's nutrients will enter the river and that the nutrient criteria in Table 6 may be an order of magnitude too low for assessing eutrophication potential in the lower Clark Fork River. If the latter is proven valid by studies planned for this summer, it is unlikely that even the largest anticipated nutrient application rates (2000 lb/day N and 200 lb/day P) will cause degradation of water quality in the river.

Table 6. Eutrophication potential in rivers as a function of nutrient concentrations (Mills *et al.*, 1982).

P (mg-P/L)	N (mg-N/L)	Dry Algal Cells (mg/L)	Significance
0.013	0.092	1.45	Problem threshold
0.13	0.92	14.5	Problem likely to exist
1.3	9.2	145.0	Severe problems possible

Table 7. Recent and predicted nutrient loading rates by Champion International and the City of Missoula wastewater treatment plant (average annual lb/day).

	TN		TP	
	Missoula	Champion	Missoula	Champion
1980	——	142	——	123
1981	472	161	167	110
1982	513	168	158	105
Present	——	1200	——	260
Future	——	2400	——	520

Table 8. Nutrient loads from Champion International and the City of Missoula wastewater treatment plant as percentages of total nutrient loads in the Clark Fork River downstream from the Champion mill.

	TN		TP	
	Missoula	Champion	Missoula	Champion
1980 - 1982	4.6	1.5	15.6	10.8
Present	4.2	10.3	12.5	19.9
Future	3.8	18.7	10.4	33.2

Table 9. Actual and projected concentrations (mg/l) of TN and TP in the Clark Fork River with the additions of Champion seepage and direct discharge in August at different nutrient application rates and river discharge.

Nutrient	Application Rate (lb/day)	Below Missoula[1]	2300 CFS[2] Add Seepage	2300 CFS[2] Add Discharge	810 cfs[3] Add Seepage
TN	137 (1980-82)	0.8468	0.8471	0.8478	0.8476
	1000 (Present)	0.8468	0.8832	0.8936	0.9488
	2000 (Possible)	0.8468	0.9250	0.9466	1.0662
TP	43 (1980-82)	0.0848	0.0894	0.0902	0.0977
	100 (Present)	0.0848	0.0962	0.0981	0.1169
	200 (Possible)	0.0848	0.1082	0.1121	0.1505

1 Mean of 25 values measured in water years 1980 - 1982 at the U. S. Geological Survey water quality station (No. 12353000) downstream from Missoula (USGS, 1980, 1981, and 1982).

2 Assumes a seepage rate of 14.9 cfs and a direct discharge rate of 2.2 cfs.

3 Assumes a seepage rate of 14.9 cfs and no direct discharge.

2 & 3 Assume all seepage from the storage ponds and rapid infiltration beds enters the river.

FISH KILLS

Two fish kills in the Clark Fork River that may be attributed to pollutants released by the Champion facility have been documented since the mill began operating in 1957. The first occurred on or about July 31, 1958 when untreated wastewater was being discharged directly to the river (Averett, 1961; IPC, 1960; Spindler and Whitney, 1960). The second occurred on or about September 25, 1961 and involved only mature whitefish (IPC, 1963; Larry Weeks, pers. comm., December 19, 1983). The first fish kill occurred prior to any ponding of the wastewater; the second fish kill occurred after ponding but before construction of the primary clarifier (in 1970) and application of secondary treatment (in 1974).

Larry Weeks, technical director at the Frenchtown mill, was asked by the WQB if there have been any documented fish kills from pulp mill discharges after secondary treatment and, if so, what were the discharge limits and stream conditions? Mr. Weeks replied as follows:

"The West Coast Regional Center of the NCASI (National Council of the Paper Industry for Air and Stream Improvement) did not know of any documented fish kills due to pulp mill effluents with secondary treatment. Mr. Larry Patterson of the Oregon DEQ said that in the last 15 years, there have been no fish kills attributed to pulp mills along the Willamette and McKenzie Rivers. There are six pulp mills that discharge into these two rivers. Our Corporate office will canvas the East Coast" (Larry Weeks, written comm., December 22, 1983).

Slime (Periphyton) Growth

A natural feature of every river is an association of small, simple organisms that live attached or in close proximity to the stream bottom. In the Clark Fork River this periphyton community, commonly called "slime," is composed mostly of diatoms, soft-bodied green and blue-green algae, bacteria, fungi and protozoans. These organisms, particularly the algae, coat rocks and other substrates only down to the depth at which light is limiting.

The periphyton community is the principal site of primary production in small shallow rivers. As a river receives more flow and becomes deeper downstream, the periphyton community becomes less and less important as the source of primary production and the plankton (open water) community becomes more and more important. Even in the largest of Montana rivers, like the lower Clark Fork, periphyton organisms will completely cover rocks in shallow water near shore.

The Clark Fork River below Missoula is among the two or three most productive rivers in northwest Montana (Bahls et al., 1979). Thick mats of periphyton, predominantly algae, are common on rocks in shallow waters where there is at least some current. In the water these mats may take on many appearances, ranging from a rust-colored slimy coating characteristic of diatoms to a dark green miniature forest of many-branched filaments characteristic of mosses and certain multi-cellular algae. Removed from the water, these periphyton mats have a peculiar musty odor. When the water level drops in late summer and rocks with their attached organisms are exposed, the periphyton community becomes appressed to the surface of the rocks, turns a light gray or tan color, and peels and flakes off as it dries.

On November 23, 1983 a fisherman on the Clark Fork River east of Paradise found some material on some rocks along the river that he thought was "paper fibers from the Champion mill at Frenchtown" (Figure 2). He turned the material over to the Sanders County sanitarian, who in turn sent it to the Water Quality Bureau in Helena. Microscopic examination proved the material to be a dehydrated colony of Cladophora, a genus of filamentous green algae found throughout western Montana (Figure 3). The algae had many epiphytic diatoms still attached.

In light of this incident, there appears to be at least some confusion on the part of the public as to the nature and origin of observed biological deposits on the river bottom. Hence, the Bureau has been skeptical of reports of "sludge deposits," "slime," "slimy, viscous substances," "brown scum," "paper fibers" and the like, all attributed to the Champion operation at Frenchtown. The Bureau will search for mill-generated deposits next summer. (See "ADDITIONAL MONITORING" section.) Meanwhile, the Bureau will provide free microscopic examination and further analysis, if warranted, of any material from the river suspected to be from the mill discharge.

Biological Studies

Baseline biological conditions in the Clark Fork River before the Champion mill began operating are described in reports prepared by Spindler (1959) and the Institute of Paper Chemistry (1956 and 1957). Their findings may be summarized as follows:

1. Macroinvertebrate communitites at stations downstream from the present mill site contained predominantly immature stages of pollution sensitive insects (mayflies, stoneflies and caddisflies).

2. The river was heavily fertilized by raw sewage discharged at Missoula and the recovery zone extended downstream to St. Regis.

Reports addressing the effects of Champion mill operations on the biology of the Clark Fork River have been authored by Spindler and Whitney (1960), Averett (1961), Weisel (1972), the U.S. Environmental Protection Agency (1974), Knudson and Hill (1978), Bahls et al. (1979), and the Institute of Paper Chemistry (1958-1983). Their findings may be summarized as follows:

1. The Clark Fork River below Missoula is one of the most productive rivers in northwest Montana in terms of periphyton chlorophyll and biomass accrual.

2. The production of algae in the river below Champion is limited by the concentration of soluble inorganic nitrogen in the water; in other words, the river is nitrogen limited. It was later demonstrated that either nitrogen or phosphorus can be limiting - see INCREASED NUTRIENT LOAD section).

3. Concentrations of total soluble inorganic nitrogen in the river below Champion are below those required to produce nuisance algae growths.

4. Relatively low autotrophic index values (average = 121) indicate that the periphyton community below Champion is composed primarily of autotrophs (algae).

5. The algal flora below Champion is dominated by diatoms, which generate a large species diversity (Shannon diversity = 4.65).

6. The macroinvertebrate community below Champion is dominated by immature stages of facultative or pollution sensitive insects (mayflies, stoneflies, caddisflies and true flies--mostly of the family Simulidae) which generate a large genus diversity (Shannon diversity = 3.37).

7. Except for temporary and localized effects of mill operations, only very subtle differences in the composition and structure of macroinvertebrate communities have been recorded in the river from upstream to downstream of the mill;

   a. Differences in mean values for biological variables between control and experimental stations (Harper Bridge and Huson) were usually smaller than differences between replicate values at a single station.

   b. Some of these differences may be due to differences in substrate, current velocity, and other factors unrelated to Champion operations.

8. The river in the vicinity of the Champion mill is still recovering from the discharge of the Missoula wastewater treatment plant and the effects of this discharge appear to override and mask any general biological affects that may be attributed to the Champion operation.

Since 1976 the Montana Department of Health and Environmental Sciences has been gathering biological information from the Clark Fork River at several stations between Missoula and Superior. The following summarizes unpublished data collected at the Harper Bridge and Huson stations at times of low flow when Champion was not discharging directly to the river:

1. Mean periphyton diatom diversity was high (3.76 at Harper Bridge and 4.23 at Huson) and the diatom associations at both stations consisted of 60 to 80 percent intolerant taxa.

2. Mean periphyton chlorophyll accrual was 30 percent larger at Huson than at Harper Bridge, but mean biomass accrual was only 6 percent larger.

3. Mean autotrophic index decreased 18 percent between Harper Bridge and Huson, indicating a larger percentage of autotrophic (algal) production at the downstream station; the very low mean autotrophic index values at both stations (66 at Harper Bridge and 55 at Huson) indicated that the periphyton consisted almost entirely of algae.

4. There was no significant difference in total numbers, total taxa, species composition or structure of macroinvertebrate communities at the two stations: the macroinvertebrate fauna consisted mostly of immature stages of caddisflies and mayflies (80 to 90 percent) with smaller numbers of true flies (about 10 percent) and stoneflies (about 2 percent).

The State of Idaho Department of Health and Welfare gathered macroinvertebrate data in 1979 from a station at Clark Fork above Lake Pend Oreille. The results are summarized by Bauer (undated) as follows:

> Samples were collected from a deep run with a cobble substrate. The most numerous invertebrates were two species of mayfly, and one species of caddisfly. Calculated diversity index was high (2.41) indicating a healthy benthic community.

Additional macroinvertebrate data were gathered at the Clark Fork site in 1981 and 1982 and provided by the State of Idaho without interpretations. The 1981 data are comparable to the 1979 data, but data collected in 1982 indicate an impoverished fauna consisting only of 1 to 20 organisms and 1 to 3 taxa per sample. This may have been due to an unstable sand substrate (Gary Gaffney, pers. comm., December 15, 1983). The State of Idaho also provided periphyton chlorophyll and biomass data, which were gathered at the same station in 1980. These data were generated from natural substrate samples and are not comparable with data generated at Montana stations using artificial substrates (Stephen Bauer, pers. comm., December 13, 1983).

Fish population estimates for sections of the Clark Fork River upstream and downstream from the Champion mill were requested from the Montana Department of Fish, Wildlife and Parks. The data provided to us is presented in Table 9. This data indicates that during June 1983 there were more rainbow trout at the Superior site (below Champion's discharge) than at the Turah site (above the discharge) and that brown trout were as abundant as rainbow trout at Turah but were not present at Superior. (The Turah site was used as the control because it was the only other site sampled in the same month as the Superior site.) Conversely, cutthroat trout were present at Superior but not at Turah. From this data it is not possible to make firm conclusions about recruitment or population structure (note the wide variations at the Turah site and Milltown sites).

Table 10. Fish population estimates for sections of the Clark Fork River near Turah, below Milltown Dam and near Superior (Montana Department of Fish, Wildlife and Parks).

Location and year	Species	Length interval (inches)	Number estimate per mile
Turah - June, 1983	Brown	8.0-12.9	110
		13.0-15.9	80
		≥ 16.0	15
	Rainbow	7.0-13.9	101
Turah - July, 1982	Brown	8.0-12.9	173
		13.0-15.9	80
		≥ 16.0	26
	Rainbow	7.0-13.9	87
Turah - May, 1981	Brown	8.0-12.9	123
		13.0-15.9	93
		≥16.0	21
	Rainbow	7.0-13.9	105
Turah - July, 1980	Brown	8.0-12.9	136
		13.0-15.9	66
		≥16.0	17
	Rainbow	7.0-13.9	131
Turah - Oct., 1979	Brown	8.0-12.9	232
		13.0-15.9	49
		≥ 16.0	38
	Rainbow	7.0-13.9	312
Turah - Mar., 1979	Brown	8.0-12.9	88
		13.0-15.9	75
		≥ 16.0	49
	Rainbow	7.0-13.9	165
Milltown - Sept., 1980	Rainbow	6.0-9.9	74
		10.0-12.9	88
		≥ 13.0	47
	Brown	≥ 8.0	59
Milltown - May, 1983	Rainbow	6.0-9.9	390
		10.0-12.9	207
		≥ 13.0	88
	Brown	≥ 8.0	21
Superior - June, 1983	Rainbow	8.0-12.9	124
		13.0-15.9	82
		≥16.0	13
	Cutthroat	≥ 8.0	33

ADDITIONAL MONITORING

The additional monitoring described in the January 1984 draft of the preliminary environmental review has been replaced with a plan for an extensive two-year study of water, sediment and biology at thirty stations along 225 miles of the lower Clark Fork River (Water Quality Bureau, March 1984). The Water Quality Bureau began field work under this plan the week of March 6, 1984, and, except for a few minor changes, intends to follow the plan as written through the two-year study period.

Some have suggested that two years is not long enough to fully assess what effect the permit modification will have on the river. Although it is true that fish populations may not respond so quickly to subtle changes in water quality, other components of the biota, such as algae, will respond in a matter of days or weeks. In the final analysis, no number of years will permit a full assessment of effects in the river; two years represents a practical compromise.

A number of reviewers stressed the need for additional fish survey work in the lower Clark Fork River. The Water Quality Bureau recognizes the need for accurate fish population estimates in the lower river. However, because of the variety of other factors that influence game fish populations -- cover, substrate, depth, spawning and rearing habitat, predation, competition, disease, fishing pressure, stocking, migration, and food supply to name several -- the Bureau does not consider game fish population estimates to be infallible indicators of water quality. If populations are high, one can be reasonably certain that water quality is not a problem. If fish populations are not up to expectations, there are a number of possible causes besides water quality.

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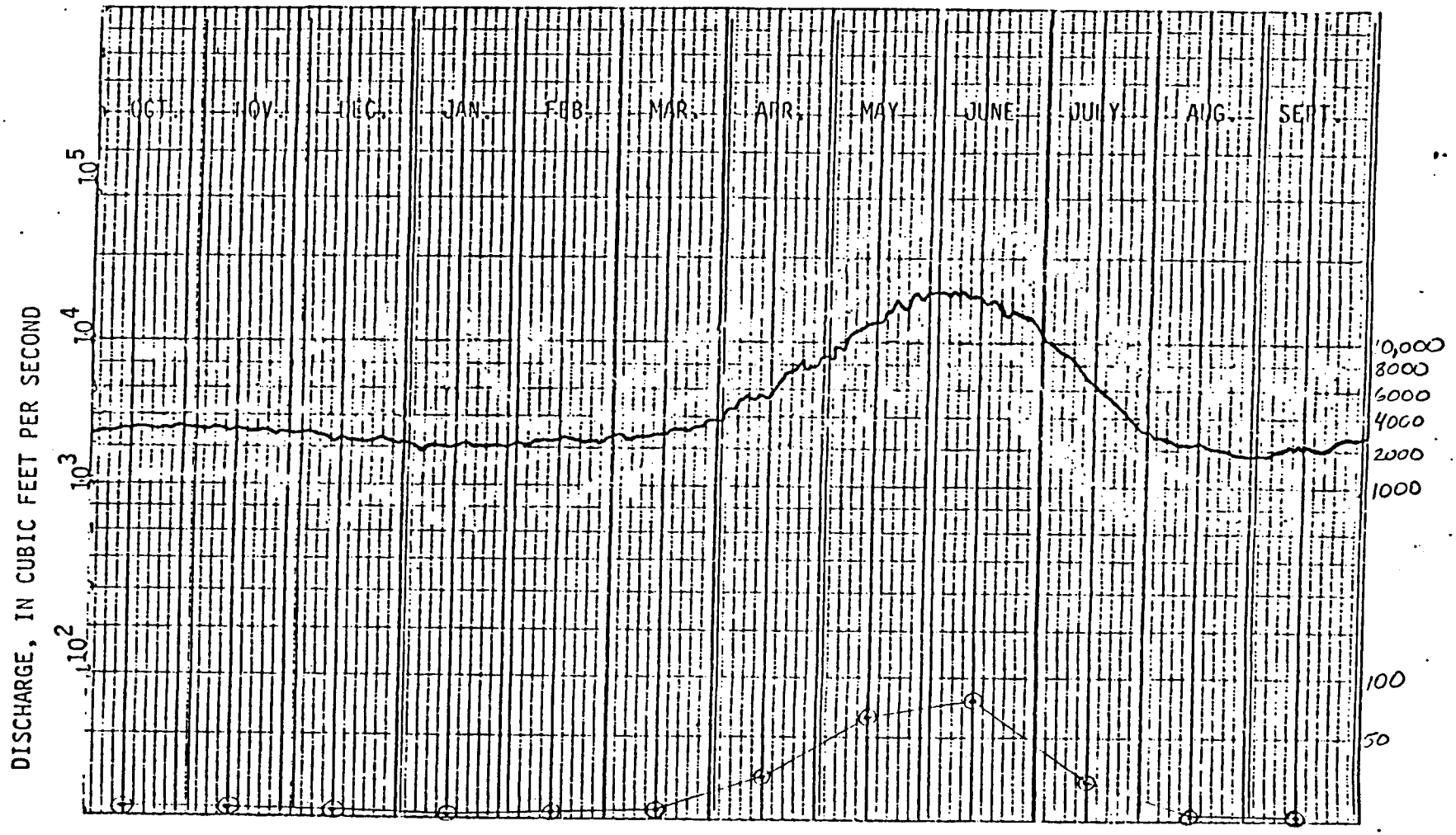
Lower line = average wastewater discharge flow

CLARK FORK BELOW MISSOULA, MT.

12353000



DURATION HYDROGRAPH PLOT - (50 PERCENT EXCEEDANCE) 49YR. PERIOD BEGINNING W.Y. 1930

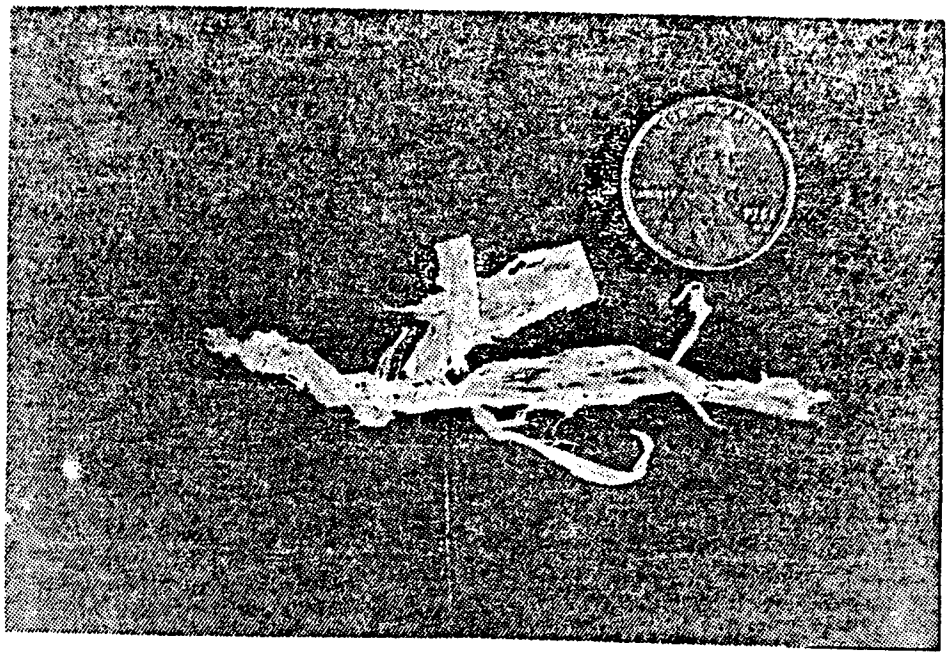


Figure 2. Material found by a fisherman on some rocks in the Clark Fork River east of Paradise on November 23, 1983.

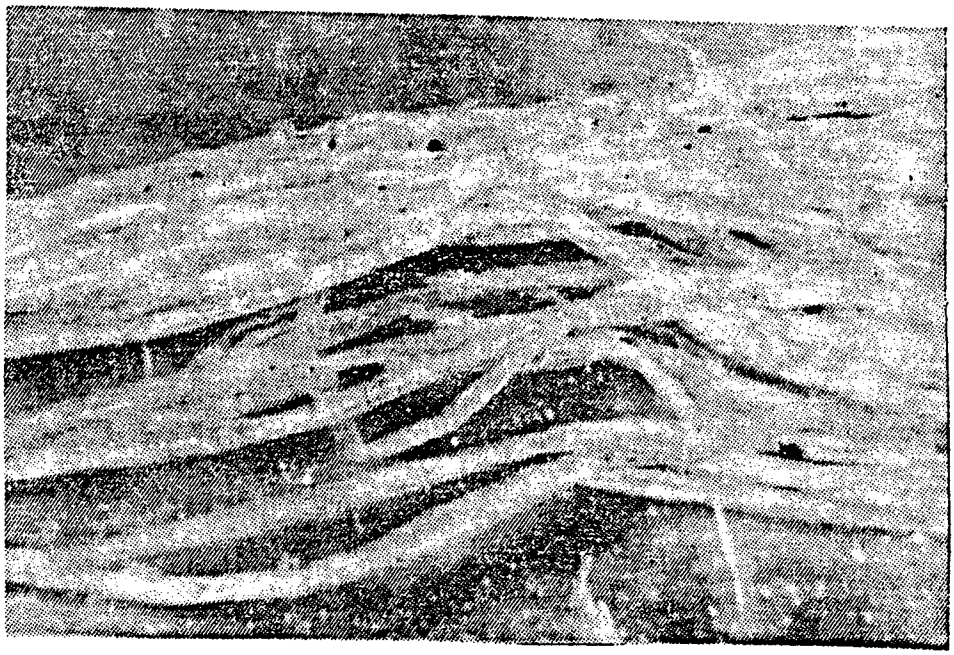


Figure 3. A portion of the material pictured in Figure 2 magnified 32 times, showing individual filaments of the common green alga Cladophora.

Figure 4. Nitrogen (N) application and loading rates at Champion International since 1975.

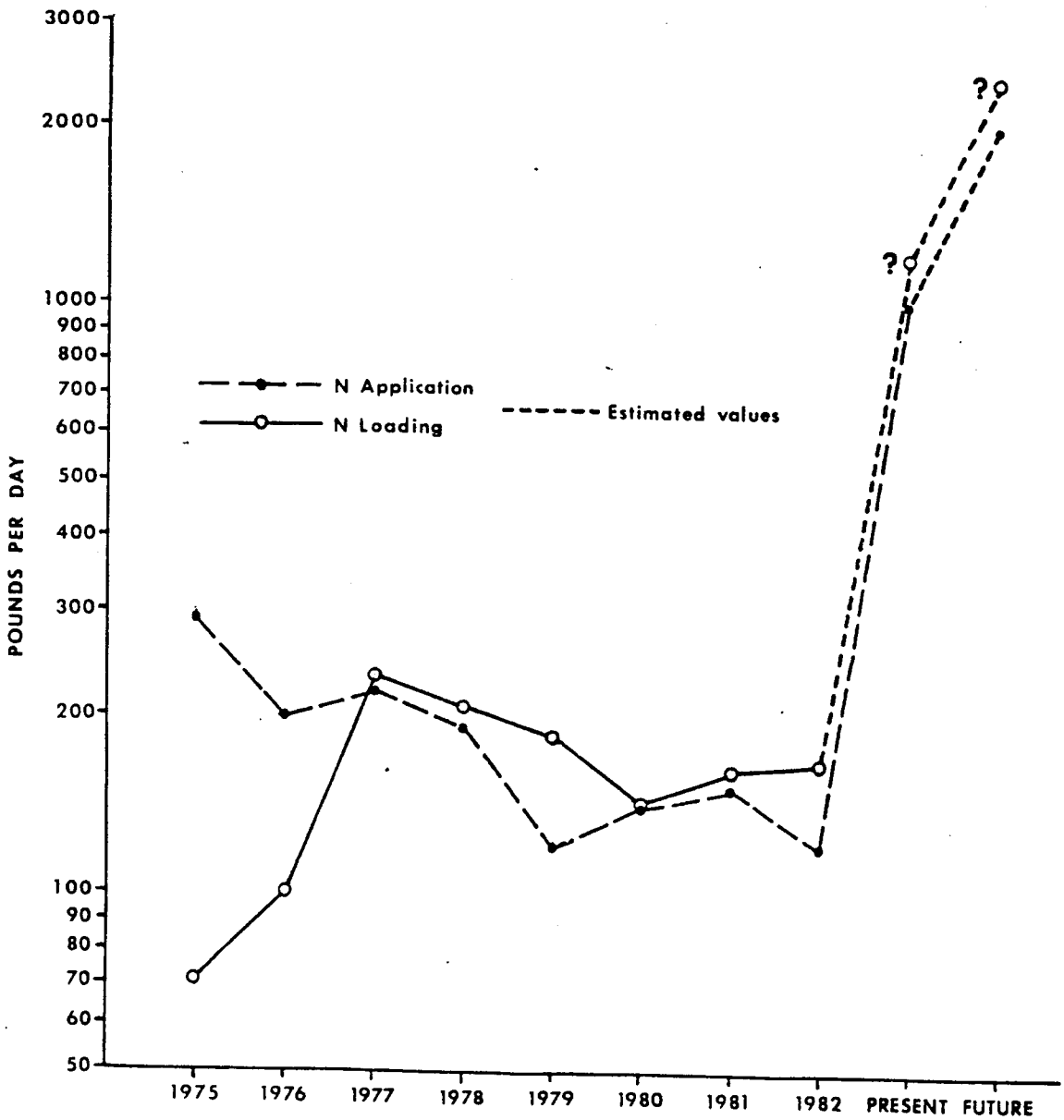
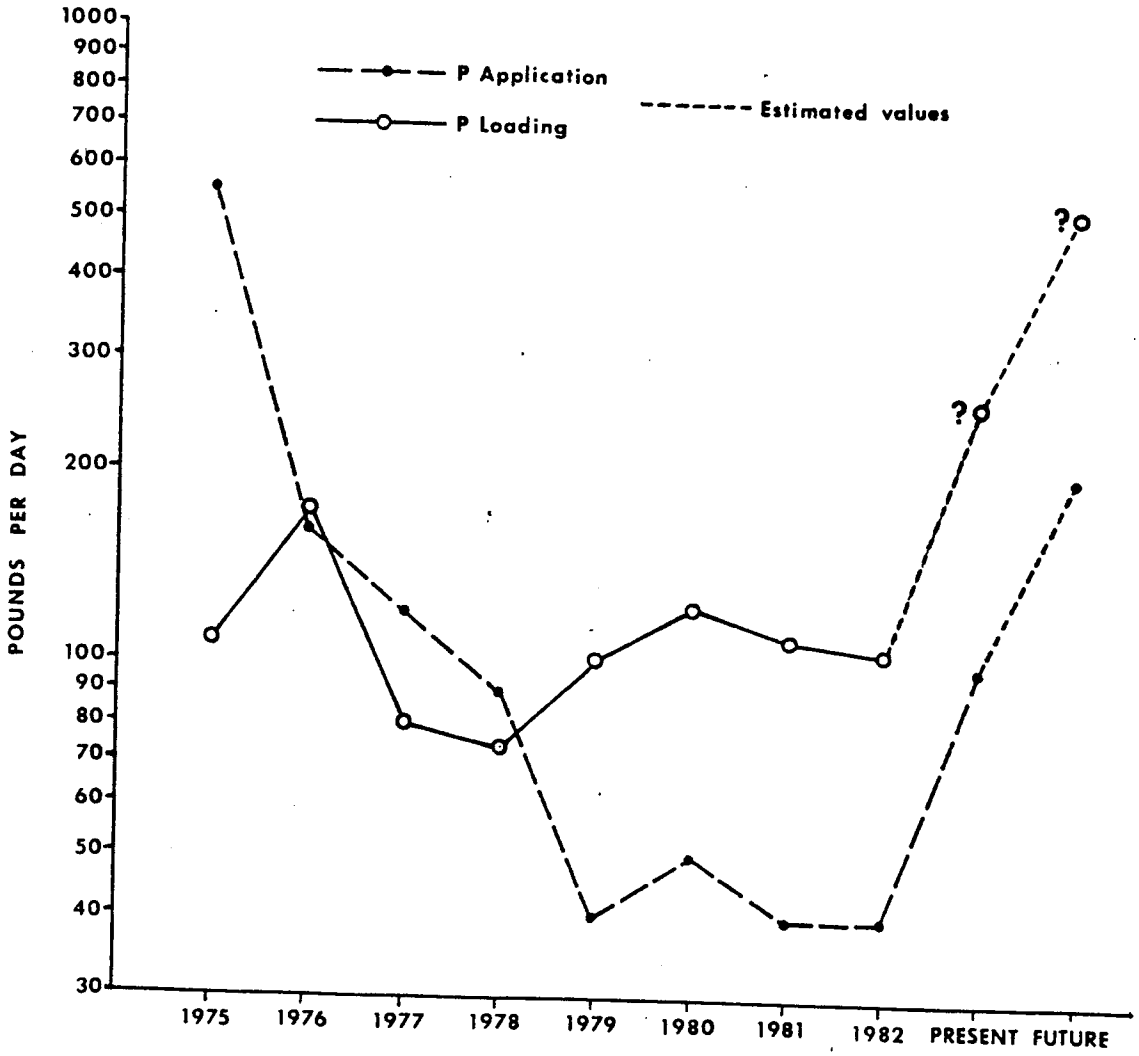


Figure 5. Phosphorus (P) application and loading rates at Champion International since 1975.



DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
Cogswell Building, Helena, Montana 59601
(406)449-2406

PRELIMINARY ENVIRONMENTAL REVIEW

Division/Bureau Department of Health and Environmental Sciences/Water Quality Bureau

Project or Application Champion International Frenchtown Mill- MPDES Permit MT-0000035

Description of Project

Request to modify permit to allow surface discharge to Clark Fork River at times other than during spring runoff, but still including spring runoff

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

	Major	Moderate	Minor	None	Unknown	Comments on Attached Pages
1. Terrestrial & aquatic life and habitats			X			
2. Water quality, quantity and distribution			X			
3. Geology & soil quality, stability and moisture				X		
4. Vegetation cover, quantity and quality				X		
5. Aesthetics			X			
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical and archaeological sites				X		

POTENTIAL IMPACTS ON HUMAN ENVIRONMENT

	Major	Moderate	Minor	None	Unknown	Comments on Attached Pages
1. Social structures and mores				X		
2. Cultural uniqueness and diversity				X		
3. Local and state tax base & tax revenue			X			
4. Agricultural or industrial production			X			
5. Human health				X		
6. Quantity and distribution of community and personal income			X			
7. Access to and quality of recreational and wilderness activities				X		
8. Quantity and distribution of employment			X			
9. Distribution and density of population and housing			X			
10. Demands for government services			X			
11. Industrial & commercial activity			X			
12. Demands for energy			X			
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flows				X		

Other groups or agencies contacted or which may have overlapping jurisdiction DFWP ALSO SEE REFERENCE LIST

Individuals or groups contributing to this PER. Fred Shewman, WQB - Loren Bahls, WQB - Abe Horpestad, WQB -- ALSO SEE REFERENCE LIST

Recommendation concerning preparation of EIS None necessary - see attached comments

PER Prepared by: Fred Shewman, WQB - Loren Bahls, WQB -Abe Horpestad, WQB

Date: 9/83 (Revised 1/84)

DHES/ESD-2

MEMORANDUM OF AGREEMENT

THIS AGREEMENT, made and entered into this 14th day of April, 1984, by and between CHAMPION INTERNATIONAL CORPORATION, a New York corporation, hereinafter referred to as CHAMPION, and the WEST SLOPE CHAPTER OF TROUT UNLIMITED, THE NATIONAL, MONTANA AND IDAHO WILDLIFE FEDERATIONS, THE MONTANA ENVIRONMENTAL INFORMATION CENTER, and THE GREEN MONARCH COALITION, hereinafter collectively referred to as CONSERVATION GROUPS.

W I T N E S S E T H :

WHEREAS, on the 22nd day of July, 1983, CHAMPION filed an application with the Montana Department of Health and Environmental Sciences, Water Quality Bureau, requesting a modification of its Montana Pollution Discharge Elimination System, discharge permit number MT-0000035 to permit the year round discharge of treated effluent and also to permit an increase in the amount of total suspended solids to be discharged into the Clark Fork River; and,

WHEREAS, the Water Quality Bureau initiated a review of the application pursuant to the Montana Water Quality Act and the Montana Environmental Policy Act; and,

WHEREAS, the Water Quality Bureau publicly announced its intention to issue the permit modification and to hold a public hearing on the proposed action on the 10th day of November, 1983; and,

WHEREAS, at that public hearing held on the 10th day of November, 1983, concerned citizens from Montana and Idaho expressed their deep concern for the Clark Fork River and their

Exhibit 25

opposition to the issuance of any permit modification without the preparation and dissemination of an Environmental Impact Statement prepared pursuant to the Montana Environmental Policy Act; and,

WHEREAS, the Montana Water Quality Bureau has completed a preliminary environmental review and believes that neither the existing discharge nor the proposed year round discharge from CHAMPION's Frenchtown mill will cause any significant environmental harm to the Clark Fork River; and

WHEREAS, the CONSERVATION GROUPS which are signatories to this Agreement have analyzed the validity of the concerns expressed at the public hearing and sought to insure that those concerns are incorporated into the final decision on the permit modification by the Water Quality Bureau; and,

WHEREAS, the parties to this Agreement seek to insure both the protection of the water quality and the biota of the Clark Fork River and also seek full compliance with the Montana Water Quality Act and the Montana Environmental Policy Act; and,

WHEREAS, more information is needed on both the current status of the Clark Fork River and on the potential impact of CHAMPION's discharge modifications on the river;

WHEREFORE, based upon the covenants and conditions contained herein which the parties stipulate to be adequate, it is agreed between the parties as follows:

1. A new MPDES permit may be issued for a two-year period (hereinafter referred to as the new MPDES permit), during which time the parties hereto agree to cooperate in and provide comments on the design and implementation of studies of the Clark Fork River from Missoula, Montana to near the junction of the

Clark Fork River with Lake Pend Oreille. The parties agree that the studies shall be initiated in the following principal areas:

(a) A water quality study will be carried out by the Montana Water Quality Bureau and a fishery study by the Montana Department of Fish, Wildlife and Parks. These studies will be jointly funded by the Water Quality Bureau, CHAMPION, and the CONSERVATION GROUPS. It is anticipated that these studies will be conducted during the two-year period of the new MPDES permit;

(b) CHAMPION will retain at its sole expense an independent environmental consultant to study and report on alternative and/or additional methods of treatment to improve the quality of the discharge by its Frenchtown, Montana mill; and

(c) A study of the Clark Fork River between Cabinet Gorge Dam and the confluence of the Clark Fork River with Lake Pend Oreille. This study will be funded and carried out by the State of Idaho.

2. The studies contemplated by this Agreement will be funded as follows:

(a) The water quality study will be funded by the State of Montana in the amount of $249,407;

(b) The studies, including a fisheries study, will be financially assisted by CHAMPION in the total amount of $100,000 ($50,000 per year); THE WEST SLOPE CHAPTER OF TROUT UNLIMITED in the amount of $500 ($250 per year), THE MONTANA WILDLIFE FEDERATION in the amount of $500 ($250 per year), THE GREEN MONARCH COALITION in the amount of $750 ($375 per year), and THE MONTANA ENVIRONMENTAL INFORMATION CENTER will contribute in-kind services. The contributions of CHAMPION shall be made

to the MONTANA WATER QUALITY BUREAU and the contributions of the CONSERVATION GROUPS shall be made to the Technical Advisory Committee for the purpose of defraying administrative expenses of the Committee. Initial contributions shall be made within thirty (30) days of execution of this Agreement, and the second installment shall be made one (1) year after the date of the first installment. Any unused contributions shall be refunded to the contributor on a pro-rata basis;

(c) The study of alternative methods will be funded by CHAMPION in an amount not to exceed $100,000;

(d) Additional monitoring required by the new MPDES permit will be funded by CHAMPION in an amount not to exceed $70,000 per year; and

(e) The study of the Clark Fork River in Idaho will be funded by Idaho in the amount of $100,000 ($25,000 in 1984, and $75,000 in 1985).

3. The parties agree to establish a technical advisory committee of twelve (12) members which shall consist of representatives from the organizations listed in Appendix I. In addition, the committee shall be chaired by an individual who is not a representative of any of the groups listed in Appendix I. The parties to this Agreement agree and covenant that they will act in good faith in appointing members to the committee who will work in a cooperative spirit with all other committee members and with the preparers of the studies toward achieving thorough and scientifically sound studies. The duties and responsibilities of the committee shall include, but not be limited to, the following:

(a) The Chairman of the committee will be Dr. Richard A. Solberg of the University of Montana. The Chairman

shall direct the deliberations of the committee, but shall not vote, except in cases of ties.

(b) The committee shall meet at least four times a year. The chair shall call the committee to order and shall provide adequate notice to all members of the committee;

(c) The committee will review and monitor the studies for the Clark Fork River as they are developed and implemented. CHAMPION's consultant shall provide the committee with a work plan and progress reports of the analysis of alternatives and shall afford the committee reasonable opportunity for review and comment. CHAMPION's consultant shall make a good faith effort to respond positively to the suggestions and recommendations of the committee;

(d) The committee will review and comment on the scope of the studies as designed by the Water Quality Bureau, the Department of Fish, Wildlife and Parks and CHAMPION's consultant. The committee may make recommendations on the data collection and analysis to be performed in the studies;

(e) The committee will make periodic reports to the public on the progress and results of the studies; and

(f) At the conclusion of the two-year study period the committee may offer recommendations to the Water Quality Bureau on any MPDES permit application submitted by CHAMPION.

4. This Agreement is contingent upon no legal or administrative action being brought against the issuance of the new MPDES permit or discharges in accordance with that permit by any of the CONSERVATION GROUPS. This Agreement is also contingent upon there being no legal or administrative action brought against the issuance of the new MPDES permit or discharges in

accordance with the permit by any other individual or organization which results in the issuance of an order of a court or agency amending, suspending or prohibiting the new MPDES permit or discharges in accordance with that permit. This provision does not apply to any legal or administrative action filed by agencies of the State of Montana or of the United States government.

5. CHAMPION hereby agrees to waive any defense of statute of limitation, waiver, laches or estoppel based upon the passage of time during the two year period of the new MPDES permit in the event that any of the CONSERVATION GROUPS initiate litigation pursuant to the Montana Water Quality Act or the Montana Environmental Policy Act concerning the issuance or renewal of an MPDES permit after the expiration of the new MPDES permit.

6. The parties understand that the Montana Water Quality Bureau will prepare an environmental impact statement prior to the reissuance of another MPDES permit to CHAMPION in accordance with the expressed intent of the Bureau as set forth in the letter which is attached hereto as Exhibit "A".

7. All parties declare that they have entered into this Agreement voluntarily, in the spirit of cooperation and in good faith. This Agreement is contingent upon all parties executing their responsibilities under it in good faith.

IN WITNESS WHEREOF, the parties have executed this

Agreement by and through their duly authorized representatives the day and year first above written.

CHAMPION INTERNATIONAL CORPORATION

By _____
Its V.P. & Operations Mgr.

THE WEST SLOPE CHAPTER OF TROUT UNLIMITED

By _____
Its Pres

THE NATIONAL, MONTANA AND IDAHO WILDLIFE FEDERATIONS

By _____
Their Counsel

THE MONTANA ENVIRONMENTAL INFORMATION CENTER

By _____
Its Executive Director

THE GREEN MONARCH COALITION

By _____
Its Secretary-Treasurer

EXHIBIT "A"

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

HELENA, MONTANA 59620

March 22, 1984

RECEIVED
MAR 26 1984
DANIEL T. POTTS

Ed Clem, Dir. of Env. Affairs
Champion International Corp.
1 Champion Plaza
Stamford, Conn. 06921

Re: MPDES Permit No. MT-0000035
Frenchtown, Mont.

Dear Mr. Clem:

The purpose of this letter is to clarify the position of the Department of Health and Environmental Science with respect to issues surrounding the above referenced permit. As you are already aware, we have initiated an extensive water quality monitoring program for that portion of the Clark Fork River from Turah to the Idaho border. This program calls for collection of water quality data over a two year period. Hopefully this effort will be expanded to include a reasonable fisheries study and the collection of water quality data downstream to Lake Pend Orielle. We are likewise aware of Champion's commitment to contract for engineering services to evaluate various treatment and disposal alternatives for the Frenchtown mill. Based on the anticipated availability of this additional information and the high degree of public interest on the permit, we have determined that it would be appropriate for DHES to develop an Environmental Impact Statement prior to the expiration of Champion's wastewater discharge permit.

It is our understanding that discussions currently underway with your firm and representatives of area environmental groups may lead to the creation of a Technical Advisory Committee. The purpose of the Committee would be to review and make recommendations on the water quality study, fisheries study, the engineering evaluation of treatment alternatives, and to comment on study findings. We feel such a group would improve communication on this important matter and would provide participation by a broad spectrum of interests. We would agree to have a representative on that advisory group. We further agree, as the agency responsible for coordinating the water quality study and responsible for permitting decisions, to cooperate with that group and give consideration to any comments and recommendations that they might develop.

If you have any questions regarding the above matters please feel free to contact me or the Water Quality Bureau at 444-2406.

Sincerely,

John J. Drynan, M.D.
Director, Department of Health and
Environmental Sciences

JJD:ew

cc: Dan Potts, Champion International Corp, Missoula, Montana
Karl Englund, Sherwood & Englund, Missoula, Montana
Steve Herndon, McAdam, Herndon & Harrison, Sandpoint, Idaho

APPENDIX I

Technical Advisory Council Members

One representative from each of the following groups or organizations:

1. Water Quality Bureau - State of Montana
2. Department of Fish, Wildlife & Parks - State of Montana
3. Champion International Corporation
4. National Council for Air & Stream Improvement
5. Missoula City County Health Department
6. Missoula/Mineral/Sanders County Commissioner's Association
7. Trout Unlimited
8. Montana Environmental Information Center
9. Idaho Wildlife Federation
10. Water Quality Bureau - State of Idaho
11. Green Monarch Coalition
12. Confederated Salish and Kootenai Tribes

Frenchtown Mill
Drawer D
Missoula, Montana 5
406 626-4451

Daniel T. Potts
Vice President - Operations Manager

File - Frenchtown Air + Water

RECEIVED
NOV 20 1984
LEGAL AFFAIRS

RECEIVED
NOV 16 1984
ED CLEM
ENV. AFF AIRS

cc Ben Ralph FNI EJ

Champion
Champion International Corporation

Mr. Abraham Horpestad
Water Quality Bureau
Cogswell Building
Capitol Station
Helena, MT 59620

November 14, 1984

In the matter of the amendment of rules 16.20.701, 16.20.702, 16.20.703, 16.20.704, 16.20.705, relating to non-degradation of water quality.

Dear Mr. Horpestad:

Champion International Corporation ("Champion") owns and operates a major pulp and linerboard mill at Frenchtown, Montana which is subject to the rules and regulations of the Department of Health and Environmental Sciences. Champion appreciates the opportunity to submit comments on the proposed amendment to Rule 16.20.701 - Definitions, and requests that its comments be included in the record of this proceeding.

Proposed Rule 16.20.710 (1) (iii) provides that degradation occurs when, as the result of the activities of man, "the concentration, in groundwater, outside of applicable mixing zones, of a pollutant for which maximum contaminant levels are established in subsection (4) of ARM 16.20.1003 has become worse; ..." Champion believes that this is an unnecessarily stringent definition of degradation. On its face, the rule would prohibit any increase in pollutant concentration, no matter how small and regardless of the fact that the level is still below the maximum concentration level established for that pollutant. For example, an increase in concentration of a pollutant from 1 part per billion (ppb) to 2 ppb would be prohibited even if the applicable maximum concentration level is 10 ppb.

Maximum concentration levels are established by the U.S. EPA to protect drinking water supplies, the highest use of water. In the case given, the concentration would still be far below the maximum concentration level, and the water would still be usable as drinking water. Yet, the proposed regulation would define the increase as "degradation."

Since the water would maintain its best use classification there is no reason to subject the increase to the degradation prohibition. Champion respectfully suggests that the definition of degradation not include increases in pollutant concentrations up to the maximum concentration level for drinking water. This would permit increases which do not interfere with the use classification, but prohibit increases that truly do degrade the quality of Montana's waters.

Sincerely,

Daniel T. Potts
Vice President -
Operations Manager

DTP:plg

bcc: Clem, Weeks

Exhibit 26

Drawer D
Missoula, Montana 59
406 626-4451

Vice President - Operations Manager

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NOV 20 1984
LEGAL AFFAIRS

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NOV 16 1984
ED CLEM
ENV. AFFAIRS

Champion
Champion International Corporation

Mr. Abraham Horpestad
Water Quality Bureay
Cogswell Building
Capitol Station
Helena, MT 59620

November 14, 1984

In the matter of the amendment of rules 16.20.605, 16.20.607, 16.20.617, 16.20.618, 16.20.619, 16.20.620, 16.20.621, 16.20.622, 16.20.624, 16.20.631, 16.20.633 relating to water quality standards and classifications.

Dear Mr. Horpestad:

Thank you for this opportunity to comment on the proposed amendments to the water quality standards and classifications of Montana. Champion International Corporation ("Champion") operates a major pulp and linerboard mill at Frenchtown, Montana which is subject to the Montana water quality standards and classifications. Champion would like to comment on the proposed changes to section 16.20.633, Prohibitions, and would like these comments to be placed in the record of this proceeding.

Proposed Rule 16.20.633 (4) provides that "leaching pads, tailing ponds or holding facilities used to process, treat or hold industrial process fluids or industrial wastes must be located, constructed, operated and maintained in such a manner and of such materials so as to prevent discharge, seepage, infiltration, or flow which may result in the pollution of surface waters." Proposed Rule 16.20.633 (4) (b) states that existing leaching pads, tailing ponds or holding facilities must be operated and maintained so as to prevent such discharge, seepage, etc.

Several land disposal technologies, such as rapid infiltration, overland flow and spray irrigation, are recognized as acceptable waste water treatment technologies for some industries and municipalities. Prohibiting seepage and infiltration into the ground would eliminate the use of these technologies. Proposed rules 16.20.633 (4) and 4 (b) would effectively invalidate MPDES permits which provide for the use of such technologies.

The proposed amendments extend the prohibition of seepage and infiltration from holding facilities to all industrial waste water rather then to just mining operations. Champion utilizes waste water storage ponds and a rapid infiltration system designed to allow effluent to seep through the soil and into the Clark Fork River as an essential part of a treatment system. The ponds and infiltration system are carefully monitored and reported as a requirement of the MPDES permit. As our waste water passes through the soils, reduction in total suspended solids, biochemical oxygen demand and color occur. This process, as part of the treatment system, helps ensure that water quality standards are maintained.

Exhibit 27

Champion agrees with the Board that uncontrolled and unpermitted seepage and infiltration from industrial holding ponds need to be addressed. Champion also agrees with the Department of Health and Environmental Sciences, which has permitted land application to be applied in an environmentally sound manner. We are concerned that the broad sweep of the proposed Rules would prohibit the use of beneficial techniques that are a part of a controlled, pollution reducing waste water treatment system.

Champion believes that the Board's concern about seepage of pollutants into groundwater from industrial holding ponds can be reconciled with the use of rapid infiltration and other land application techniques for waste water treatment through regulation which would prohibit seepage and infiltration systems not specifically engineered, designed, monitored, and operated in accordance with a MPDES permit. We believe that this change would preserve environmentally sound methods of waste water treatment while protecting the surface waters of Montana from inadvertent releases.

Sincerely,

Daniel T. Potts
Vice President -
Operations Manager

DTP:plg

bcc: Clem, Weeks

BACKGROUND INFORMATION ON APPLICATION
FOR YEAR-ROUND DISCHARGE

The Champion pulp and paper mill at Frenchtown produces an average of 16 million gallons per day of waste water which is processed in a complex waste water treatment system. The treatment system includes a clarifier, an aeration basin, rapid infiltration, storage ponds, and direct discharge to the Clark Fork River during the spring runoff.

The mill has always incorporated effluent reduction and spill collection projects to reduce the load on the treatment system. Some of the large projects that have been implemented to reduce water usage during the past five years have been installing screening of paper machine white water for use as paper machine shower water, installing indirect coolers on the evaporators, and recycling filtrate water in the bleach plant. Also, the mill expansion included projects that allowed a reduction of water usage. Two of these projects were the use of multiple vapor recompression evaporators and a central vacuum system on the new paper machine.

The mill has an extensive spill collection system that is continually being expanded. The operation of this system is monitored closely to ensure that spills are being collected. The waste water effluent from the mill is also closely monitored so that spills that are not collected can be identified and prevented from recurring.

Because of the very strict river color standard and because of the limited storage pond volume, rapid infiltration is very important. The rapid infiltration system disposes of a significant volume of waste water that would otherwise have to be stored and then discharged to the river during the spring runoff. Rapid infiltration is also critical for waste water color reduction which enables the mill to comply with the river color standard.

The amount of waste water processed by the rapid infiltration system has been steadily decreasing due to basin pluggage. We have tried for several years to identify the cause of the pluggage and have tried several methods to reduce or eliminate it. The methods that have been used to reduce the pluggage have included the annual ripping and drying, turning over a test portion of a basin, applying gypsum, flushing a basin with uncontaminated cooling water, blasting with dynamite, and year long drying. However, none of these methods have proven successful at solving the problem.

Exhibit 28

Various chemical treatments have also been tried on soil samples to determine if this type of treatment would help the pluggage. Chemical treatment would be very expensive because of the large volumes involved and there is no assurances of success.

From the results of all these trials and tests, we are not confident that a means of rejuvenating the rapid infiltration system will be found. And with the continued decrease in the amount of waste water processed by rapid infiltration, a larger volume will have to be stored in the ponds. The problem is severe enough that we will be faced with having the ponds full at the beginning of 1984.

Because of the magnitude of this problem, Champion has approached the State regarding possible solutions. From these discussions, increasing the river color standard was rejected because it would take an act of the legislature to make the change, and furthermore, a change in the standard would not completely solve our storage problem.

Year-round discharge to the river was also discussed as an alternative. Champion has evaluated a year-round discharge with a consultant. This evaluation has shown that the year-round discharge will help, but it also still leaves some problems. We would have trouble complying with the color and biochemical oxygen demand (BOD) limitations and our pond storage capacity would still be a problem. Therefore, even with year-round discharge, we would still have to reduce the waste water volume, color and BOD to be able to meet the standards at low river flow periods.

Because year-round discharge would help our situation, Champion is making an application to the State for year-round discharge and an increase in the total suspended solids (TSS) limitation. The requested increase in TSS would be based upon best practical and best available technology for Kraft pulp mills.

The impact of year-round discharge on the Clark Fork River will be minimal. The increase in TSS will have little or no effect. Studies have shown that the TSS is naturally consumed in the river environment. The low levels of BOD in our treated waste water is not expected to have a significant effect upon the dissolved oxygen (D.O.) in the river. However, should the D.O. drop below the minimum standard of 7.0 ppm, Champion will discontinue its direct discharge. The toxicity of the proposed discharge will not have an effect, since the color standard will impose a much larger restriction on the amount of discharge than toxicity would. Testing the river concentrations of nitrogen and phosphorus nutrients over a six-year period has shown that our direct discharge will not increase the nutrient concentrations.

Tests have also shown that the taste of fish will not be affected by our discharge, except possibly in the close proximity of the discharge. We have always taken steps to design the points of discharge so that foam will not be generated. This care will continue to be taken. A year-round discharge will not create any perceptible change in the river color. Studies have been conducted on streams with similar natural background color as the Clark Fork River and they have shown that observers could perceive an increase of 20 color units only 50% of the time. Therefore, a 5 color unit unit increase (the State standard) would be even less detectable. A new diffuser will be installed to improve the mixing of our waste water at the point of discharge.

17
7067
494

Merger

of

Champion International Corporation

with

a subsidiary of

International Paper Company

June 20, 2000

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BY AND AMONG

INTERNATIONAL PAPER COMPANY,

CONDOR ACQUISITION CORPORATION

AND

CHAMPION INTERNATIONAL CORPORATION

Dated as of May 12, 2000

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AGREEMENT AND PLAN OF MERGER

AGREEMENT AND PLAN OF MERGER, dated as of May 12, 2000 (this "**Agreement**"), by and among INTERNATIONAL PAPER COMPANY, a New York corporation ("**Parent**"), CONDOR ACQUISITION CORPORATION, a New York corporation and a direct wholly-owned subsidiary of Parent ("**Merger Sub**"), and CHAMPION INTERNATIONAL CORPORATION, a New York corporation (the "**Company**").

WHEREAS, the Boards of Directors of Parent and the Company each have determined that it is advisable and in the best interests of each corporation and their respective shareholders to effect a business combination between Parent and the Company, and accordingly have agreed to effect the merger of Merger Sub with and into the Company, with the Company as the surviving corporation, upon the terms and subject to the conditions set forth herein (the "**Merger**"); and

WHEREAS, by resolutions duly adopted, the respective Boards of Directors of the Company, Parent and Merger Sub have approved and adopted this Agreement and the transactions contemplated hereby;

NOW THEREFORE, in consideration of the premises and of the mutual covenants, representations, warranties and agreements herein contained, the parties hereto agree as follows:

ARTICLE 1
DEFINITIONS

SECTION 1.01. *Definitions*. When used in this Agreement, the following terms shall have the respective meanings specified therefor below (such meanings to be equally applicable to both the singular and plural forms of the terms defined).

"**Acquisition Agreement**" shall have the meaning set forth in Section 7.07(b).

"**Affiliate**" of any Person shall mean any Person directly or indirectly controlling, controlled by, or under common control with, such Person; *provided* that, for the purposes of this definition, "control" (including with correlative meanings, the terms "controlled by" and "under common control with"), as used with respect to any Person, shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such

Person, whether through the ownership of voting securities or partnership interests, by contract or otherwise.

"**Agreement**" shall have the meaning set forth in the preamble hereto.

"**Antitrust Authorities**" shall have the meaning set forth in Section 7.09(d).

"**Antitrust Law**" shall have the meaning set forth in Section 7.09(d).

"**Average Price**" shall have the meaning set forth in Section 2.01(a).

"**BCL**" shall have the meaning set forth in Section 2.02(a).

"**Business Day**" means a day other than a Saturday, a Sunday or a day on which banks in New York, New York are permitted or required to close.

"**Certificate of Merger**" shall have the meaning set forth in Section 3.01(a).

"**Certificate**" shall have the meaning set forth in Section 4.01(c).

"**Claims**" shall have the meaning set forth in Section 5.16.

"**Closing**" shall have the meaning set forth in Section 3.05.

"**Closing Date**" shall have the meaning set forth in Section 3.05.

"**Code**" shall have the meaning set forth in Section 5.11(a).

"**Company**" shall have the meaning set forth in the preamble hereto.

"**Company Common Stock**" shall mean the Company's common stock, par value $0.50 per share, including the associated rights (the "**Rights**") to purchase the Series C Participating Cumulative Preference Stock of the Company issued pursuant to the Rights Agreement between the Company and the rights agent thereunder.

"**Company Disclosure Letter**" shall have the meaning set forth in Article 5.

"**Company Employee Benefit Plans**" shall have the meaning set forth in Section 5.11(a).

"**Company Intellectual Property**" shall have the meaning set forth in Section 5.14(a).

"**Company Material Adverse Effect**" shall mean any event, change, occurrence, effect, fact or circumstance that is materially adverse to (i) the ability of the Company to perform its obligations under this Agreement or to consummate the transactions contemplated hereby or (ii) the business, assets, liabilities, results of operations or financial condition of the Company and its Subsidiaries, taken as a whole, but shall exclude any material adverse effect arising out of (i) any change in (x) U.S. or global economic or industry conditions, (y) changes in U.S. or global financial markets or conditions or (z) any generally applicable change in law, rule or regulation or GAAP or interpretation of any of the foregoing and/or (ii) the announcement of this Agreement or the transactions contemplated hereby or the termination of the Agreement and Plan of Merger, dated as of February 17, 2000, by and among the Company, UPM-Kymmene Corporation and Blue Acquisition, Inc.

"**Company Multiemployer Plans**" shall have the meaning set forth in Section 5.11(b).

"**Company Options**" shall mean the options to purchase shares of the Company Common Stock, whether issued pursuant to a Company Employee Benefit Plan or otherwise.

"**Company Preferred Stock**" shall have the meaning set forth in Section 5.03(a).

"**Company Property**" shall have the meaning set forth in Section 5.16.

"**Company Recommendation**" shall have the meaning set forth in Section 7.05(a).

"**Company SEC Reports**" shall have the meaning set forth in Section 5.05(a).

"**Company Securities**" shall mean shares of the Company Common Stock and the Company Options.

"**Company Shareholder Approval**" shall mean the approval of not less than two-thirds of the vote of all outstanding shares of Company Common Stock of this Agreement and the Merger at the Company Shareholder Meeting.

"**Company Shareholder Meeting**" shall have the meaning set forth in Section 7.05(a).

"**Company Stock Plans**" shall have the meaning set forth in Section 4.04(a).

"**Company Stock Rights**" shall have the meaning set forth in Section 4.04(a).

"**Competition Act**" shall have the meaning set forth in Section 5.04.

"**Continuing Directors**" shall have the meaning set forth in Section 2.03(a).

"**Contracts**" shall have the meaning set forth in Section 5.04.

"**Effective Time**" shall have the meaning set forth in Section 3.01(a).

"**Environmental Claims**" shall have the meaning set forth in Section 5.16.

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"**ERISA**" shall have the meaning set forth in Section 5.11(a).

"**European Antitrust Laws**" shall have the meaning set forth in Section 5.04.

"**Exchange Act**" shall mean the Securities Exchange Act of 1934, as amended.

"**Exchange Agent**" shall have the meaning set forth in Section 4.02.

"**Exchange Fund**" shall have the meaning set forth in Section 4.03(a).

"**Exchange Ratio**" shall have the meaning set forth in Section 2.01(a).

"**Expenses**" shall have the meaning set forth in Section 9.03(b).

"**Funding Amount**" shall have the meaning set forth in Section 5.20.

"**GAAP**" shall mean generally accepted accounting principles of the United States of America, as in effect from time to time.

"**Governmental Authority**" shall have the meaning set forth in Section 5.04.

"**Hazardous Materials**" shall have the meaning set forth in Section 5.16.

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"**Indemnified Parties**" shall have the meaning set forth in Section 7.10(b).

"**Issuance Obligation**" shall have the meaning set forth in Section 5.03(a).

"**Laws**" shall have the meaning set forth in Section 5.04.

"**Liens**" shall have the meaning set forth in Section 6.03(b).

"**Merger**" shall have the meaning set forth in the first recital hereto.

"**Merger Registration Statement**" shall have the meaning set forth in Section 6.06(a).

"**Merger Sub**" shall have the meaning set forth in the preamble hereto.

"**Merger Sub Common Stock**" shall mean Merger Sub's common stock, par value $1.00 per share.

"**Minimum Condition**" shall have the meaning set forth in Section 2.01(a).

"**Named Executive**" shall have the meaning set forth in Section 7.15(j).

"**NYSE**" shall mean the New York Stock Exchange, Inc.

"**Offer**" shall have the meaning set forth in Section 2.01(a).

"**Offer Documents**" shall have the meaning set forth in Section 2.01(b).

"**Offer Registration Statement**" shall have the meaning set forth in Section 2.01(b).

"**Option**" shall have the meaning set forth in Section 4.04(a).

"**Orders**" shall have the meaning set forth in Section 5.04.

"**Orders of Disposition**" shall have the meaning set forth in Section 7.09(b)(iii).

"**Parent**" shall have the meaning set forth in the preamble hereto.

"**Parent Common Stock**" shall mean Parent's common stock, par value $1.00 per share.

"**Parent Disclosure Letter**" shall have the meaning set forth in Article 6.

"**Parent Employee Benefit Plans**" shall have the meaning set forth in Section 6.11(a).

"**Parent Intellectual Property**" shall have the meaning set forth in Section 6.14(a).

"**Parent Material Adverse Effect**" shall mean any event, change, occurrence, effect, fact or circumstance that is materially adverse to (i) the ability of Parent to perform its obligations under this Agreement or to consummate the transactions contemplated hereby or (ii) the business, assets, liabilities, results of operations or financial condition of Parent and its Subsidiaries, taken as a whole, but shall exclude any material adverse effect arising out of (i) any change in (x) U.S. or global economic or industry conditions, (y) changes in U.S. or global financial markets or conditions or (z) any generally applicable change in law, rule or regulation, GAAP or interpretation of any of the foregoing and/or (ii) the announcement of this Agreement or the transactions contemplated hereby.

"**Parent Multiemployer Plan**" shall have the meaning set forth in Section 6.11(b).

"**Parent Preferred Stock**" shall have the meaning set forth in Section 6.03(a).

"**Parent Property**" shall have the meaning set forth in Section 6.16.

"**Parent SEC Reports**" shall have the meaning set forth in Section 6.05(a).

"**Permits**" shall have the meaning set forth in Section 5.10(b).

"**Person**" shall mean and include an individual, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, a limited liability company, a group and a government or other department or agency thereof.

"**Phantom Share**" shall have the meaning set forth in Section 7.15(b).

"**Post-Closing Period**" shall have the meaning set forth in Section 7.15(i).

"**Proxy Statement/Prospectus**" shall mean the proxy statement/prospectus included in the Merger Registration Statement relating to the Company Shareholder Meeting.

"**Release**" shall have the meaning set forth in Section 5.16.

"**Returns**" shall have the meaning set forth in Section 5.13(a).

"**Rule 145 Affiliates**" shall have the meaning set forth in Section 7.14.

"**Rule 145 Affiliate Agreement**" shall have the meaning set forth in Section 7.14.

"**Schedule 14D-9**" shall have the meaning set forth in Section 2.02(b).

"**Schedule TO**" shall have the meaning set forth in Section 2.01(b).

"**SEC**" shall mean the U.S. Securities and Exchange Commission.

"**Securities Act**" shall mean the Securities Act of 1933, as amended.

"**Significant Subsidiary**" with respect to a Person shall mean any Subsidiary that constitutes a "significant subsidiary" of such Person within the meaning of Rule 1-02 of Regulation S-X of the Exchange Act.

"**Subsidiary**" with respect to a Person shall mean (x) any partnership of which such Person or any of its Subsidiaries is a general partner or (y) any other entity in which such Person or any of its Subsidiaries owns or has the power to vote more than 50% of the equity interests in such entity having general voting power to participate in the election of the governing body of such entity.

"**Superior Proposal**" shall have the meaning set forth in Section 7.07(a).

"**Surviving Corporation**" shall have the meaning set forth in Section 3.01(b).

"**Takeover Proposal**" shall have the meaning set forth in Section 7.07(a).

"**Taxes**" shall have the meaning set forth in Section 5.13(a).

"**Termination Date**" shall have the meaning set forth in Section 9.01(d)(i).

"**Termination Fee**" shall have the meaning set forth in Section 9.03(a).

"**Third Party Acquisition Event**" shall have the meaning set forth in Section 9.03(b).

"**Trading Day**" shall mean any day on which securities are traded on the NYSE.

"**Transfer Taxes**" shall have the meaning set forth in Section 7.12.

"**Trust Agreement**" shall have the meaning set forth in Section 5.20.

"**Voting Debt**" shall have the meaning set forth in Section 5.03(a).

ARTICLE 2
THE OFFER

SECTION 2.01. *The Offer*. (a) Provided that nothing shall have occurred that, had the Offer referred to below been commenced, would give rise to a right to terminate the Offer pursuant to any of the conditions set forth in Annex I hereto, as promptly as practicable after the date hereof following the public announcement of the terms of this Agreement (but in no event later than five Business Days after the date hereof), Merger Sub shall commence an offer (the "**Offer**") to purchase all of the outstanding shares of Company Common Stock at a price for each share of Company Common Stock of $50, net to the seller in cash, and a number of shares of Parent Common Stock equal to the Exchange Ratio. The Offer shall be subject only to the condition that there shall be validly tendered in accordance with the terms of the Offer, prior to the expiration date of the Offer and not withdrawn, a number of shares of Company Common Stock that, together with the shares of Company Common Stock then owned by Parent and/or Merger Sub, represents at least two-thirds of the shares of Company Common Stock outstanding on a fully-diluted basis (the "**Minimum Condition**") and to the other conditions set forth in Annex I hereto. Merger Sub expressly reserves the right to waive any of the conditions to the Offer and to make any change in the terms of or conditions to the Offer; *provided* that (i) the Minimum Condition may be amended or waived only with the prior written consent of the Company and (ii) no change may be made that changes the form of consideration to be paid, decreases the price per share of Company Common Stock or the number of shares of

Company Common Stock sought in the Offer, imposes conditions to the Offer in addition to those set forth in Annex I, extends the expiration date of the Offer beyond the initial expiration date of the Offer (which shall be the 20th Business Day after the commencement of the Offer) or makes any other change which is adverse to the holders of the shares of Company Common Stock. Notwithstanding the foregoing, without the consent of the Company, Merger Sub shall have the right to extend the Offer (i) for one or more periods (not in excess of 10 Business Days each) but in no event ending later than September 30, 2000 if, at the scheduled or extended expiration date of the Offer, any of the conditions to the Offer shall not have been satisfied or waived, until such conditions are satisfied or waived and (ii) for any period required by any rule, regulation, interpretation or position of the SEC or the staff thereof applicable to the Offer or any period required by applicable law. If any of the conditions to the Offer is not satisfied or waived on any scheduled expiration date of the Offer, at the request of the Company, Parent shall cause Merger Sub to, and Merger Sub shall, extend the Offer, if such condition or conditions could reasonably be expected to be satisfied, from time to time until such conditions are satisfied or waived; *provided* that Merger Sub shall not be required to extend the Offer beyond September 30, 2000. Subject to the foregoing and upon the terms and subject to the conditions of the Offer, Merger Sub shall, and Parent shall cause it to, accept for payment and pay for, as promptly as practicable after the expiration of the Offer, all shares of Company Common Stock validly tendered and not withdrawn pursuant to the Offer. If Merger Sub does not accept for payment the shares of Company Common Stock in the Offer on the initial expiration date of the Offer by virtue of the failure of any of the regulatory conditions to the Offer specified in clause (i)(B) of the preamble to Annex I or clauses (c) or (d) of Annex I to be satisfied, Parent and Merger Sub hereby agree to pay to the holders of shares of Company Common Stock cash interest at a rate of 8.00% per annum (calculated on the basis of a 365 day calendar year) on the $75 per share offer consideration from and after the initial expiration date of the Offer until the acceptance for payment of shares of Company Common Stock validly tendered and not withdrawn in the Offer. "**Exchange Ratio**" (as the same may be adjusted pursuant to Section 4.01(d)) shall be equal to (i) $25 divided by the Average Price (as defined below), if the Average Price is greater than or equal to $34.00; or (ii) .7353, if the Average Price is less than $34.00. "**Average Price**" means the average (rounded to the nearest 1/10,000) of the volume weighted averages (rounded to the nearest 1/10,000) of the trading prices of Parent Common Stock on the NYSE, as reported by Bloomberg Financial Markets (or such other source as the parties shall agree in writing), for the 15 Trading Days randomly selected by lot by Parent and the Company together from the 30 consecutive Trading Days ending on the third Trading Day immediately preceding the date on which all of the conditions to the Offer set forth in Annex I hereto have been satisfied or waived.

(b) As soon as practicable on the date of commencement of the Offer, Parent and Merger Sub shall file with the SEC a Tender Offer Statement on Schedule TO (the "**Schedule TO**") and a Registration Statement on Form S-4 (the "**Offer Registration Statement**") with respect to the Offer (the Schedule TO, the Offer Registration Statement and such documents included therein pursuant to which the Offer will be made, together with any supplements or amendments thereto, the "**Offer Documents**"). Parent, Merger Sub and the Company each agrees promptly to correct any information provided by it for use in the Offer Documents if and to the extent that such information shall have become false or misleading in any material respect. Parent and Merger Sub agree to take all steps necessary to cause the Schedule TO and the Offer Registration Statement as so corrected to be filed with the SEC and the other Offer Documents as so corrected to be disseminated to holders of shares of Company Common Stock, in each case as and to the extent required by applicable federal securities laws. The Company and its counsel shall be given an opportunity to review and comment on the Offer Documents prior to their being filed with the SEC or disseminated to the holders of shares of Company Common Stock. Each of Parent and Merger Sub agrees to provide the Company and its counsel with any comments Parent and Merger Sub or their counsel may receive from the SEC or its staff with respect to the Offer Documents promptly after the receipt of such comments and shall provide the Company and its counsel an opportunity to participate in the response of Parent or Merger Sub to such comments, including by participating with Parent and Merger Sub or their counsel in any discussions with the SEC or its staff.

SECTION 2.02. *Company Action.* (a) The Company hereby consents to the Offer and represents that its Board of Directors, at a meeting duly called and held, has (i) unanimously determined that this Agreement and the transactions contemplated hereby, including the Offer and the Merger, are fair to and in the best interests of the Company's stockholders, (ii) unanimously approved and adopted this Agreement and the transactions contemplated hereby, including the Offer and the Merger, in accordance with the requirements of the New York Business Corporation Law (the "**BCL**") and (iii) subject to Section 7.07, unanimously resolved to recommend acceptance of the Offer and approval and adoption of this Agreement and the Merger by its stockholders. The Company further represents that Goldman, Sachs & Co. has delivered to the Company's Board of Directors its opinion as of the date hereof that the consideration to be paid in the Offer and the Merger is fair to the holders of shares of Company Common Stock from a financial point of view. The Company has been advised that all of its directors and executive officers who own shares of Company Common Stock intend either to tender their shares of Company Common Stock pursuant to the Offer or to vote in favor of the Merger. The Company will promptly furnish Parent with a list of its stockholders, mailing labels and any available listing or computer file containing the names and addresses of all record

holders of shares of Company Common Stock and lists of securities positions of shares of Company Common Stock held in stock depositories, in each case true and correct as of the most recent practicable date, and will provide to Parent such additional information (including updated lists of stockholders, mailing labels and lists of securities positions) and such other assistance as Parent may reasonably request in connection with the Offer.

(b) As soon as practicable on the day that the Offer is commenced, the Company shall file with the SEC and disseminate to holders of shares of Company Common Stock, in each case as and to the extent required by applicable federal securities laws, a Solicitation/Recommendation Statement on Schedule 14D-9 (together with any amendments or supplements thereto, the "**Schedule 14D-9**") that, subject to Section 7.07, shall reflect the recommendations of the Company's Board of Directors referred to above; *provided, however*, that prior to the consummation of the Offer, the Board of Directors of the Company may amend, modify, withdraw, condition or qualify such recommendations or may take any action or make any statement inconsistent with such recommendations, to the extent a majority of the Company's Board of Directors concludes in its good faith judgment, after receiving the advice of outside legal counsel, that it is necessary to take such action in order to comply with its fiduciary duties to shareholders under applicable law. The Company agrees to provide Parent and its counsel with any comments the Company or its counsel may receive from the SEC or its staff with respect to the Schedule 14D-9 promptly after the receipt of such comments and shall provide Parent and its counsel an opportunity to participate in the response of the Company to such comments, including by participating with the Company or its counsel in any discussions with the SEC or its staff. The Company, Parent and Merger Sub each agree promptly to correct any information provided by it for use in the Schedule 14D-9 if and to the extent that it shall have become false or misleading in any material respect. The Company agrees to take all steps necessary to cause the Schedule 14D-9 as so corrected to be filed with the SEC and to be disseminated to holders of shares of Company Common Stock, in each case as and to the extent required by applicable federal securities laws. Parent and its counsel shall be given an opportunity to review and comment on the Schedule 14D-9 prior to its being filed with the SEC.

SECTION 2.03. *Directors.* (a) Effective upon the acceptance for payment of any shares of Company Common Stock pursuant to the Offer, Parent shall be entitled to designate the number of directors, rounded up to the next whole number, on the Company's Board of Directors that equals the product of (i) the total number of directors on the Company's Board of Directors (giving effect to the election of any additional directors pursuant to this Section) and (ii) the percentage that the number of shares of Company Common Stock beneficially owned by Parent and/or Merger Sub (including shares of Company Common

Stock accepted for payment) bears to the total number of shares of Company Common Stock outstanding, and the Company shall take all action necessary to cause Parent's designees to be elected or appointed to the Company's Board of Directors, including increasing the number of directors, and seeking and accepting resignations of incumbent directors. At such time, the Company will also use its best efforts to cause individuals designated by Parent to constitute the number of members, rounded up to the next whole number, on (i) each committee of the Board and (ii) each board of directors of each Subsidiary of the Company (and each committee thereof) that represents the same percentage as such individuals represent on the Board of Directors of the Company. Notwithstanding the provisions of this Section 2.03, the parties hereto shall use their respective best efforts to ensure that at least two of the members of the Company's Board of Directors shall, at all times prior to the Effective Time, be directors of the Company who were directors of the Company on the date hereof (the "**Continuing Directors**"); *provided* that if there shall be in office fewer than two Continuing Directors for any reason, the Company's Board of Directors shall cause a person designated by the remaining Continuing Director to fill such vacancy who shall be deemed to be a Continuing Director for all purposes of this Agreement, or if no Continuing Directors then remain, the other directors of the Company then in office shall designate two persons to fill such vacancies who will not be officers or employees or affiliates of the Company, Parent or Merger Sub or any of their respective Subsidiaries and such persons shall be deemed to be Continuing Directors for all purposes of this Agreement.

(b) The Company's obligations to appoint Parent's designees to the Company's Board of Directors shall be subject to Section 14(f) of the Exchange Act and Rule 14f-1 promulgated thereunder. The Company shall promptly take all actions, and shall include in the Schedule 14D-9 such information with respect to the Company and its officers and directors, as Section 14(f) and Rule 14f-1 require in order to fulfill its obligations under this Section, so long as Parent shall have provided to the Company on a timely basis the information referred to in the following sentence. Parent shall supply to the Company in writing and be solely responsible for any information with respect to itself and its nominees, officers, directors and affiliates required by Section 14(f) and Rule 14f-1.

(c) Following the election or appointment of Parent's designees pursuant to Section 2.03(a) and until the Effective Time, the approval of a majority of the Continuing Directors shall be required to authorize (and such authorization shall constitute the authorization of the Company's Board of Directors and no other action on the part of the Company, including any action by any other director of the Company, shall be required to authorize) any termination of this Agreement by the Company, any amendment of this Agreement requiring action by the Company's Board of Directors, any extension of time for performance of any

obligation or action hereunder by Parent or Merger Sub, any waiver of compliance with any of the agreements or conditions contained herein for the benefit of the Company, any consent or action by the Board of Directors of the Company hereunder and any other action of the Company hereunder which adversely affects the holders of shares of Company Common Stock (other than Parent or Purchaser).

ARTICLE 3
THE MERGER

SECTION 3.01. *The Merger*. (a) Upon the terms and subject to the conditions of this Agreement, as soon as practicable after satisfaction or, to the extent permitted hereby, waiver of all conditions to the Merger set forth herein, a certificate of merger (the "**Certificate of Merger**") shall be duly prepared, executed and acknowledged by Merger Sub and the Company in accordance with the BCL and shall be filed with the Secretary of State of New York. The Merger shall become effective upon the filing of the Certificate of Merger (or at such later time reflected in such Certificate of Merger as shall be agreed to by Parent and the Company). The date and time when the Merger shall become effective is hereinafter referred to as the "**Effective Time**."

(b) At the Effective Time, Merger Sub shall be merged with and into the Company and the separate corporate existence of Merger Sub shall cease, and the Company shall continue as the surviving corporation under the laws of the State of New York (the "**Surviving Corporation**").

(c) From and after the Effective Time, the Merger shall have the effects set forth in this Agreement and in Section 906 of BCL.

SECTION 3.02. *Certificate of Incorporation of the Surviving Corporation*. The Certificate of Incorporation of the Merger Sub, as in effect immediately prior to the Effective Time, shall be the Certificate of Incorporation of the Surviving Corporation.

SECTION 3.03. *By-Laws of the Surviving Corporation*. The By-Laws of the Merger Sub, as in effect immediately prior to the Effective Time, shall be the By-Laws of the Surviving Corporation.

SECTION 3.04. *Directors and Officers of the Surviving Corporation*. At the Effective Time, the directors of Merger Sub immediately prior to the Effective Time shall be the directors of the Surviving Corporation, each of such directors to

hold office, subject to the applicable provisions of the BCL and the Certificate of Incorporation and By-Laws of the Surviving Corporation, until the next annual shareholders' meeting of the Surviving Corporation and until their respective successors shall be duly elected or appointed and qualified. At the Effective Time, the officers of the Company immediately prior to the Effective Time shall, subject to the applicable provisions of the Certificate of Incorporation and By-Laws of the Surviving Corporation, be the officers of the Surviving Corporation until their respective successors shall be duly elected or appointed and qualified.

SECTION 3.05. *Closing*. The closing of the Merger (the "**Closing**") shall be held at the offices of Davis Polk & Wardwell, 450 Lexington Avenue, New York, New York 10017 as soon as practicable, but in any event within three (3) Business Days after the last of the conditions (excluding conditions that, by their nature, cannot be satisfied until the Closing Date) set forth in Article 8 hereof is satisfied or waived or at such other time and date as the parties hereto shall agree in writing. Such date is herein referred to as the "**Closing Date**."

ARTICLE 4
CONVERSION OF SHARES AND RELATED MATTERS

SECTION 4.01. *Conversion of Capital Stock*. At the Effective Time, by virtue of the Merger:

(a) *Cancellation of Treasury Stock and Stock Owned by Parent and Merger Sub*. All shares of Company Common Stock owned by the Company as treasury stock and any shares of Company Common Stock owned by Parent, Merger Sub or any Subsidiary of Parent or Merger Sub immediately prior to the Effective Time shall, by virtue of the Merger, and without any action on the part of the holder thereof, no longer be outstanding, shall be canceled and retired without payment of any consideration therefor and shall cease to exist.

(b) *Capital Stock of Merger Sub*. Each share of Merger Sub Common Stock outstanding immediately prior to the Effective Time shall be converted into and become one share of common stock of the Surviving Corporation.

(c) *Conversion of Company Common Stock*. Except as provided in clause (a) of this Section 4.01, each share of Company Common Stock outstanding immediately prior to the Effective Time shall be converted into and shall be canceled in exchange for the right to receive from Parent the same amount of cash (including any cash interest payable pursuant to Section 2.01) and the same number of shares of Parent Common Stock paid in the Offer. At the Effective Time, all

Company Common Stock shall no longer be outstanding, shall be canceled and retired and shall cease to exist, and each certificate (a "**Certificate**") formerly representing any of such Company Common Stock shall thereafter represent only the right to receive cash and the number of whole shares of Parent Common Stock into which the Company Common Stock represented by such Certificate is converted pursuant to this Section 4.01(c) and the right, if any, to receive pursuant to Section 4.03(e) cash in lieu of fractional shares of Parent Common Stock and any dividend or distribution pursuant to Section 4.03(c), in each case without interest.

(d) In the event that, subsequent to the date of this Agreement but prior to the Effective Time, the Company changes the number of shares of Company Common Stock, or Parent changes the number of shares of Parent Common Stock, issued and outstanding as a result of a stock split, stock combination, stock dividend, recapitalization, redenomination of share capital or other similar transaction, the Exchange Ratio and other items dependent thereon shall be appropriately adjusted.

SECTION 4.02. *Exchange of Shares.* Prior to the Effective Time, Parent shall appoint a bank or trust company reasonably acceptable to the Company as exchange agent (the "**Exchange Agent**") for the purposes of exchanging the Certificates for cash and the whole number of shares of Parent Common Stock into which the shares of Company Common Stock formerly represented thereby have been converted and cash in lieu of fractional shares of Parent Common Stock. Promptly after the Effective Time, Parent will send, or will cause the Exchange Agent to send, to each holder of record of Company Common Stock as of the Effective Time (i) a letter of transmittal (which shall specify that delivery shall be effected, and risk of loss and title to the Certificates shall pass, only upon delivery of the Certificates to the Exchange Agent and shall be in customary form and have such other customary provisions as the Surviving Corporation or Parent may reasonably specify) providing instructions for use in effecting the surrender of Certificates in exchange for cash and the whole number of shares of Parent Common Stock into which the shares of Company Common Stock formerly represented thereby have been converted and cash in lieu of fractional shares of Parent Common Stock.

SECTION 4.03. *Exchange of Certificates.* (a) *Exchange Agent.* Within three Business Days following the Effective Time, Parent shall deposit with the Exchange Agent (i) as nominee for the benefit of the holders of Company Common Stock, the aggregate amount of cash (including any cash interest payable under Section 2.01) and the aggregate number of shares of Parent Common Stock to be issued pursuant to Section 4.01(c) and (ii) an amount of cash sufficient to permit the Exchange Agent to make the necessary payments of cash in lieu of

fractional shares of Parent Common Stock in accordance with Section 4.03(e) (such cash and shares of Parent Common Stock, together with any dividends or distributions with respect thereto being hereinafter referred to as the "**Exchange Fund**"), to be held for the benefit of and distributed to the holders of Company Common Stock in accordance with this Section. The Exchange Agent shall invest any cash included in the Exchange Fund as directed by the Surviving Corporation on a daily basis in direct obligations of the United States, obligations for which the full faith and credit of the United States is pledged to provide for the payment of principal and interest, commercial paper rated the highest quality by Moody's Investors Services, Inc. or Standard & Poor's Ratings Group or certificates of deposit, bank repurchase agreements or bankers' acceptances of a commercial bank having at least $100,000,000 in assets, or in money market funds which are invested in the foregoing; *provided* that no such investment or loss thereon shall affect the amounts payable to the Company's shareholders pursuant to this Article 4. Parent and the Surviving Corporation shall replace any monies lost through an investment made pursuant to this Section 4.03. Any interest and other income resulting from such investments shall promptly be paid to the Surviving Corporation.

(b) *Exchange Procedures*. Upon surrender of a Certificate for cancellation to the Exchange Agent, together with the letter of transmittal referred to in Section 4.02 duly executed and completed in accordance with its terms, the holder of such Certificate shall be entitled to receive in exchange therefor (i) the amount of cash and a certificate or certificates representing the whole number of shares of Parent Common Stock into which the shares of Company Common Stock represented by such Certificate have been converted in accordance with Section 4.01(c), (ii) the amount of dividends or other distributions, if any, with a record date on or after the Effective Time which theretofore became payable with respect to such shares of Parent Common Stock, and (iii) the cash amount payable in lieu of fractional shares of Parent Common Stock in accordance with Section 4.03(e), in each case which such holder has the right to receive pursuant to the provisions of this Article 4, and the Certificate so surrendered shall forthwith be canceled. In no event shall the holder of any Certificate be entitled to receive interest on any funds to be received in the Merger. In the event of a transfer of ownership of shares of Company Common Stock which is not registered in the transfer records of the Company, the amount of cash and a certificate or certificates representing that whole number of shares of Parent Common Stock into which such shares of Company Common Stock have been converted in accordance with Section 4.01(c), plus the cash amount payable in lieu of fractional shares of Parent Common Stock in accordance with Section 4.03(e), may be issued to a transferee if the Certificate representing such Company Common Stock is presented to the Exchange Agent accompanied by all documents required to evidence and effect such transfer and by evidence that any applicable stock transfer taxes have been paid. Until surrendered

as contemplated by this Section 4.03(b) and subject to Section 4.03(c), each Certificate shall, after the Effective Time, represent for all purposes only the right to receive the amount of cash and the whole number of shares of Parent Common Stock into which the number of shares of Company Common Stock shown thereon has been converted in accordance with Section 4.01(c), plus the cash amount payable in lieu of fractional shares of Parent Common Stock in accordance with Section 4.03(e). Notwithstanding the foregoing, certificates representing Company Common Stock surrendered for exchange by any Person constituting an "Affiliate" of the Company for purposes of Section 7.14 shall not be exchanged until Parent has received a Rule 145 Affiliate Agreement (as defined in Section 7.14) as provided in Section 7.14.

(c) *Distributions With Respect To Unexchanged Shares.* No dividends or other distributions declared, made or paid after the Effective Time with respect to shares of Parent Common Stock with a record date on or after the Effective Time shall be paid to the holder of any unsurrendered Certificate with respect to the shares of Parent Common Stock represented thereby and no cash payment in lieu of fractional shares of Parent Common Stock shall be paid to any such holder pursuant to Section 4.03(e) until the holder of record of such Certificate shall surrender such Certificate in accordance with this Section. Subject to the effect of applicable laws, following surrender of any such Certificate, there shall be paid to the record holder of the certificates representing shares of Parent Common Stock, without interest, (i) at the time of such surrender, the amount of dividends or other distributions, if any, with a record date on or after the Effective Time which theretofore became payable, but which were not paid by reason of the immediately preceding sentence, with respect to such shares of Parent Common Stock and (ii) at the appropriate payment date, the amount of dividends or other distributions with a record date on or after the Effective Time but prior to surrender and a payment date subsequent to surrender payable with respect to such shares of Parent Common Stock. Dividends or other distributions with a record date on or after the Effective Time but prior to surrender of Certificates by holders thereof payable in respect of shares of Parent Common Stock held by the Exchange Agent shall be held in trust for the benefit of such holders of Certificates.

(d) *No Further Ownership Rights In Company Common Stock.* All shares of Parent Common Stock issued and all cash paid upon the surrender for exchange of Certificates in accordance with the terms hereof (including any cash paid pursuant to Section 4.03(e)) shall be deemed to have been issued at the Effective Time in full satisfaction of all rights pertaining to the shares of Company Common Stock represented thereby, subject, however, to the Surviving Corporation's obligation to pay any dividends which may have been declared by the Company on the shares of Company Common Stock in accordance with the terms of this Agreement and which remained unpaid at the Effective Time. From and after the

Effective Time, the stock transfer books of the Company shall be closed and there shall be no further registration of transfers thereon of the shares of Company Common Stock which were outstanding immediately prior to the Effective Time. If, after the Effective Time, Certificates are presented to the Surviving Corporation for any reason, they shall be canceled and exchanged as provided in this Section.

(e) *No Fractional Shares*. No certificate or scrip representing fractional shares of Parent Common Stock will be issued in the Offer or the Merger upon the surrender for exchange of Certificates, and such fractional shares of Parent Common Stock will not entitle the owner thereof to vote or to any rights of a holder of shares of Parent Common Stock. In lieu of any such fractional shares of Parent Common Stock, each holder of Certificates who would otherwise have been entitled to a fraction of a share of Parent Common Stock in exchange for such Certificates (after taking into account all Certificates delivered by such holder) pursuant to this Section shall receive from the Exchange Agent, as applicable, a cash payment in lieu of such fractional share of Parent Common Stock, determined by multiplying (A) the average of the last reported sales prices of Parent Common Stock, as reported on the NYSE, on each of the 20 Trading Days ending on the third Trading Day immediately preceding the acceptance for payment of shares of Company Common Stock in the Offer by (B) the fractional share of Parent Common Stock to which such holder would otherwise be entitled.

(f) *Termination of Exchange Fund*. Any portion of the Exchange Fund which remains undistributed to the shareholders of the Company for one (1) year after the Effective Time shall be delivered to or as directed by Parent, upon demand, and any holders of Certificates who have not theretofore complied with this Article 4 shall thereafter look only to Parent (subject to abandoned property, escheat and other similar laws) as a general creditor for payment of their claim for shares of Parent Common Stock, any cash in lieu of fractional shares of Parent Common Stock and any dividends or distributions with respect to shares of Parent Common Stock. Neither Parent nor the Surviving Corporation shall be liable to any holder of any Certificate for cash or shares of Parent Common Stock (or dividends or distributions with respect thereto), or cash payable in respect of fractional shares of Parent Common Stock, delivered to a public official pursuant to any applicable abandoned property, escheat or similar law. Any securities or cash amounts remaining unclaimed by holders of Certificates five years after the Effective Time (or such earlier date immediately prior to such time as such amounts would otherwise escheat to or become property of any governmental entity) shall, to the extent permitted by applicable law, become the property of the Surviving Corporation free and clear of any claims or interest of any Person previously entitled thereto.

(g) *Lost, Stolen or Destroyed Certificates*. If any Certificate shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming such Certificate to be lost, stolen or destroyed and, if required by Parent, the posting by such person of a bond in such reasonable amount as Parent may direct as indemnity against any claim that may be made against it with respect to such Certificate, the Exchange Agent will deliver in exchange for such lost, stolen or destroyed Certificate the cash and the whole number of shares of Parent Common Stock into which the shares of Company Common Stock formerly represented thereby have been converted, any cash in lieu of fractional shares of Parent Common Stock, and unpaid dividends and distributions in respect of or on shares of Parent Common Stock deliverable in respect thereof, pursuant to this Agreement.

(h) *Withholding Rights*. Each of the Surviving Corporation and Parent shall be entitled to deduct and withhold from the cash and the shares of Parent Common Stock (and any dividends or distributions thereon) and cash in lieu of fractional shares of Parent Common Stock otherwise payable hereunder to any holder of Certificates in respect of the shares of Company Common Stock formerly represented thereby such amounts as it is required to deduct and withhold with respect to the making of such payment under any provision of federal, state, local or foreign income tax law. To the extent that the Surviving Corporation or Parent so withholds those amounts, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the holder of Company Common Stock in respect of which such deduction and withholding was made by the Surviving Corporation or Parent, as the case may be.

SECTION 4.04. *Company Stock Options and Stock Rights*. (a) As soon as practicable following the date of this Agreement, the Board of Directors of the Company (or the appropriate committee thereof) shall adopt such resolutions, take such actions and obtain such consents as may be required to effect the following, effective at the Effective Time:

(i) each option granted to an employee or former employee of the Company (each, an "**Option**") to purchase shares of Company Common Stock theretofore granted under the Company's stock plans, programs, arrangements or agreements ("**Company Stock Plans**") which is outstanding and unexercised immediately prior to the Effective Time, whether or not vested or exercisable, shall be cancelled in exchange for a single lump sum cash payment (less any applicable income or employment tax withholding) payable by Parent at the Effective Time and equal to the product of (x) the number of shares of Company Common Stock subject to such Option immediately prior to the Effective Time and (y) the excess, if

any, of $75 over the exercise price per share of Company Common Stock of such Option; and

(ii) each restricted stock unit granted to an employee or former employee of the Company (each, a "**Company Stock Right**") under any Company Stock Plan, whether or not vested, outstanding immediately prior to the Effective Time shall be cancelled in exchange for a single lump sum cash payment (less any applicable income or employment tax withholding) payable by Parent at the Effective Time and equal to $75.

(b) Prior to the Effective Time, the Company shall use its reasonable best efforts to take all actions (including, if appropriate, amending the terms of the Company's stock option or compensation plans or arrangements) and obtain such consents as are necessary to give the effect to the transactions contemplated by Section 4.04(a).

(c) As soon as practicable after the Effective Time, Parent shall deliver to the holders of Options and Company Stock Rights appropriate notices setting forth such holders' rights pursuant to the applicable Company Stock Plans, and the agreements evidencing the grants of such Options and Company Stock Rights shall continue in effect on the same terms and conditions (subject to the adjustments required by this Section 4.04 after giving effect to the Merger).

(d) Except as disclosed in writing to Parent prior to the date hereof, the Company agrees that it will not grant any stock options, stock appreciation rights, stock units, deferred stock awards or other rights to acquire Company Common Stock or any other interest in Company Common Stock or any other equity security of the Company and will not take any action to accelerate the exercisability or vesting of Options or Company Stock Rights, and/or permit cash payments to holders of Options or Company Stock Rights with respect to such Options or Company Stock Rights.

ARTICLE 5

REPRESENTATIONS AND WARRANTIES OF THE COMPANY

Except as disclosed in (i) the Company's disclosure letter delivered concurrently with the delivery of this Agreement (the "**Company Disclosure Letter**") or (ii) the Company SEC Reports (as defined below) made or filed prior to the date of this Agreement, the Company hereby represents and warrants to Parent and Merger Sub as follows:

SECTION 5.01. *Due Organization, Good Standing and Corporate Power.* Each of the Company and its Significant Subsidiaries is a corporation duly organized, validly existing and in good standing (with respect to jurisdictions which recognize the concept of good standing) under the laws of the jurisdiction of its incorporation and each such Person has all requisite corporate power and authority to own, lease and operate its properties and to carry on its business as now being conducted, except where the failure to be so organized, existing and in good standing or to have such power and authority could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect. The Company and each of its Significant Subsidiaries is duly qualified or licensed to do business and is in good standing in each jurisdiction in which the property owned, leased or operated by it or the nature of the business conducted by it makes such qualification necessary, except in such jurisdictions where the failure to be so qualified or licensed and in good standing could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect. Other than as set forth in Section 5.01 of the Company Disclosure Letter, the respective Certificates of Incorporation and By-Laws or other organizational documents of the Significant Subsidiaries of the Company do not contain any provision limiting or otherwise restricting the ability of the Company to control its Significant Subsidiaries. Section 5.01 of the Company Disclosure Letter sets forth a list of all Significant Subsidiaries of the Company and their respective jurisdictions of incorporation or organization and identifies the Company's (direct or indirect) percentage of equity ownership therein.

SECTION 5.02. *Authorization and Validity of Agreement.* The Company has full corporate power and authority to execute and deliver this Agreement, to perform its obligations hereunder and, subject to obtaining the Company Shareholder Approval, to consummate the transactions contemplated hereby. The execution, delivery and performance of this Agreement by the Company, and the consummation by it of the transactions contemplated hereby, have been duly authorized and unanimously approved by its Board of Directors and no other corporate action on the part of the Company is necessary to authorize the execution, delivery and performance of this Agreement by the Company and the consummation of the transactions contemplated hereby, other than obtaining the Company Shareholder Approval. This Agreement has been duly executed and delivered by the Company and is a valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except to the extent that its enforceability may be subject to applicable bankruptcy, insolvency, reorganization, moratorium and similar laws affecting the enforcement of creditors' rights generally and by general equitable principles.

SECTION 5.03. *Capitalization.* (a) The authorized capital stock of the Company consists of 250,000,000 shares of Company Common Stock and

8,531,431 shares of preferred stock, par value $1.00 per share (the "**Company Preferred Stock**"). At the close of business on May 11, 2000: (i) 96,851,138 shares of Company Common Stock were issued and outstanding, (ii) 3,900,736 shares of Company Common Stock were reserved for issuance under the Company's stock option and stock benefit plans and arrangements, (iii) no shares of Company Preferred Stock were issued and outstanding and (iv) 15,427,059 shares of Company Common Stock were held by the Company in its treasury. All issued and outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and nonassessable. Except as set forth in Section 5.03(a) of the Company Disclosure Letter and other than the Rights, there are no outstanding or authorized options, warrants, rights, subscriptions, claims of any character, agreements, obligations, convertible or exchangeable securities, or other commitments, contingent or otherwise, relating to shares of capital stock or other equity interests of the Company or any of its Subsidiaries, pursuant to which the Company or any of its Subsidiaries is or may become obligated to issue shares of its capital stock or other equity interests or any securities convertible into, exchangeable for, or evidencing the right to subscribe for, any shares of the capital stock or other equity interests of the Company or any of its Subsidiaries (each an "**Issuance Obligation**"). There are no outstanding obligations of the Company to repurchase, redeem or otherwise acquire any outstanding securities of the Company. The Company has no authorized or outstanding bonds, debentures, notes or other indebtedness the holders of which have the right to vote (or convertible or exchangeable into or exercisable for securities the holders of which have the right to vote) with the shareholders of the Company on any matter ("**Voting Debt**"). Except as set forth in Section 5.03(a) of the Company Disclosure Letter, there are no restrictions of any kind which prevent or restrict the payment of dividends by the Company or any of its Subsidiaries and there are no limitations or restrictions on the right to vote, sell or otherwise dispose of such capital stock or other ownership interests.

(b) All of the issued and outstanding shares of capital stock of each Significant Subsidiary are validly existing, fully paid and non-assessable. Except as set forth in the Company SEC Reports or Section 5.03(b) of the Company Disclosure Letter, no Significant Subsidiary of the Company has outstanding Voting Debt and no Significant Subsidiary of the Company is bound by, obligated under, or party to an Issuance Obligation with respect to any security of the Company or any Significant Subsidiary of the Company and there are no obligations of the Company or any of its Significant Subsidiaries to repurchase, redeem or otherwise acquire any outstanding securities of any of its Significant Subsidiaries or any capital stock of, or other ownership interests in, any of its Significant Subsidiaries.

(c) Except for the Company's interest in its Significant Subsidiaries, and as set forth in the Company SEC Reports or Section 5.03(c) of the Company Disclosure Letter, the Company does not directly or indirectly own any equity or similar interest in, or any interest convertible into or exchangeable or exercisable for any equity or similar interest in, any corporation, partnership, joint venture, limited liability company or other business association or entity which is material to the Company and its Subsidiaries, taken as a whole.

SECTION 5.04. *Consents and Approvals; No Violations*. Assuming (i) the filings required under applicable Brazilian antitrust or competition laws, the Competition Act Canada (the "**Competition Act**") and the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the "**HSR Act**"), are made and the waiting periods thereunder (if applicable) have been terminated or expired, (ii) the prior notification and reporting requirements of the German Act Against Restraints in Competition and other antitrust laws of the member states of the European Union as may be applicable (collectively, the "**European Antitrust Laws**") are satisfied and any antitrust filings/notifications which must or may be effected at the national level in countries having jurisdiction are made and any applicable waiting periods thereunder have been terminated or expired, (iii) the prior notification and reporting requirements of other antitrust or competition laws as may be applicable are satisfied and any antitrust filings/notifications which must or may be effected in countries having jurisdiction are made, (iv) the applicable requirements of the Securities Act and the Exchange Act are met, (v) the requirements under any applicable foreign or state securities or blue sky laws are met, (vi) the filing of the Certificate of Merger and other appropriate merger documents, if any, as required by the BCL, are made, (vii) in the case of this Agreement the Company Shareholder Approval is received, and (viii) the requirements of any applicable state law relating to the transfer of contaminated property are met, the execution and delivery of this Agreement by the Company and the consummation by the Company of the transactions contemplated hereby do not and will not: (A) violate or conflict with any provision of the Company's Certificate of Incorporation or the Company's By-Laws or the comparable governing documents of any of its Subsidiaries; (B) violate or conflict with any statute, law, ordinance, rule or regulation (together, "**Laws**") or any order, judgment, decree, writ, permit or license (together, "**Orders**"), of any court, tribunal, arbitrator, authority, agency, commission, official or other instrumentality of the United States, any foreign country or any domestic or foreign state, county, city or other political subdivision (a "**Governmental Authority**") applicable to the Company or any of its Subsidiaries or by which any of their respective properties or assets may be bound; (C) except as set forth in Section 5.04 of the Company Disclosure Letter, require any filing with, or permit, consent or approval of, or the giving of any notice to, any Governmental Authority; or (D) except as set forth in Section 5.04 of the Company Disclosure Letter, result in a violation or breach of,

conflict with, constitute (with or without due notice or lapse of time or both) a default (or give rise to any right of termination, cancellation, payment or acceleration) under, or result in the creation of any Lien upon any of the properties or assets of the Company or any of its Significant Subsidiaries under, or give rise to any obligation, right of termination, cancellation, acceleration or increase of any obligation or a loss of a material benefit under, any of the terms, conditions or provisions of any note, bond, mortgage, indenture, license, franchise, permit, agreement, contract, lease, franchise agreement or other instrument or obligation of any kind ("**Contracts**") to which the Company or any of its Significant Subsidiaries is a party, or by which any such Person or any of its properties or assets are bound, excluding from the foregoing clauses (B), (C) and (D) conflicts, violations, breaches, defaults, rights of payment and reimbursement, terminations, modifications, accelerations and creations and impositions of Liens which could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect.

SECTION 5.05. *Company Reports and Financial Statements.* (a) Since December 31, 1997, the Company and, to the extent applicable, its Subsidiaries, have filed all forms, reports and documents with the SEC required to be filed by it pursuant to the federal securities laws and the SEC rules and regulations thereunder, and all forms, reports, schedules, registration statements and other documents filed with the SEC by the Company and, to the extent applicable, its Subsidiaries have complied in all material respects with all applicable requirements of the federal securities laws and the SEC rules and regulations promulgated thereunder. The Company has, prior to the date of this Agreement, made available to Parent true and complete copies of all forms, reports, registration statements and other filings filed by the Company and its Subsidiaries with the SEC since December 31, 1997 (such forms, reports, registration statements and other filings, together with any exhibits, any amendments thereto and information incorporated by reference therein, are sometimes collectively referred to as the "**Company SEC Reports**"). As of their respective dates, the Company SEC Reports did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. The audited consolidated financial statements and the unaudited consolidated interim financial statements of the Company included in the Company SEC Reports were prepared in accordance with GAAP applied on a consistent basis (except as may be indicated therein or in the notes or schedules thereto) and present fairly, in all material respects, the consolidated financial position of the Company and its consolidated Subsidiaries as of the dates thereof and their consolidated results of operations and changes in financial position for the periods then ended. The Company has heretofore provided Parent with true and correct copies of any amendments and/or modifications to any Company SEC Reports which have not

yet been filed with the SEC but that are required to be filed with the SEC in accordance with applicable federal securities laws and the SEC rules.

(b) Except as set forth or provided in the Company SEC Reports or Section 5.05(b) of the Company Disclosure Letter, neither the Company nor any of its Subsidiaries has any liability or obligation of any nature (whether accrued, absolute, contingent or otherwise), in each case that is required by GAAP to be set forth on a consolidated balance sheet of the Company, except for (i) liabilities and obligations under this Agreement or incurred in connection with the transactions contemplated hereby and (ii) liabilities and obligations incurred in the ordinary course of business consistent with past practice since September 30, 1999 which could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect. Neither the Company nor any of its Subsidiaries is in default in respect of the material terms and conditions of any indebtedness or other agreement which could reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect.

SECTION 5.06. *Information to Be Supplied.* (a) Each of the Schedule 14D-9 and the Proxy Statement/Prospectus and the other documents required to be filed by the Company with the SEC in connection with the Offer, the Merger and the other transactions contemplated hereby will comply as to form in all material respects with the requirements of the Exchange Act and the Securities Act, as the case may be, and will not, on the date of its filing or, in the case of the Proxy Statement/Prospectus, on the dates it is mailed to shareholders of the Company and at the time of the Company Shareholder Meeting, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they are made, not misleading.

(b) Notwithstanding the foregoing provisions of this Section 5.06, no representation or warranty is made by the Company with respect to statements made or incorporated by reference in the Merger Registration Statement, the Proxy Statement/Prospectus or the Schedule 14D-9 based on information supplied by Parent or Merger Sub expressly for inclusion or incorporation by reference therein or based on information which is not made in or incorporated by reference in such documents but which should have been disclosed pursuant to Section 6.06.

SECTION 5.07. *Absence of Certain Events.* Except as disclosed in the Company SEC Reports or in Section 5.07 of the Company Disclosure Letter or as required or expressly permitted by this Agreement, since December 31, 1998, the Company and its Subsidiaries have operated their respective businesses only in the ordinary course and, except as disclosed in the Company SEC Reports or in Section 5.07 of the Company Disclosure Letter, there has not occurred (i) any

event, occurrence or conditions which could reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect; (ii) any damage, destruction or loss which, individually or in the aggregate, resulted in or could reasonably be expected to result in, a Company Material Adverse Effect; or (iii) any increase in the compensation of, or change of control agreement with, any officer of the Company or any of its Subsidiaries or any general salary or benefits increase to the employees of the Company or any of its Subsidiaries other than in the ordinary course of business.

SECTION 5.08. *Litigation.* Except as disclosed in Section 5.08 of the Company Disclosure Letter, there are no investigations, actions, suits or proceedings pending against the Company or its Subsidiaries or, to the knowledge of the Company, threatened against the Company or its Subsidiaries (or any of their respective properties, rights or franchises), at law or in equity, or before or by any federal or state commission, board, bureau, agency, regulatory or administrative instrumentality or other Governmental Authority or any arbitrator or arbitration tribunal, that could reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect, and, to the knowledge of the Company, no development has occurred with respect to any pending or threatened action, suit or proceeding that could reasonably be expected to result in a Company Material Adverse Effect or could reasonably be expected to prevent, materially impair or materially delay the consummation of the transactions contemplated hereby. Neither the Company nor any of its Subsidiaries is subject to any judgment, order or decree entered in any lawsuit or proceeding which could reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect.

SECTION 5.09. *Title to Properties; Encumbrances.* Except as disclosed in Section 5.09 of the Company Disclosure Letter, the Company and each of its Significant Subsidiaries has good, valid and marketable title to, or, in the case of leased properties and assets, valid leasehold interests in, all of its tangible properties and assets except where the failure to have such good, valid and marketable title could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect; in each case subject to no Liens, except for (A) Liens reflected in the consolidated balance sheet as of September 30, 1999, (B) Liens consisting of zoning or planning restrictions, easements, permits and other restrictions or limitations on the use of real property or irregularities in title thereto which do not materially detract from the value of, or impair the use of, such property by the Company or any of its Significant Subsidiaries in the operation of its respective business, (C) Liens for current Taxes, assessments or governmental charges or levies on property not yet due or which are being contested in good faith and (D) Liens which could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect. Except as could not reasonably be expected to, individually or in the

aggregate, have a Company Material Adverse Effect, (i) the Company and each of its Significant Subsidiaries are in compliance with the terms of all leases of tangible properties to which they are a party and under which they are in occupancy, and all such leases are in full force and effect and (ii) the Company and each of its Significant Subsidiaries enjoys peaceful and undisturbed possession under all such leases.

SECTION 5.10. *Compliance with Laws.* Except as disclosed in the Company SEC Reports and except as disclosed in Section 5.10 of the Company Disclosure Letter:

(a) The Company and its Subsidiaries are in compliance with all applicable federal, state, local and foreign statutes, laws, regulations, orders, judgments and decrees except where the failure to so comply could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect.

(b) The Company and its Subsidiaries hold, to the extent legally required, all federal, state, local and foreign permits, approvals, licenses, authorizations, certificates, rights, exemptions and orders from Governmental Authorities (the "**Permits**") that are required for the operation of the respective businesses of the Company and/or its Subsidiaries as now conducted, except where the failure to hold any such Permit could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect, and there has not occurred any default under any such Permit, except to the extent that such default could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect.

SECTION 5.11. *Company Employee Benefit Plans.* (a) Set forth in Section 5.11(a) of the Company Disclosure Letter is an accurate and complete list of each material domestic or foreign employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended, and the rules and regulations thereunder ("**ERISA**"), whether or not subject to ERISA, and each stock option, stock appreciation right, restricted stock, stock purchase, stock unit, performance share, incentive, bonus, profit-sharing, savings, deferred compensation, health, medical, dental, life insurance, disability, accident, supplemental unemployment or retirement, employment, severance or salary or benefits continuation or fringe benefit plan, program, arrangement, or agreement maintained by the Company or any Affiliate thereof (including, for this purpose and for the purpose of all of the representations in this Section 5.11, all employers (whether or not incorporated) that would be treated together with the Company and/or any such Affiliate as a single employer within the meaning of Section 414 of the Internal Revenue Code of 1986, as amended, and the rules and regulations

thereunder (the "**Code**")) or to which the Company or any Affiliate thereof contributes (or has any obligation to contribute), has any liability or is a party (collectively, the "**Company Employee Benefit Plans**").

(b) Except as set forth in Section 5.11(b) of the Company Disclosure Letter or disclosed in the Company SEC Reports, (i) each Company Employee Benefit Plan is in compliance with all applicable laws (including, without limitation, ERISA and the Code) and has been administered and operated in accordance with its terms, in each case except as would not have a Company Material Adverse Effect; (ii) each Company Employee Benefit Plan which is intended to be "qualified" within the meaning of Section 401(a) of the Code has received a favorable determination letter from the Internal Revenue Service and, to the best knowledge of the Company, no event has occurred and no condition exists which could reasonably be expected to result in the revocation of any such determination; (iii) the actuarial present value of the accumulated plan benefits (whether or not vested) under each Company Employee Benefit Plan covered by Title IV of ERISA, or which otherwise is a pension plan (as defined in Section 3(2) of ERISA) or provides for actuarially-determined benefits (other than any Company Employee Benefit Plan which is a "multiemployer plan" (as defined in Section 4001(a)(3) of ERISA) (a "**Company Multiemployer Plan**")), as of the close of its most recent plan year did not exceed the market value of the assets allocable thereto; (iv) no Company Employee Benefit Plan covered by Title IV of ERISA has been terminated and no proceedings have been instituted to terminate or appoint a trustee under Title IV of ERISA to administer any such plan; (v) no Company Employee Benefit Plan (other than any Company Multiemployer Plan) subject to Section 412 of the Code or Section 302 of ERISA has incurred any accumulated funding deficiency within the meaning of Section 412 of the Code or Section 302 of ERISA, or obtained a waiver of any minimum funding standard or an extension of any amortization period under Section 412 of the Code or Section 303 or 304 of ERISA; (vi) as of the date of this Agreement, neither the Company nor any of its Affiliates has incurred any unsatisfied withdrawal liability under Part 1 of Subtitle E of Title IV of ERISA to any Company Multiemployer Plan, and the aggregate liabilities of the Company and its Affiliates to all Company Multiemployer Plans in the event of a complete withdrawal therefrom, as of the close of the most recent fiscal year of each Company Multiemployer Plan ended prior to the date hereof, would not have a Company Material Adverse Effect; (vii) the execution of this Agreement and the consummation of the transactions contemplated hereby do not constitute a triggering event under any Company Employee Benefit Plan, policy, arrangement, statement, commitment or agreement, which (either alone or upon the occurrence of any additional or subsequent event) will result in any "excess parachute payment," as such term is defined in Section 280G of the Code, or will result in any severance, bonus, retirement, job security or similar-type benefit, or increase any benefits or accelerate the payment or vesting

of any benefits to any employee or former employee or director of the Company or its Affiliates, other than any benefits, payments, accelerations or increases (1) under any Company Employee Benefit Plan that is subject to the laws of a jurisdiction outside of the United States or (2) mandated by applicable law; (viii) no liability, claim, action, litigation, audit, examination, investigation or administrative proceeding has been made, commenced or, to the best knowledge of the Company, threatened with respect to any Company Employee Benefit Plan (other than routine claims for benefits payable in the ordinary course) which would have a Company Material Adverse Effect; (ix) except as required to maintain the tax-qualified status of any Company Employee Benefit Plan intended to qualify under Section 401(a) of the Code, no condition or circumstance exists that would prevent the amendment or termination of any Company Employee Benefit Plan; and (x) there has been no amendment to, written interpretation or announcement (whether or not written) relating to, or change in employee participation or coverage under, any Company Employee Benefit Plan which would increase materially the expense of maintaining such Company Employee Benefit Plan above the level of such expense incurred for the most recently ended fiscal year.

(c) The Company has delivered or caused to be delivered to Parent or its counsel true and complete copies of each Company Employee Benefit Plan and any related trust agreement or funding vehicle, together with all amendments thereto, and, to the extent applicable with respect thereto, (i) the current summary plan description; (ii) the most recent annual report on Internal Revenue Service Form 5500-series, including any attachments thereto; (iii) the most recent financial report; (iv) the most recent actuarial valuation report; and (v) the most recent determination letter received from the Internal Revenue Service.

SECTION 5.12. *Employment Relations and Agreement.* Except as could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect or as disclosed in the Company SEC Reports or Section 5.12 of the Company Disclosure Letter, (i) each of the Company and its Subsidiaries is, and at all times has been, in compliance with all federal, state or other applicable laws respecting employment and employment practices, terms and conditions of employment and wages and hours, and has not and is not engaged in any unfair labor practice; (ii) no unfair labor practice complaint against the Company or any of its Subsidiaries is pending before the National Labor Relations Board; (iii) during the last three years there has not been any labor strike, dispute, slowdown or stoppage or, to the Company's knowledge, threatened against or involving the Company or any of its Subsidiaries; (iv) no representation question exists respecting the employees of the Company or any of its Subsidiaries; (v) no arbitration proceeding arising out of or under any collective bargaining agreement is pending and no claim therefor has been asserted; and (vi) no collective

bargaining agreement is currently being negotiated by the Company or any of its Subsidiaries.

SECTION 5.13. *Taxes.* Except as set forth in Section 5.13 of the Company Disclosure Letter:

(a) *Tax Returns.* The Company and each of its Subsidiaries has timely filed or caused to be timely filed with the appropriate Taxing authorities all Federal income and all other material returns, statements, forms and reports for Taxes (as hereinafter defined) ("**Returns**") that are required to be filed by, or with respect to, the Company and such Subsidiaries on or prior to the Closing Date. The Returns as filed were correct and complete in all material respects. "**Taxes**" shall mean all taxes, assessments, charges, duties, fees, levies or other governmental charges including, without limitation, all Federal, state, local, foreign and other income, franchise, profits, capital gains, capital stock, transfer, sales, use, occupation, property, excise, severance, windfall profits, stamp, license, payroll, withholding and other taxes, assessments, charges, duties, fees, levies or other governmental charges of any kind whatsoever (whether payable directly or by withholding and whether or not requiring the filing of a Return), all estimated taxes, deficiency assessments, additions to tax, penalties and interest and shall include any liability for such amounts as a result either of being a member of a combined, consolidated, unitary or affiliated group or of a contractual obligation to indemnify any person or other entity.

(b) *Payment of Taxes.* All material Taxes and Tax liabilities of the Company and its Subsidiaries that have become due and payable have been timely paid or fully provided for as a liability on the financial statements of the Company and its Subsidiaries in accordance with GAAP.

(c) *Other Tax Matters.* Neither the Company nor any of its Subsidiaries has been or is the subject of an audit, other examination, matter in controversy, proposed adjustment, refund litigation or other proceeding with respect to Taxes by the Tax authorities of any nation, state or locality which could reasonably be expected to result in a material Tax liability, nor has the Company or any of its Subsidiaries received any notices from any Tax authority relating to any issue which could reasonably be expected to result in a material Tax liability.

(d) Neither the Company nor any of its Subsidiaries has been included in any "consolidated," "unitary" or "combined" Return (other than Returns which include only the Company and any Subsidiaries of the Company) provided for under the laws of the United States, any foreign jurisdiction or any state or locality with respect to material Taxes for any taxable period for which the statute of limitations has not expired.

(e) All material Taxes which the Company or any of its Subsidiaries is (or was) required by law to withhold or collect have been duly withheld or collected, and have been timely paid over to the proper authorities to the extent due and payable.

(f) There are no Tax sharing, allocation, indemnification or similar agreements (in writing) in effect as between the Company, any of its Subsidiaries, or any predecessor or Affiliate of any of them and any other party under which the Company (or any of its Subsidiaries) could be liable for any material Taxes of any party other than the Company or any Subsidiary of the Company.

(g) Neither the Company nor any of its Subsidiaries has applied for, been granted, or agreed to any accounting method change for which it will be required to take into account any adjustment under Section 481 of the Code or any similar provision of the Tax laws of any nation, state or locality.

(h) Neither the Company nor any of its Subsidiaries has, as of the Closing Date, entered into an agreement or waiver extending any statute of limitations relating to the payment or collection of U.S. Federal income Taxes of the Company or any of its Subsidiaries.

(i) No election under Section 341(f) of the Code has been made or shall be made prior to the Closing Date to treat the Company or any of its Subsidiaries as a consenting corporation, as defined in Section 341 of the Code.

SECTION 5.14. *Intellectual Property*. Except as could not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect:

(a) The Company or one of its Subsidiaries exclusively owns, without restrictions, or is licensed to use, the rights to all patents, trademarks, trade names, service marks, copyrights together with any registrations and applications therefor, Internet domain names, net lists, schematics, inventories, technology, trade secrets, source codes, know-how, computer software programs or applications including, without limitation, all object and source codes and tangible or intangible proprietary information or material that are used in the business of the Company and any of its Subsidiaries as currently conducted (the "**Company Intellectual Property**"). Neither the Company nor any of its Subsidiaries is, or as a result of the execution, delivery or performance of the Company's obligations hereunder will be, in violation of, or lose any rights pursuant to, any Company Intellectual Property.

(b) No claims with respect to the Company Intellectual Property have been asserted or, to the knowledge of the Company, are threatened by any Person nor does the Company or any of its Subsidiaries know of any valid grounds for any bona fide claims against the use by the Company or any of its Subsidiaries of any Company Intellectual Property, or challenging the ownership, validity, enforceability or effectiveness of any of the Company Intellectual Property. All granted and issued patents and all registered trademarks and service marks and all copyrights held by the Company or any of its Subsidiaries are valid, enforceable and subsisting. To the Company's knowledge, there has not been and there is not any unauthorized use, infringement or misappropriation of any of the Company Intellectual Property by any third Person, including, without limitation, any employee or former employee.

(c) Except as set forth in Section 5.14(c) of the Company Disclosure Letter, no owned Company Intellectual Property is subject to any outstanding order, judgment, decree, stipulation or agreement restricting in any manner the licensing thereof by the Company or any of its Subsidiaries.

SECTION 5.15. *Broker's or Finder's Fee*. Except for the fees of Goldman, Sachs & Co. (whose fees and expenses will be paid by the Company in accordance with the Company's agreement with such firm, a true and correct copy of which has been previously delivered to Parent by the Company), no agent, broker, Person or firm acting on behalf of the Company is, or will be, entitled to any fee, commission or broker's or finder's fees from any of the parties hereto, or from any Person controlling, controlled by, or under common control with any of the parties hereto, in connection with this Agreement or any of the transactions contemplated hereby.

SECTION 5.16. *Environmental Laws and Regulations*. Except as could not reasonably be expected to, individually or in the aggregate, have a Company Material Adverse Effect and except as set forth in Section 5.16 of the Company Disclosure Letter, (i) Hazardous Materials have not been generated, used, treated or stored on, transported to or from or Released or disposed of on, any Company Property except in compliance with applicable Environmental Laws, (ii) the Company and each of its Subsidiaries are in compliance with all applicable Environmental Laws and the requirements of any permits issued under such Environmental Laws with respect to any Company Property, (iii) there are no past, pending or, to the Company's knowledge, threatened Environmental Claims against the Company or any of its Subsidiaries or any Company Property and (iv) there are no facts or circumstances, conditions or occurrences regarding the business, assets or operations of the Company or any Company Property that could reasonably be anticipated to form the basis of an Environmental Claim against the Company or any of its Subsidiaries or any Company Property.

For purposes of this Agreement, (i) "**Company Property**" means any real property and improvements owned, leased or operated by the Company or any of its Subsidiaries; (ii) "**Hazardous Materials**" means (A) any petroleum or petroleum products, radioactive materials, asbestos in any form that is or could become friable, transformers or other equipment that contain dielectric fluid containing levels of polychlorinated biphenyls, and radon gas; (B) any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "extremely hazardous wastes," "extremely hazardous substances," "restricted hazardous wastes," "toxic substances," "toxic pollutants," or words of similar import, under any applicable Environmental Law; and (C) any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any Governmental Authority; (iii) "**Environmental Law**" means any federal, state, foreign or local statute, law, rule, regulation, ordinance, code or rule of common law and any judicial or administrative interpretation thereof binding on the Company or its operations or property as of the date hereof and Closing Date, including any judicial or administrative order, consent decree or judgment, relating to the environment, health or Hazardous Materials, including, without limitation, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601 et seq.; the Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6901 et seq.; the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.; the Toxic Substances Control Act, 15 U.S.C. § 2601 et seq.; the Clean Air Act, 42 U.S.C. § 7401 et seq.; Oil Pollution Act of 1990, 33 U.S.C. § 2701 et seq.; the Safe Drinking Water Act, 42 U.S.C. § 300f et seq.; and their state and local counterparts and equivalents; (iv) "**Environmental Claims**" means any and all administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigations or proceedings under any Environmental Law or any permit issued under any such Environmental Law (for purposes of this subclause (iv), "**Claims**"), including, without limitation, (A) any and all Claims by Governmental Authorities for enforcement, cleanup, removal, response, remedial or other actions or damages pursuant to any applicable Environmental Law and (B) any and all Claims by any third party seeking damages, contribution, indemnification, cost recovery, compensation or injunctive relief resulting from Hazardous Materials or arising from alleged injury or threat of injury to health, safety or the environment; and (v) "**Release**" means disposing, discharging, injecting, spilling, leaking, leaching, dumping, emitting, escaping, emptying or seeping into or upon any land or water or air, or otherwise entering into the environment.

SECTION 5.17. *State Takeover Statutes.* The Board of Directors of the Company has approved the Offer, the Merger and this Agreement and such approval is sufficient to render inapplicable to the Offer, the Merger, this Agreement and the other transactions contemplated hereby the provisions of

Section 912 of the BCL. Except for Section 912 of the BCL (which has been rendered inapplicable), no other takeover statute or similar statute or regulation of any state is applicable to the Offer, the Merger, this Agreement and the other transactions contemplated hereby.

SECTION 5.18. *Voting Requirements; Board Approval; Appraisal Rights.* (a) The affirmative vote of the holders of at least two-thirds of the outstanding shares of the Company Common Stock (voting as one class, with each share of the Company Common Stock having one (1) vote) entitled to be cast approving this Agreement is the only vote of the holders of any class or series of the Company's capital stock necessary to approve this Agreement, the Merger and the transactions contemplated hereby.

(b) The Board of Directors of the Company has, as of the date of this Agreement, (i) determined that the Offer and the Merger are advisable and fair to, and in the best interests of the Company and its shareholders, (ii) approved this Agreement and the transactions contemplated hereby and (iii) resolved to recommend that the shareholders of the Company approve and adopt this Agreement, the Offer and the Merger.

(c) No holder of Company Common Stock will have appraisal rights under Section 910 of the BCL as a result of, or in connection with, the Offer or the Merger.

SECTION 5.19. *Opinion of Financial Advisor.* The Company has received the opinion of Goldman, Sachs & Co. to the effect that, as of the date of this Agreement, the consideration payable in the Offer and the Merger to the holders of the Company Common Stock is fair to such holders from a financial point of view, and a copy of such opinion has been, or promptly upon receipt thereof will be, delivered to Parent; it being understood and acknowledged by Parent and Merger Sub that such opinion has been rendered for the benefit of the Board of Directors of the Company, and is not intended to, and may not, be relied upon by Parent, its Affiliates or their respective shareholders.

SECTION 5.20. *Trust Agreement.* Section 5.20 of the Company Disclosure Letter sets forth the total amount of funds (the "**Funding Amount**") required to fund the Company's obligation under the Trust Agreement, dated as of February 19, 1987, between the Company and Fleet National Bank of Connecticut, as amended (the "**Trust Agreement**"), with respect to the executives listed therein. The Funding Amount was determined in good faith based on all relevant information which was reasonably necessary for the Company to determine the Funding Amount.

SECTION 5.21. *Termination of Existing Agreements.* Each of the Agreement and Plan of Merger dated as of February 17, 2000 by and among UPM-Kymmene Corporation, Blue Acquisition, Inc. and the Company, the Stock Option Agreement dated as of February 17, 2000 between UPM-Kymmene Corporation and the Company and any other related agreement between UPM-Kymmene Corporation and the Company (other than the Confidentiality Agreement dated April 20, 1999) has been duly terminated.

ARTICLE 6

REPRESENTATIONS AND WARRANTIES OF PARENT AND MERGER SUB

Except as disclosed in (i) Parent's disclosure letter delivered concurrently with the delivery of this Agreement (the "**Parent Disclosure Letter**") or (ii) the Parent SEC Reports (as defined below) made or filed prior to the date of this Agreement, Parent and Merger Sub hereby represent and warrant, jointly and severally, to the Company as follows:

SECTION 6.01. *Due Organization, Good Standing and Corporate Power.* Each of Parent and its Significant Subsidiaries is a corporation duly organized, validly existing and in good standing (with respect to jurisdictions which recognize the concept of good standing) under the laws of the jurisdiction of its incorporation and each such Person has all requisite corporate power and authority to own, lease and operate its properties and to carry on its business as now being conducted, except where the failure to be so organized, existing and in good standing or to have such power and authority could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect. Parent and each of its Significant Subsidiaries is duly qualified or licensed to do business and is in good standing in each jurisdiction in which the property owned, leased or operated by it or the nature of the business conducted by it makes such qualification necessary, except in such jurisdictions where the failure to be so qualified or licensed and in good standing could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect. Other than as set forth in Section 6.01 of the Parent Disclosure Letter, the respective Certificates of Incorporation and By-Laws or other organizational documents of the Significant Subsidiaries of Parent do not contain any provision limiting or otherwise restricting the ability of Parent to control its Significant Subsidiaries. Section 6.01 of the Parent Disclosure Letter sets forth a list of all Significant Subsidiaries of Parent and their respective jurisdictions of incorporation or organization and identifies Parent's (direct or indirect) percentages of equity ownership therein.

SECTION 6.02. *Authorization and Validity of Agreement.* Each of Parent and Merger Sub has full corporate power and authority to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated hereby. The execution, delivery and performance of this Agreement by Parent and Merger Sub, and the consummation by each such party of the transactions contemplated hereby, have been duly authorized and unanimously approved by the respective Board of Directors of Parent and the Merger Sub and no other corporate action on the part of either of Parent or Merger Sub is necessary to authorize the execution, delivery and performance of this Agreement by each of Parent and Merger Sub and the consummation of the transactions contemplated hereby. This Agreement has been duly executed and delivered by each of Parent and Merger Sub and is a valid and binding obligation of each of Parent and Merger Sub, enforceable against each of Parent and Merger Sub in accordance with its terms, except to the extent that its enforceability may be subject to applicable bankruptcy, insolvency, reorganization, moratorium and similar laws affecting the enforcement of creditors' rights generally and by general equitable principles.

SECTION 6.03. *Capitalization.* (a) The authorized capital stock of Parent consists of 990,850,000 shares of Parent Common Stock and 9,150,000 shares of preferred stock (the "**Parent Preferred Stock**"). At the close of business on May 11, 2000: (i) 413,091,346 shares of Parent Common Stock were issued and outstanding, (ii) 19,128,373 shares of Parent Common Stock were reserved for issuance under Parent's stock option and stock benefit plans and arrangements, (iii) 15,696 shares of Parent Preferred Stock were issued and outstanding and (iv) 1,839,121 shares of Parent Common Stock were held by Parent in its treasury. All issued and outstanding shares of capital stock of Parent are, and all shares of Parent Common Stock to be issued hereunder will be, upon issuance, duly authorized, validly issued, fully paid and nonassessable. Except as set forth in Section 6.03(a) of the Parent Disclosure Letter, (i) Parent is not bound by, obligated under, or party to an Issuance Obligation with respect to any security of Parent or any Significant Subsidiary of Parent and (ii) there is no outstanding Voting Debt of Parent. There are no outstanding obligations of Parent to repurchase, redeem or otherwise acquire any outstanding securities of Parent. Except as set forth in Section 6.03(a) of the Parent Disclosure Letter, there are no restrictions of any kind which prevent or restrict the payment of dividends by Parent or any of its Subsidiaries and there are no limitations or restrictions on the right to vote, sell or otherwise dispose of such capital stock or other ownership interests.

(b) The authorized capital stock of Merger Sub consists of 100 shares of common stock, par value $1.00 per share, all of which are validly issued and outstanding, fully paid and nonassessable and are owned by Parent free and clear of all security interests, liens, claims, pledges, options, rights of first refusal,

agreements, charges or other encumbrances of any nature or any other limitation or restriction (including any restriction on the right to vote or sell the same, except as may be provided under applicable Federal or state securities laws) (collectively, "**Liens**").

(c) All of the issued and outstanding shares of capital stock of each Significant Subsidiary are validly existing, fully paid and non-assessable. Except as set forth in the Parent SEC Reports or Section 6.03(c) of the Parent Disclosure Letter, no Significant Subsidiary of Parent has outstanding Voting Debt and no Significant Subsidiary of Parent is bound by, obligated under, or party to an Issuance Obligation with respect to any security of Parent or any Significant Subsidiary of Parent and there are no obligations of Parent or any of its Significant Subsidiaries to repurchase, redeem or otherwise acquire any outstanding securities of any of its Significant Subsidiaries or any capital stock of, or other ownership interests in, any of its Significant Subsidiaries.

(d) Except for Parent's interest in its Significant Subsidiaries, and as set forth in the Parent SEC Reports or Section 6.03(d) of the Parent Disclosure Letter, Parent does not directly or indirectly own any equity or similar interest in, or any interest convertible into or exchangeable or exercisable for any equity or similar interest in, any corporation, partnership, joint venture, limited liability company or other business association or entity which is material to Parent and its Subsidiaries, taken as a whole.

SECTION 6.04. *Consents and Approvals; No Violations*. Assuming (i) the filings required under applicable Brazilian antitrust or competition laws, the Competition Act and the HSR Act are made and the waiting periods thereunder (if applicable) have been terminated or expired, (ii) the prior notification and reporting requirements of the European Antitrust Laws are satisfied and any antitrust filings/notifications which must or may be effected at the national level in countries having jurisdiction are made and any applicable waiting periods thereunder have been terminated or expired, (iii) the prior notification and reporting requirements of other antitrust or competition laws as may be applicable are satisfied and any antitrust filings/notifications which must or may be effected in countries having jurisdiction are made, (iv) the applicable requirements of the Securities Act and the Exchange Act are met, (v) the requirements under any applicable foreign or state securities or blue sky laws are met, (vi) the requirements of the NYSE in respect of the listing of the shares of Parent Common Stock to be issued hereunder are met, (vii) the filing of the Certificate of Merger and other appropriate merger documents, if any, as required by the BCL, are made, and (viii) the requirements of any applicable state law relating to the transfer of contaminated property are met, the execution and delivery of this Agreement by Parent and Merger Sub and the consummation by Parent and Merger Sub of the transactions

contemplated hereby do not and will not: (A) violate or conflict with any provision of Parent's Certificate of Incorporation or Parent's By-Laws or the comparable governing documents of any of its Subsidiaries; (B) violate or conflict with any Laws or Orders of any Governmental Authority applicable to Parent or any of its Subsidiaries or by which any of their respective properties or assets may be bound; (C) except as set forth in Section 6.04 of the Parent Disclosure Letter, require any filing with, or permit, consent or approval of, or the giving of any notice to, any Governmental Authority; or (D) except as set forth in Section 6.04 of the Parent Disclosure Letter, result in a violation or breach of, conflict with, constitute (with or without due notice or lapse of time or both) a default (or give rise to any right of termination, cancellation or acceleration) under, or result in the creation of any Lien upon any of the properties or assets of Parent or any of its Significant Subsidiaries under, or give rise to any obligation, right of termination, cancellation, acceleration or increase of any obligation or a loss of a material benefit under, any of the terms, conditions or provisions of any Contracts to which Parent or any of its Significant Subsidiaries is a party, or by which any such Person or any of its properties or assets are bound, excluding from the foregoing clauses (B), (C) and (D) conflicts, violations, breaches, defaults, rights of payment and reimbursement, terminations, modifications, accelerations and creations and impositions of Liens which could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect.

SECTION 6.05. *Parent Reports and Financial Statements.* (a) Since December 31, 1997, Parent and, to the extent applicable, its Subsidiaries have filed all forms, reports and documents with the SEC required to be filed by it pursuant to the federal securities laws and the SEC rules and regulations thereunder, and all forms, reports, schedules, registration statements and other documents filed with the SEC by Parent and, to the extent applicable, its Subsidiaries have complied in all material respects with all applicable requirements of the federal securities laws and the SEC rules and regulations thereunder. Parent has, prior to the date of this Agreement, made available to the Company true and complete copies of all forms, reports, registration statements and other filings filed by Parent and its Subsidiaries with the SEC since December 31, 1997 (such forms, reports, registration statements and other filings, together with any exhibits, any amendments thereto and information incorporated by reference therein, are sometimes collectively referred to as the "**Parent SEC Reports**"). As of their respective dates, the Parent SEC Reports did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. The audited consolidated financial statements and the unaudited consolidated interim financial statements of Parent included in the Parent SEC Reports were prepared in accordance with GAAP applied on a consistent basis (except as may be indicated therein or in the notes or schedules thereto) and present fairly, in all

material respects, the consolidated financial position of Parent and its consolidated Subsidiaries as of the dates thereof and their consolidated results of operations and changes in financial position for the periods then ended. Parent has heretofore provided to the Company with true and correct copies of any amendments and/or modifications to any Parent SEC Reports which have not yet been filed with the SEC but that are required to be filed with the SEC in accordance with applicable federal securities laws and the SEC rules.

(b) Except as set forth or provided in the Parent SEC Reports or Section 6.05(b) of the Parent Disclosure Letter, neither Parent nor any of its Subsidiaries has any liability or obligation of any nature (whether accrued, absolute, contingent or otherwise), in each case that is required by GAAP to be set forth on a consolidated balance sheet of Parent, except for (i) liabilities and obligations disclosed or provided for in the Parent SEC Reports; (ii) liabilities and obligations under this Agreement or incurred in connection with the transactions contemplated hereby; and (iii) liabilities and obligations incurred in the ordinary course of business consistent with past practice since September 30, 1999 which could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect. Neither Parent nor any of its Subsidiaries is in default in respect of the material terms and conditions of any indebtedness or other agreement which could reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect.

SECTION 6.06. *Information to Be Supplied.* (a) Each of the registration statement on Form S-4 to be filed with the SEC by Parent in connection with the issuance of Parent Common Stock in the Merger, as amended or supplemented from time to time (as so amended and supplemented, the "**Merger Registration Statement**"), the Offer Documents and the other documents required to be filed by Parent with the SEC in connection with the Offer, the Merger and the other transactions contemplated hereby will comply as to form, in all material respects, with the requirements of the Exchange Act and the Securities Act, as the case may be, and will not, on the date of its filing or, in the case of the Offer Registration Statement and the Merger Registration Statement, at the time they become effective under the Securities Act, or on the dates the Proxy Statement/Prospectus is mailed to shareholders of the Company and at the time of the Company Shareholder Meeting, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they are made, not misleading.

(b) Notwithstanding the foregoing provisions of this Section 6.06, no representation or warranty is made by Parent with respect to statements made or incorporated by reference in the Merger Registration Statement or the Offer

Documents based on information supplied by the Company expressly for inclusion or incorporation by reference therein or based on information which is not made in or incorporated by reference in such documents but which should have been disclosed pursuant to Section 5.06.

SECTION 6.07. *Absence of Certain Events.* Except as disclosed in the Parent SEC Reports or in Section 6.07 of the Parent Disclosure Letter or as required or expressly permitted by this Agreement, since December 31, 1998, Parent and its Subsidiaries have operated their respective businesses only in the ordinary course and, except as disclosed in the Parent SEC Reports or in Section 6.07 of the Parent Disclosure Letter, there has not occurred (i) any event, occurrence or conditions which could reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect; (ii) any damage, destruction or loss which, individually or in the aggregate, resulted in or could reasonably be expected to result in, a Parent Material Adverse Effect; or (iii) any increase in the compensation of any officer of Parent or any of its Subsidiaries or any general salary or benefits increase to the employees of Parent or any of its Subsidiaries other than in the ordinary course of business.

SECTION 6.08. *Litigation.* Except as disclosed in Section 6.08 of Parent Disclosure Letter, there are no investigations, actions, suits or proceedings pending against Parent or its Subsidiaries or, to the knowledge of Parent, threatened against Parent or its Subsidiaries (or any of their respective properties, rights or franchises), at law or in equity, or before or by any federal or state commission, board, bureau, agency, regulatory or administrative instrumentality or other Governmental Authority or any arbitrator or arbitration tribunal, that could reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect, and, to the knowledge of Parent, no development has occurred with respect to any pending or threatened action, suit or proceeding that could reasonably be expected to result in a Parent Material Adverse Effect or could reasonably be expected to prevent, materially impair or materially delay the consummation of the transactions contemplated hereby. Neither Parent nor any of its Subsidiaries is subject to any judgment, order or decree entered in any lawsuit or proceeding which could reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect.

SECTION 6.09. *Title to Properties; Encumbrances.* Except as disclosed in Section 6.09 of the Parent Disclosure Letter, Parent and each of its Subsidiaries has good, valid and marketable title to, or, in the case of leased properties and assets, valid leasehold interests in, all of its tangible properties and assets except where the failure to have such good, valid and marketable title could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect; in each case subject to no Liens, except for (A) Liens reflected in the

consolidated balance sheet as of September 30, 1999, (B) Liens consisting of zoning or planning restrictions, easements, permits and other restrictions or limitations on the use of real property or irregularities in title thereto which do not materially detract from the value of, or impair the use of, such property by Parent or any of its Significant Subsidiaries in the operation of its respective business, (C) Liens for current Taxes, assessments or governmental charges or levies on property not yet due or which are being contested in good faith and (D) Liens which could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect. Except as could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect, (i) Parent and each of its Significant Subsidiaries are in compliance with the terms of all leases of tangible properties to which they are a party and under which they are in occupancy, and all such leases are in full force and effect and (ii) Parent and each of its Significant Subsidiaries enjoys peaceful and undisturbed possession under all such leases.

SECTION 6.10. *Compliance with Laws.* Except as disclosed in the Parent SEC Reports and except as disclosed in Section 6.10 of the Parent Disclosure Letter:

(a) Parent and its Subsidiaries are in compliance with all applicable federal, state, local and foreign statutes, laws, regulations, orders, judgments and decrees except where the failure to so comply could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect.

(b) Parent and its Subsidiaries hold, to the extent legally required, all Permits that are required for the operation of the respective businesses of Parent and/or its Subsidiaries as now conducted, except where the failure to hold any such Permit could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect, and there has not occurred any default under any such Permit, except to the extent that such default could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect.

SECTION 6.11. *Parent Employee Benefit Plans.* (a) Set forth in Section 6.11(a) of the Parent Disclosure Letter is an accurate and complete list of each material domestic or foreign employee benefit plan, within the meaning of Section 3(3) of ERISA, whether or not subject to ERISA, and each stock option, stock appreciation right, restricted stock, stock purchase, stock unit, performance share, incentive, bonus, profit-sharing, savings, deferred compensation, health, medical, dental, life insurance, disability, accident, supplemental unemployment or retirement, employment, severance or salary or benefits continuation or fringe benefit plan, program, arrangement, or agreement maintained by Parent or any

Affiliate thereof (including, for this purpose and for the purpose of all of the representations in this Section 6.11, all employers (whether or not incorporated) that would be treated together with Parent and/or any such Affiliate as a single employer within the meaning of Section 414 of the Code) or to which Parent or any Affiliate thereof contributes (or has any obligation to contribute), has any liability or is a party (collectively, the "**Parent Employee Benefit Plans**").

(b) Except as set forth in Section 6.11(b) of the Parent Disclosure Letter or disclosed in the Parent SEC Reports, (i) each Parent Employee Benefit Plan is in compliance with all applicable laws (including, without limitation, ERISA and the Code) and has been administered and operated in accordance with its terms, in each case except as would not have a Parent Material Adverse Effect; (ii) each Parent Employee Benefit Plan which is intended to be "qualified" within the meaning of Section 401(a) of the Code has received a favorable determination letter from the Internal Revenue Service and, to the best knowledge of Parent, no event has occurred and no condition exists which could reasonably be expected to result in the revocation of any such determination; (iii) the actuarial present value of the accumulated plan benefits (whether or not vested) under each Parent Employee Benefit Plan covered by Title IV of ERISA, or which otherwise is a pension plan (as defined in Section 3(2) of ERISA) or provides for actuarially-determined benefits (other than any Parent Employee Benefit Plan which is a "multiemployer plan" (as defined in Section 4001(a)(3) of ERISA) (a "**Parent Multiemployer Plan**")), as of the close of its most recent plan year did not exceed the market value of the assets allocable thereto; (iv) no Parent Employee Benefit Plan covered by Title IV of ERISA has been terminated and no proceedings have been instituted to terminate or appoint a trustee under Title IV of ERISA to administer any such plan; (v) no Parent Employee Benefit Plan (other than any Parent Multiemployer Plan) subject to Section 412 of the Code or Section 302 of ERISA has incurred any accumulated funding deficiency within the meaning of Section 412 of the Code or Section 302 of ERISA, or obtained a waiver of any minimum funding standard or an extension of any amortization period within the meaning of Section 412 of the Code or Section 303 or 304 of ERISA; (vi) as of the date of this Agreement, neither Parent nor any of its Affiliates has incurred any unsatisfied withdrawal liability under Part 1 of Subtitle E of Title IV of ERISA to any Parent Multiemployer Plan, and the aggregate liabilities of Parent and its Affiliates to all Parent Multiemployer Plans in the event of a complete withdrawal therefrom, as of the close of the most recent fiscal year of each Parent Multiemployer Plan ended prior to the date hereof, would not have a Parent Material Adverse Effect; (vii) the execution of this Agreement and the consummation of the transactions contemplated hereby do not constitute a triggering event under any Parent Employee Benefit Plan, policy, arrangement, statement, commitment or agreement, which (either alone or upon the occurrence of any additional or subsequent event) will result in any "excess parachute

payment," as such term is defined in Section 280G of the Code, or will result in any severance, bonus, retirement, job security or similar-type benefit, or increase any benefits or accelerate the payment or vesting of any benefits to any employee or former employee or director of Parent or its Affiliates, other than any benefits, payments, accelerations or increases (1) under any Parent Employee Benefit Plan that is subject to the laws of a jurisdiction outside of the United States or (2) mandated by applicable law; (viii) no liability, claim, action, litigation, audit, examination, investigation or administrative proceeding has been made, commenced or, to the best knowledge of Parent, threatened with respect to any Parent Employee Benefit Plan (other than routine claims for benefits payable in the ordinary course) which would have a Parent Material Adverse Effect; (ix) except as required to maintain the tax-qualified status of any Parent Employee Benefit Plan intended to qualify under Section 401(a) of the Code, no condition or circumstance exists that would prevent the amendment or termination of any Parent Employee Benefit Plan; and (x) there has been no amendment to, written interpretation or announcement (whether or not written) relating to, or change in employee participation or coverage under, any Parent Employee Benefit Plan which would increase materially the expense of maintaining such Parent Employee Benefit Plan above the level of such expense incurred for the most recently ended fiscal year.

(c) Parent has delivered or caused to be delivered to the Company or its counsel true and complete copies of each Parent Employee Benefit Plan and any related trust agreement or funding vehicle, together with all amendments thereto, and, to the extent applicable with respect thereto, (i) the current summary plan description; (ii) the most recent annual report on Internal Revenue Service Form 5500-series, including any attachments thereto; (iii) the most recent financial report; (iv) the most recent actuarial valuation report; and (v) the most recent determination letter received from the Internal Revenue Service.

SECTION 6.12. *Employment Relations and Agreement.* Except as could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect or as disclosed in the Parent SEC Reports or Section 6.12 of the Parent Disclosure Letter, (i) each of Parent and its Subsidiaries is, and at all times has been, in compliance with all federal, state or other applicable laws respecting employment and employment practices, terms and conditions of employment and wages and hours, and has not and is not engaged in any unfair labor practice; (ii) no unfair labor practice complaint against Parent or any of its Subsidiaries is pending before the National Labor Relations Board; (iii) during the last three years there has not been any labor strike, dispute, slowdown or stoppage or, to Parent's knowledge, threatened against or involving Parent or any of its Subsidiaries; (iv) no representation question exists respecting the employees of Parent or any of its Subsidiaries; (v) no arbitration proceeding arising out of or under any collective

bargaining agreement is pending and no claim therefor has been asserted; and (vi) no collective bargaining agreement is currently being negotiated by Parent or any of its Subsidiaries.

SECTION 6.13. *Taxes*. Except as set forth in Section 6.13 of the Parent Disclosure Letter:

(a) *Tax Returns*. Parent and each of its Subsidiaries has timely filed or caused to be timely filed with the appropriate Taxing authorities all material Returns that are required to be filed by, or with respect to, Parent and such Subsidiaries on or prior to the Closing Date. The Returns as filed were correct and complete in all material respects.

(b) *Payment of Taxes*. All material Taxes and Tax liabilities of Parent and its Subsidiaries that have become due and payable have been timely paid or fully provided for as a liability on the financial statements of Parent and its Subsidiaries in accordance with GAAP.

(c) *Other Tax Matters*. Neither Parent nor any of its Subsidiaries has been or is the subject of an audit, other examination, matter in controversy, proposed adjustment, refund litigation or other proceeding with respect to Taxes by the Tax authorities of any nation, state or locality which could reasonably be expected to result in a material Tax liability, nor has Parent or any of its Subsidiaries received any notices from any Tax authority relating to any issue which could reasonably be expected to result in a material Tax liability.

(d) Neither Parent nor any of its Subsidiaries has been included in any "consolidated," "unitary" or "combined" Return (other than Returns which include only Parent and any Subsidiaries of Parent) provided for under the laws of the United States, any foreign jurisdiction or any state or locality with respect to material Taxes for any taxable period for which the statute of limitations has not expired.

(e) All material Taxes which Parent or any of its Subsidiaries is (or was) required by law to withhold or collect have been duly withheld or collected, and have been timely paid over to the proper authorities to the extent due and payable.

(f) There are no Tax sharing, allocation, indemnification or similar agreements (in writing) in effect as between Parent, any of its Subsidiaries, or any predecessor or Affiliate of any of them and any other party under which Parent (or any of its Subsidiaries) could be liable for any material Taxes of any party other than Parent or any Subsidiary of Parent.

(g) Neither Parent nor any of its Subsidiaries has, as of the Closing Date entered into an agreement or waiver extending any statute of limitations relating to the payment or collection of U.S. Federal income Taxes of Parent or any of its Subsidiaries.

SECTION 6.14. *Intellectual Property*. Except as could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect:

(a) Parent or one of its Subsidiaries exclusively owns, without restrictions, or is licensed to use, the rights to all patents, trademarks, trade names, service marks, copyrights together with any registrations and applications therefor, Internet domain names, net lists, schematics, inventories, technology, trade secrets, source codes, know-how, computer software programs or applications including, without limitation, all object and source codes and tangible or intangible proprietary information or material that are used in the business of Parent and any of its Subsidiaries as currently conducted (the "**Parent Intellectual Property**"). Neither Parent nor any of its Subsidiaries is, or as a result of the execution, delivery or performance of Parent's obligations hereunder will be, in violation of, or lose any rights pursuant to, any Parent Intellectual Property.

(b) No claims with respect to Parent Intellectual Property have been asserted or, to the knowledge of Parent, are threatened by any Person nor does Parent or any of its Subsidiaries know of any valid grounds for any bona fide claims against the use by Parent or any of its Subsidiaries of any Parent Intellectual Property, or challenging the ownership, validity, enforceability or effectiveness of any of the Parent Intellectual Property. All granted and issued patents and all registered trademarks and service marks and all copyrights held by Parent or any of its Subsidiaries are valid, enforceable and subsisting. To Parent's best knowledge, there has not been and there is not any unauthorized use, infringement or misappropriation of any of the Parent Intellectual Property by any third Person, including, without limitation, any employee or former employee.

(c) Except as set forth in Section 6.14(c) of the Parent Disclosure Letter, no owned Parent Intellectual Property is subject to any outstanding order, judgment, decree, stipulation or agreement restricting in any material manner the licensing thereof by Parent or any of its Subsidiaries.

SECTION 6.15. *Broker's or Finder's Fee*. Except for Credit Suisse First Boston (whose fees and expenses will be paid by Parent or Merger Sub in accordance with their agreement with such firm, a true and correct copy of which has been previously delivered to the Company by Parent), no agent, broker, Person or firm acting on behalf of Parent or Merger Sub is, or will be, entitled to any fee,

commission or broker's or finder's fees from any of the parties hereto, or from any Person controlling, controlled by, or under common control with any of the parties hereto, in connection with this Agreement or any of the transactions contemplated hereby.

SECTION 6.16. *Environmental Laws and Regulations*. Except as could not reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect and except as set forth in Section 6.16 of the Parent Disclosure Letter, (i) Hazardous Materials have not been generated, used, treated or stored on, transported to or from or Released or disposed of on, any Parent Property except in compliance with applicable Environmental Laws, (ii) Parent and each of its Subsidiaries are in compliance with all applicable Environmental Laws and the requirements of any permits issued under such Environmental Laws with respect to any Parent Property, (iii) there are no past, pending or, to Parent's knowledge, threatened Environmental Claims against Parent or any of its Subsidiaries or any Parent Property and (iv) there are no facts or circumstances, conditions or occurrences regarding the business, assets or operations of Parent or any Parent Property that could reasonably be anticipated to form the basis of an Environmental Claim against Parent or any of its Subsidiaries or any Parent Property.

For purposes of this Agreement, "**Parent Property**" means any real property and improvements owned, leased or operated by Parent or any of its Subsidiaries.

SECTION 6.17. *Ownership of Capital Stock*. Except as set forth in Section 6.17 of the Parent Disclosure Letter, neither Parent nor any of its Subsidiaries beneficially owns, directly or indirectly, any capital stock of the Company or is a party to any agreement, arrangement or understanding for the purpose of acquiring, holding, voting or disposing of any capital stock of the Company, other than as contemplated by this Agreement.

SECTION 6.18. *No Prior Activities*. Merger Sub was formed solely for the purpose of engaging in the transactions contemplated by this Agreement, has no Subsidiaries and has undertaken no business or activities other than in connection with entering into this Agreement and engaging in the transactions contemplated hereby.

SECTION 6.19. *Financing*. Parent has, or will have prior to the expiration of the Offer and the Merger, sufficient cash, available lines of credit or other sources of immediately available funds to enable it to purchase all of the shares of Company Common Stock outstanding on a fully-diluted basis and to pay all related fees and expenses in connection therewith. Parent has provided the Company true

and complete copies of all commitment letters that Parent and Merger Sub have received with respect to their financing of the Offer, the Merger and the other transactions contemplated hereby.

ARTICLE 7
TRANSACTIONS PRIOR TO CLOSING DATE

SECTION 7.01. *Access to Information Concerning Properties and Records.* During the period commencing on the date hereof and ending on the earlier of (i) the Closing Date and (ii) the date on which this Agreement is terminated pursuant to Section 9.01 hereof, each of the Company and Parent shall, and each shall cause each of its Subsidiaries to, upon reasonable notice, afford the other party, and its respective counsel, accountants, consultants and other authorized representatives, access during normal business hours to its and its Subsidiaries' employees, properties, books and records in order that they may have the opportunity to make such investigations as they shall desire of its and its Subsidiaries' affairs; such investigation shall not, however, affect the representations and warranties made by the Company or Parent in this Agreement. The Company shall furnish promptly to Parent and Merger Sub and Parent and Merger Sub shall furnish promptly to the Company (x) a copy of each form, report, schedule, statement, registration statement and other document filed by it or its Subsidiaries during such period pursuant to the requirements of Federal, state or foreign securities laws and (y) all other information concerning its or its Subsidiaries' business, properties and personnel as Parent, Merger Sub or the Company may reasonably request. Each of the Company and Parent agrees to cause its officers and employees to furnish such additional financial and operating data and other information and respond to such inquiries as the other party shall from time to time reasonably request.

SECTION 7.02. *Confidentiality.* Prior to the Effective Time and after any termination of this Agreement, each of Parent and the Company will hold, and will use its best efforts to cause its officers, directors, employees, accountants, counsel, consultants, advisors and agents to hold, in confidence, unless compelled to disclose by judicial or administrative process or by other requirements of law, all confidential documents and information concerning the other party furnished to it or its Affiliates in connection with the transactions contemplated by this Agreement, except to the extent that such information can be shown to have been (i) previously known on a nonconfidential basis by such party, (ii) in the public domain through no fault of such party or (iii) later lawfully acquired by such party from sources other than the other party; *provided* that each of Parent and the Company may disclose such information to its officers, directors, employees,

accountants, counsel, consultants, advisors, lenders and agents in connection with the transactions contemplated by this Agreement so long as such party informs such Persons of the confidential nature of such information and directs them to treat it confidentially. Each of Parent and the Company shall satisfy its obligation to hold any such information in confidence if it exercises the same care with respect to such information as it would take to preserve the confidentiality of its own similar information. If this Agreement is terminated, each of Parent and the Company will, and will use its best efforts to cause its officers, directors, employees, accountants, counsel, consultants, advisors and agents to, destroy or deliver to the other party, upon request, all documents and other materials, and all copies thereof, that it or its Affiliates obtained, or that were obtained on their behalf, from the other party in connection with this Agreement and that are subject to such confidence.

SECTION 7.03. *Conduct of the Business of the Company Pending the Closing Date*. The Company agrees that, except as permitted, required or specifically contemplated by, or otherwise described in, this Agreement or otherwise consented to or approved in writing by Parent (which consent or approval shall not be unreasonably withheld or delayed), during the period commencing on the date hereof until the Effective Time:

(a) the Company and each of its Subsidiaries shall conduct their respective operations in all material respects only according to their ordinary and usual course of business consistent with past practice and shall use their reasonable best efforts to preserve intact their respective business organization, keep available the services of their officers and employees and maintain satisfactory relationships with licensors, suppliers, distributors, clients, joint venture partners and others having significant business relationships with them; and

(b) Except as set forth in Section 7.03(b) of the Company Disclosure Letter or as expressly contemplated by this Agreement, neither the Company nor any of its Subsidiaries shall:

(i) make any change in or amendment to the Company's Certificate of Incorporation or its By-Laws;

(ii) issue or sell, or authorize to issue or sell, any shares of its capital stock or any other securities, or issue or sell, or authorize to issue or sell, any securities convertible into, or options, warrants or rights to purchase or subscribe for, or enter into any arrangement or contract with respect to the issuance or sale of, any shares of its capital stock or any other securities, or make any other changes in its capital structure, other than (i) the issuance of Company Common Stock upon the exercise of Options or

in connection with Company Stock Rights outstanding on the date hereof, in each case in accordance with their present terms or pursuant to Options or other Company Stock Rights granted pursuant to clause (ii) below, (ii) the granting of Options or Company Stock Rights granted under the Company Stock Plans in effect on the date hereof in the ordinary course of business consistent with past practice not in excess of the amounts set forth in Section 7.03(b) of the Company Disclosure Letter, (iii) issuances by a wholly-owned Subsidiary of the Company of capital stock to such Subsidiary's parent, the Company or another wholly-owned Subsidiary of the Company or (iv) issuances of Company Common Stock upon the conversion of convertible securities of the Company outstanding as of the date of this Agreement;

(iii) declare, pay or set aside any dividend or other distribution or payment with respect to, or split, combine, redeem or reclassify, or purchase or otherwise acquire, any shares of its capital stock or its other securities, other than dividends payable by a wholly-owned Subsidiary of the Company to the Company or another wholly-owned Subsidiary of the Company (it being understood that the Company's Board of Directors may declare and the Company may pay quarterly dividends of not more than $0.25 per share on the schedule which has been publicly announced by the Company on or prior to the date of this Agreement);

(iv) other than in connection with transactions permitted by Section 7.03(b)(v), incur any capital expenditures or any obligations or liabilities in respect thereof, except for those (A) contemplated by the capital expenditure budgets for the Company and its Subsidiaries made available to Parent, (B) incurred in the ordinary course of business of the Company and its Subsidiaries or (C) not otherwise described in clauses (A) and (B) which, in the aggregate, do not exceed $25 million;

(v) acquire (whether pursuant to merger, stock or asset purchase or otherwise) in one transaction or series of related transactions (A) any assets (including any equity interests) having a fair market value in excess of $25 million, or (B) all or substantially all of the equity interests of any Person or any business or division of any Person having a fair market value in excess of $25 million;

(vi) except in the ordinary course of business consistent with past practice and except to the extent required under existing employee and director benefit plans, agreements or arrangements as in effect on the date of this Agreement, increase the compensation or fringe benefits of any of its directors, officers or employees or grant any severance or termination pay

not currently required to be paid under existing severance plans or enter into any employment, consulting or severance agreement or arrangement with any present or former director, officer or other employee of the Company or any of its Subsidiaries, or establish, adopt, enter into or amend in any material respect or terminate any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock, pension, retirement, deferred compensation, employment, termination, severance or other plan, agreement, trust, fund, policy or arrangement for the benefit of any directors, officers or employees;

(vii) transfer, lease, license, guarantee, sell, mortgage, pledge, dispose of, encumber or subject to any Lien, any material assets, other than in the ordinary course of business;

(viii) except as required by applicable law or GAAP, make any material change in its method of accounting;

(ix) adopt or enter into a plan of complete or partial liquidation, dissolution, merger, consolidation, restructuring, recapitalization or other reorganization of the Company or any of its Subsidiaries (other than the Merger) or any agreement relating to a Takeover Proposal, except as provided for in Section 7.07;

(x) (A) incur any material indebtedness for borrowed money or guarantee any such indebtedness of another Person, other than indebtedness owing to or guarantees of indebtedness owing to the Company or any direct or indirect wholly-owned Subsidiary of the Company or (B) make any loans or advances to any other Person, other than to the Company or to any direct or indirect wholly-owned Subsidiary of the Company, except, in the case of clause (A), for borrowings in the ordinary course of business consistent with past practice, including without limitation borrowings under existing credit facilities described in the Company SEC Reports in the ordinary course of business consistent with past practice for working capital purposes;

(xi) accelerate the payment, right to payment or vesting of any bonus, severance, profit sharing, retirement, deferred compensation, stock option, insurance or other compensation or benefits;

(xii) pay, discharge or satisfy any claims, liabilities or obligations (absolute, accrued, asserted or unasserted, contingent or otherwise) over $15 million, individually or in the aggregate, other than the payment, discharge or satisfaction (A) of any such claims, liabilities or obligations in

the ordinary course of business and consistent with past practice or (B) of claims, liabilities or obligations reflected or reserved against in, or contemplated by, the consolidated financial statements (or the notes thereto) contained in the Company SEC Reports;

(xiii) enter into any agreement, understanding or commitment that materially restrains, limits or impedes the Company's or any of its Subsidiaries' ability to compete with or conduct any business or line of business, including, but not limited to, geographic limitations on the Company's or any of its Subsidiaries' activities;

(xiv) plan, announce, implement or effect any material reduction in labor force, lay-off, early retirement program, severance program or other program or effort concerning the termination of employment of employees of the Company or its Subsidiaries; *provided, however,* that routine employee terminations for cause shall not be considered subject to this clause (xiv);

(xv) take any action including, without limitation, the adoption of any shareholder rights plan or amendments to its Certificate of Incorporation or By-Laws (or comparable governing documents), which would, directly or indirectly, restrict or impair the ability of Parent to vote, or otherwise to exercise the rights and receive the benefits of a shareholder with respect to, securities of the Company acquired or controlled by Parent or Merger Sub or permit any shareholder to acquire securities of the Company on a basis not available to Parent or Merger Sub in the event that Parent or Merger Sub were to acquire any additional shares of the Company Common Stock;

(xvi) materially modify, amend or terminate any material contract to which it is a party or waive any of its material rights or claims except in the ordinary course of business consistent with past practice;

(xvii) other than in the ordinary course of business consistent with past practice, make any tax election or enter into any settlement or compromise of any tax liability that in either case is material to the business of the Company and its Subsidiaries as a whole; or

(xviii) agree, in writing or otherwise, to take any of the foregoing actions.

SECTION 7.04. *Conduct of the Business of Parent Pending the Closing Date*. Parent agrees that, except as permitted, required or specifically

contemplated by, or otherwise described in, this Agreement or otherwise consented to or approved in writing by the Company (which consent or approval shall not be unreasonably withheld or delayed), during the period commencing on the date hereof until the Effective Time:

(a) Parent and each of its Subsidiaries shall conduct their respective operations in all material respects only according to their ordinary and usual course of business consistent with past practice and shall use their reasonable best efforts to preserve intact their respective business organization, keep available the services of their officers and employees and maintain satisfactory relationships with licensors, suppliers, distributors, clients, joint venture partners and others having significant business relationships with them; and

(b) Except as set forth in Section 7.04(b) of the Parent Disclosure Letter or as expressly contemplated by this Agreement, neither Parent nor any of its Subsidiaries shall:

(i) make any change in or amendment to Parent's Certificate of Incorporation that changes any material term or provision of the Parent Common Stock;

(ii) make any material change in or amendment to Merger Sub's Certificate of Incorporation;

(iii) engage in any material repurchase at a premium, recapitalization, restructuring or reorganization with respect to Parent's capital stock, including, without limitation, by way of any extraordinary dividend on, or other extraordinary distributions with respect to, Parent's capital stock;

(iv) acquire by merging or consolidating with, or by purchasing a substantial portion of the assets of or equity in, or by any other manner, any Person or any business or division thereof, or otherwise acquire any assets, unless such acquisition or the entering into of a definitive agreement relating to or the consummation of such transaction would not (i) impose any delay in the obtaining of, or increase the risk of not obtaining, any authorizations, consents, orders, declarations or approvals of any Governmental Authority necessary to consummate the Merger or the expiration or termination of any applicable waiting period, (ii) increase the risk of any Governmental Authority entering an order prohibiting the consummation of the Merger or (iii) increase the risk of not being able to remove any such order on appeal or otherwise; or

(v) agree, resolve or otherwise commit to do any of the foregoing.

SECTION 7.05. *Company Shareholder Meeting; Preparation of Proxy Statement/Prospectus.*

(a) *Company Shareholder Meeting.* If required by applicable law, the Company, acting through its Board of Directors, shall, in accordance with applicable law, duly call, convene and hold a meeting of the holders of the Company Common Stock (the "**Company Shareholder Meeting**") as soon as reasonably practicable after the acceptance for payment of shares of Company Common Stock pursuant to the Offer for the purpose of voting upon this Agreement and the Merger and the Company agrees that this Agreement and the Merger shall be submitted at such meeting. The Company shall take all action necessary to solicit from its shareholders proxies, and shall take all other action necessary and advisable, to secure the vote of shareholders required by applicable law and the Company's Certificate of Incorporation or By-Laws to obtain the approval for this Agreement and the Merger. Unless the Board of Directors of the Company otherwise determines (based on a majority vote of the Board of Directors in its good faith judgment that such other action is necessary to comply with its fiduciary duty to shareholders under applicable law after receiving the advice of outside legal counsel) prior to the Company Shareholder Approval, (i) the Company's Board of Directors shall recommend approval and adoption by its shareholders of this Agreement (the "**Company Recommendation**"), (ii) neither the Company's Board of Directors nor any committee thereof shall amend, modify, withdraw, condition or qualify the Company Recommendation in a manner adverse to Parent or take any action or make any statement inconsistent with the Company Recommendation and (iii) the Company shall take all lawful action to solicit the Company Shareholder Approval.

(b) *Preparation of Merger Registration Statement and Proxy Statement/ Prospectus.* If required by applicable law, promptly after the acceptance for payment of shares of Company Common Stock pursuant to the Offer, Parent and the Company shall prepare, and Parent shall file with the SEC, the Merger Registration Statement, in which the Proxy Statement/Prospectus will be included as Parent's prospectus. Each of the Company and Parent shall use all reasonable efforts to have the Merger Registration Statement declared effective under the Securities Act as promptly as practicable after the acceptance for payment of shares of Company Common Stock pursuant to the Offer and to keep the Merger Registration Statement effective as long as is necessary to consummate the Merger. The Company shall mail the Proxy Statement/Prospectus to its shareholders as promptly as practicable after the Merger Registration Statement is declared effective under the Securities Act and, if necessary, after the Proxy Statement/Prospectus shall have been so mailed, promptly circulate amended,

supplemental or supplemented proxy material, and, if required in connection therewith, resolicit proxies. Parent shall take any action required to be taken under any applicable state securities or blue sky laws in connection with the issuance of Parent Common Stock in the Merger. No amendment or supplement to the Proxy Statement/Prospectus will be made by the Company or Parent without the approval of the other party, which will not be unreasonably withheld or delayed. Each party will advise the other party, promptly after it receives notice thereof, of the time when the Merger Registration Statement has become effective or any supplement or amendment has been filed, the issuance of any stop order, the suspension of the qualification of Parent Common Stock issuable in connection with the Merger for offering or sale in any jurisdiction, or any request by the SEC for amendment of the Proxy Statement/Prospectus or comments thereon and responses thereto or requests by the SEC for additional information. If at any time prior to the Effective Time, the Company or Parent discovers any information relating to either party, or any of their respective Affiliates, officers or directors, that should be set forth in an amendment or supplement to the Proxy Statement/Prospectus, so that such document would not include any misstatement of a material fact or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, the party that discovers such information shall promptly notify the other party and an appropriate amendment or supplement describing such information shall be promptly filed with the SEC and, to the extent required by law or regulation, disseminated to the shareholders of the Company.

(c) *Short-Form Merger*. Notwithstanding the foregoing, if Parent or Merger Sub shall acquire at least 90% of the outstanding shares of Company Common Stock pursuant to the Offer or otherwise, the parties hereto agree, subject to the satisfaction or (to the extent permitted hereunder) waiver of all conditions to the Merger, to take all necessary and appropriate action to cause the Merger to be effective as soon as practicable after the acceptance for payment and purchase of shares of Company Common Stock pursuant to the Offer without the Company Shareholder Meeting.

SECTION 7.06. *Reasonable Best Efforts*. Subject to the terms and conditions provided herein and in Section 7.09, each of the Company and Parent shall, and shall cause each of its Subsidiaries to, cooperate and use their reasonable best efforts to take, or cause to be taken, all appropriate action, and to make, or cause to be made, all filings necessary, proper or advisable under applicable laws and regulations to consummate and make effective the transactions contemplated by this Agreement including, without limitation, the Company's and Parent's reasonable best efforts to obtain, prior to the Closing Date, all licenses, permits, consents, approvals, authorizations, qualifications and orders of Governmental Authorities and parties to contracts with the Company or Parent, as the case may

be, and their respective Subsidiaries as are necessary for consummation of the transactions contemplated by this Agreement and in order to comply with applicable Laws, including Laws restricting the foreign ownership of assets; *provided, however,* that no loan agreement or contract for borrowed money shall be repaid except as currently required by its terms, in whole or in part, and no contract shall be amended to increase the amount payable thereunder or otherwise to be more burdensome to the Company or any of its Subsidiaries or Parent or any of its Subsidiaries in order to obtain any such consent, approval or authorization without first obtaining the written approval of Parent or the Company, respectively.

SECTION 7.07. *No Solicitation.* (a) The Company shall, and shall use its reasonable best efforts to cause its Affiliates, officers, directors, employees, financial advisors, attorneys and other advisors, representatives and agents to, immediately cease any discussions or negotiations with third parties with respect to any Takeover Proposal (as defined below). The Company shall not, nor shall it authorize or permit any of its Affiliates to, nor shall it authorize or permit any officer, director or employee of or any financial advisor, attorney or other advisor, representative or agent of it or any of its Affiliates, to (i) directly or indirectly solicit, facilitate, initiate or encourage the making or submission of, any Takeover Proposal (including, without limitation, the taking of any action which would make Section 912 of the BCL inapplicable to a Takeover Proposal), (ii) enter into any agreement, arrangement or understanding with respect to any Takeover Proposal or enter into any agreement, arrangement or understanding requiring it to abandon, terminate or fail to consummate the Merger or any other transaction contemplated by this Agreement, (iii) initiate or participate in any way in any discussions or negotiations regarding, or furnish or disclose to any Person (other than a party to this Agreement) any information with respect to, or take any other action to facilitate or in furtherance of any inquiries or the making of any proposal that constitutes, or could reasonably be expected to lead to, any Takeover Proposal or (iv) grant any waiver or release under any standstill or similar agreement with respect to any class of the Company's equity securities; *provided* that prior to the acceptance for payment of shares of Company Common Stock pursuant to the Offer, in response to an unsolicited Takeover Proposal that did not result from the breach of this Section 7.07 and following delivery to Parent of notice of the Takeover Proposal in compliance with its obligations under Section 7.07(d) hereof, the Company may participate in discussions or negotiations with or furnish information (pursuant to a confidentiality agreement with customary terms) to any third party which makes a bona fide written Takeover Proposal if (A) a majority of the Company's Board of Directors reasonably determines in good faith (after consultation with an independent, nationally recognized investment bank) that taking such action would be reasonably likely to lead to the delivery to the Company of a Superior Proposal and (B) a majority of the Company's Board of Directors determines in good faith (after receiving the advice of outside legal

counsel) that it is necessary to take such actions(s) in order to comply with its fiduciary duties under applicable law. Without limiting the foregoing, the Company agrees that any violation of the restrictions set forth in this Section 7.07(a) by any of its, or any of its Subsidiaries', officers, employees, Affiliates or directors or any advisor, representative, consultant or agent retained by the Company or any of its Subsidiaries or Affiliates in connection with the transactions contemplated hereby, whether or not such Person is purporting to act on behalf of the Company or any of its Subsidiaries, shall constitute a breach of this Section 7.07(a) by the Company.

For purposes of this Agreement, "**Takeover Proposal**" means any inquiry, proposal or offer from any Person or group relating to (i) any direct or indirect acquisition or purchase of 15% or more of the assets of the Company or any of its Significant Subsidiaries or 15% or more of any class of equity securities of the Company or any of its Significant Subsidiaries, (ii) any tender offer or exchange offer that, if consummated, would result in any Person beneficially owning all or any portion of any class of equity securities of the Company or any of its Significant Subsidiaries or (iii) any merger, consolidation, business combination, sale of all or any substantial portion of the assets, recapitalization, liquidation or a dissolution of, or similar transaction of the Company or any of its Significant Subsidiaries other than the Offer or the Merger; and "**Superior Proposal**" means a bona fide written Takeover Proposal made by a third party to purchase at least two-thirds of the outstanding equity securities of the Company pursuant to a tender offer, exchange offer, merger or other business combination (x) on terms which a majority of the Company's Board of Directors determines in good faith (after consultation with an independent, nationally recognized investment bank) to be superior to the Company and its shareholders (in their capacity as shareholders) from a financial point of view (taking into account, among other things, all legal, financial, regulatory and other aspects of the proposal and identity of the offeror) as compared to the transactions contemplated hereby and any alternative proposed by Parent or Merger Sub in accordance with Section 9.01(c) and (y) which is reasonably capable of being consummated.

(b) The Company agrees that, except as set forth in Section 7.07(c), neither its Board of Directors nor any committee thereof shall (i) approve or recommend, or propose to approve or recommend, any Takeover Proposal or (ii) approve, recommend or cause it to enter into any letter of intent, agreement in principle, acquisition agreement or other similar agreement (each, an "**Acquisition Agreement**") related to any Takeover Proposal.

(c) The Company agrees that, notwithstanding anything to the contrary herein, prior to the acceptance for payment of shares of Company Common Stock pursuant to the Offer, the Company and/or its Board of Directors may take the

actions otherwise prohibited by Section 7.07(b) if (i) a third party makes a Superior Proposal, (ii) the Company complies with its obligations under Section 7.07(d), (iii) all of the conditions to the Company's right to terminate this Agreement in accordance with Section 9.01(c) hereof have been satisfied (including the expiration of the three (3) Business Day period described therein and the payment of all amounts required pursuant to Section 9.03 hereof) and (iv) simultaneously therewith, this Agreement is terminated in accordance with Section 9.01(c) hereof.

(d) The Company agrees that in addition to the obligations of the Company set forth in paragraphs (a), (b) and (c) of this Section 7.07, promptly on the date of receipt thereof, the Company shall advise Parent in writing of any request for information or any Takeover Proposal, or any inquiry, discussions or negotiations with respect to any Takeover Proposal, the terms and conditions of such request, Takeover Proposal, inquiry, discussions or negotiations and the Company shall promptly provide to Parent copies of any written materials received by the Company in connection with any of the foregoing, and the identity of the Person or group making any such request, Takeover Proposal or inquiry or with whom any discussions or negotiations are taking place. The Company agrees that it shall keep Parent fully informed of the status and details (including amendments or proposed amendments) of any such request, Takeover Proposal or inquiry and keep Parent fully informed as to the material details of any information requested of or provided by the Company and as to the details of all discussions or negotiations with respect to any such request, Takeover Proposal or inquiry. The Company agrees that it shall simultaneously provide to Parent any non-public information concerning the Company provided to any other Person or group in connection with any Takeover Proposal which was not previously provided to Parent.

(e) Parent agrees that nothing contained in this Section 7.07 shall prohibit the Company from taking and disclosing to its shareholders a position contemplated by Rule 14d-9 and Rule 14e-2 promulgated under the Exchange Act with respect to any tender offer.

(f) The Company agrees that immediately following the execution of this Agreement, (i) it shall request each Person which has heretofore executed a confidentiality agreement in connection with such Person's consideration of acquiring the Company or any portion thereof to return or destroy (which destruction shall be certified in writing by an executive officer of the Company) all confidential information heretofore furnished to such Person by or on its behalf and (ii) the Company shall cease and cause to be terminated immediately all existing discussions or negotiations with any Person conducted heretofore with respect to, or that could reasonably be expected to lead to, any Takeover Proposal.

SECTION 7.08. *Notification of Certain Matters.* The Company shall give prompt notice to Parent, and Parent and Merger Sub shall give prompt notice to the Company, of the occurrence, or failure to occur, of any event, which occurrence or failure to occur would be likely to cause any representation or warranty contained in this Agreement to be untrue in any material respect at any time from the date of this Agreement to the Effective Time. Each of the Company and Parent shall give prompt notice to the other party of any notice or other communication from any third party alleging that the consent of such third party is or may be required in connection with the transactions contemplated by this Agreement.

SECTION 7.09. *Antitrust Laws.* (a) Each party hereto shall (i) take promptly all actions necessary to make the filings required of it or any of its Affiliates under any applicable Antitrust Laws in connection with this Agreement and the transactions contemplated hereby, (ii) comply at the earliest practicable date with any formal or informal request for additional information or documentary material received by it or any of its Affiliates from any Antitrust Authority and (iii) cooperate with one another in connection with any filing under applicable Antitrust Laws and in connection with resolving any investigation or other inquiry concerning the transactions contemplated by this Agreement initiated by any Antitrust Authority.

(b) Each party hereto shall use its reasonable best efforts to resolve such objections, if any, as may be asserted with respect to the transactions contemplated by this Agreement under any Antitrust Law. Without limiting the generality of the foregoing, "reasonable best efforts" shall include, without limitation:

(i) in the case of each of Parent and the Company:

(A) filing with the appropriate Antitrust Authorities at the earliest practicable date a Notification and Report Form or other applicable notification with respect to the transactions contemplated by this Agreement;

(B) if Parent or the Company receives a formal request for information and documents from an Antitrust Authority, substantially complying with such formal request at the earliest practicable date following the date of its receipt thereof; and

(C) opposing vigorously any litigation relating to the Offer, the Merger or the other transactions contemplated hereby, including, without limitation, promptly appealing any adverse court order; *provided, however,* that if any order, injunction or decree prohibiting the Offer, the Merger or the other transactions

contemplated hereby remains in effect on September 30, 2000, Parent may terminate this Agreement provided it is then entitled to terminate this Agreement pursuant to Section 9.01(d).

(ii) in the case of the Company only, subject to Parent's compliance with clause (i) above, not frustrating or impeding Parent's strategy or negotiating positions with any Antitrust Authority; and

(iii) in the case of Parent and Merger Sub only, subject to the Company's compliance with clause (i) above, to accept an order requiring Parent, Merger Sub or the Company to agree or commit to divest, hold separate, offer for sale, abandon, limit its operations of or take similar action with respect to any assets (tangible or intangible) or any business interest of it or any of their Subsidiaries (including, without limitation, the Surviving Corporation after consummation of the Merger) as are necessary to permit Parent and Merger Sub to otherwise fully consummate the Offer and the Merger (an "**Order of Disposition**"); *provided, however,* that nothing in this Agreement shall require Parent or any of its Subsidiaries to comply with or accept Orders of Disposition which, if complied with, could reasonably be expected to, individually or in the aggregate, have a Parent Material Adverse Effect.

(c) Each party hereto shall promptly inform the other parties of any material communication made to, or received by such party from, any Antitrust Authority or any other Governmental Authority regarding any of the transactions contemplated hereby.

(d) For purposes of this Agreement, (i) "**Antitrust Authorities**" means the Federal Trade Commission, the Antitrust Division, the attorneys general of the several states of the United States, the antitrust authorities of Brazil, Canada, Germany and any other Governmental Authority having jurisdiction with respect to the transactions contemplated hereby pursuant to applicable Antitrust Laws and (ii) "**Antitrust Law**" means the Sherman Act, as amended, the Clayton Act, as amended, the HSR Act, the Federal Trade Commission Act, as amended, the Competition Act, European Antitrust Laws and all other federal, state and foreign statutes, rules, regulations, orders, decrees, administrative and judicial doctrines, and other laws that are designed or intended to prohibit, restrict or regulate actions having the purpose or effect of monopolization or restraint of trade.

SECTION 7.10. *Directors' and Officers' Insurance*. (a) The Certificate of Incorporation and the By-Laws of the Surviving Corporation shall contain the provisions with respect to indemnification and exculpation from liability set forth in the Company's Certificate of Incorporation and By-Laws on the date of this

Agreement, which provisions shall not be amended, repealed or otherwise modified for a period of six years from the Effective Time in any manner that would adversely affect the rights thereunder of individuals who on or prior to the Effective Time were directors, officers, employees or agents of the Company, unless such modification is required by law.

(b) For a period of six years from the Effective Time, the Surviving Corporation shall either (x) maintain in effect the Company's current directors' and officers' liability insurance covering those Persons who are currently covered on the date of this Agreement by the Company's directors' and officers' liability insurance policy (a copy of which has been heretofore delivered to Parent) (the "**Indemnified Parties**"); *provided, however,* that in no event shall Parent be required to expend in any one year an amount in excess of 225% of the annual premiums currently paid by the Company for such insurance; *provided further* that if the annual premiums of such insurance coverage exceed such amount, the Surviving Corporation shall be obligated to obtain a policy with the greatest coverage available for a cost not exceeding such amount; *provided further* that the Surviving Corporation may substitute for the Company policy policies with at least the same coverage containing terms and conditions which are no less advantageous and provided that said substitution does not result in any gaps or lapses in coverage with respect to matters occurring prior to the Effective Time or (y) if such insurance coverage is not otherwise available, cause Parent's directors' and officers' liability insurance then in effect to cover those Persons who are covered on the date of this Agreement by the Company's directors' and officers' liability insurance policy with respect to those matters covered by the Company's directors' and officers' liability policy.

(c) The Surviving Corporation shall indemnify all Indemnified Parties to the fullest extent permitted by applicable law with respect to all acts and omissions arising out of such individuals' services as officers, directors, employees or agents of the Company or any of its Subsidiaries or as trustees or fiduciaries of any plan for the benefit of employees of the Company or any of its Subsidiaries occurring prior to the Effective Time, including, without limitation, the transactions contemplated by this Agreement. Without limitation of the foregoing, in the event any such Indemnified Party is or becomes involved in any capacity in any action, proceeding or investigation in connection with any matter, including, without limitation, the transactions contemplated by this Agreement, occurring prior to, and including, the Effective Time, the Surviving Corporation, from and after the Effective Time, shall pay, as incurred, such Indemnified Party's reasonable legal and other expenses (including the cost of any investigation and preparation) incurred in connection therewith. Subject to Section 7.10(d) below, the Surviving Corporation shall pay all reasonable expenses, including attorneys' fees, that may be incurred by any Indemnified Party in enforcing this Section 7.10 or any action

involving an Indemnified Party resulting from the transactions contemplated by this Agreement.

(d) Any Indemnified Party wishing to claim indemnification under paragraph (a) or (c) of this Section 7.10, upon learning of any such claim, action, suit, proceeding or investigation, shall promptly notify the Surviving Corporation thereof. In the event of any such claim, action, suit, proceeding or investigation (whether arising before or after the Effective Time), (i) the Surviving Corporation shall have the right, from and after the Effective Time, to assume the defense thereof (with counsel engaged by the Surviving Corporation to be reasonably acceptable to the relevant Indemnified Party) and the Surviving Corporation shall not be liable to such Indemnified Party for any legal expenses of other counsel or any other expenses subsequently incurred by such Indemnified Party in connection with the defense thereof, (ii) such Indemnified Party will cooperate in the defense of any such matter and (iii) the Surviving Corporation shall not be liable for any settlement effected without its prior written consent; *provided* that the Surviving Corporation shall not have any obligation hereunder to any Indemnified Party when and if a court of competent jurisdiction shall ultimately determine, and such determination shall have become final, that the indemnification of such Indemnified Party in the manner contemplated hereby is prohibited by applicable law.

SECTION 7.11. *Public Announcements*. Parent and the Company shall consult with each other before issuing any press release or otherwise making any public statements with respect to the transactions contemplated by this Agreement and shall not issue any such press release or make any such public statement prior to such consultation and review by the other party of such release or statement, except as may be required by law, court process or by obligations pursuant to any listing agreement with a national securities exchange.

SECTION 7.12. *Transfer Tax*. The Company and Parent shall cooperate in the preparation, execution and filing of all returns, questionnaires, applications or other documents regarding any real property transfer or gains, sales, use, transfer, value added, stock transfer and stamp taxes, any transfer, recording, registration and other fees and any similar taxes which become payable in connection with the transactions contemplated by this Agreement (together with any related interest, penalties or additions to tax, "**Transfer Taxes**"). All Transfer Taxes shall be paid by the Company and expressly shall not be a liability of any holder of the Company Common Stock.

SECTION 7.13. *NYSE Listing*. Parent shall use its reasonable best efforts to cause the Parent Common Stock to be issued in connection with the Offer and the Merger to be listed on the NYSE, subject to official notice of issuance.

SECTION 7.14. *Affiliates of the Company*. Not less than 15 days prior to the Effective Time, the Company shall deliver to Parent a letter identifying all Persons who, to the Company's knowledge, at the Effective Time, may be deemed to be "affiliates" of the Company for purposes of Rule 145 under the Securities Act or who may otherwise be deemed to be Affiliates of the Company (the "**Rule 145 Affiliates**"). The Company shall use its reasonable best efforts to cause each Person who is identified as a Rule 145 Affiliate in such list to deliver to Parent prior to the Effective Time, a written agreement, in the form attached hereto as Exhibit A (a "**Rule 145 Affiliate Agreement**").

SECTION 7.15. *Employee Benefits*. (a) Parent covenants and agrees that, during the period commencing at the Effective Time through at least December 31, 2001, it will provide (or shall cause the Surviving Corporation to provide) nonrepresented current and former employees of the Company and its Subsidiaries with salary and benefits under employee benefit plans that are no less favorable, in the aggregate, than those currently provided by the Company and its Subsidiaries to such employees (including, without limitation, benefits pursuant to qualified and nonqualified retirement plans, savings plans, medical, dental, disability and life insurance plans and programs, deferred compensation arrangements, bonus and incentive compensation plans, and retiree benefit plans, policies and arrangements). Parent shall cause the Surviving Corporation to recognize service with the Company and its Subsidiaries and any predecessor entities (and any other service credited by the Company under similar benefit plans) for all purposes (including for vesting, eligibility to participate, severance, and benefit accrual); and Parent and the Surviving Corporation shall recognize (or cause to be recognized) service with the Company and its Subsidiaries and any predecessor entities (and any service credited by the Company under similar benefit plans) for purposes of vesting, eligibility to participate and severance under any employee benefit plan or arrangement maintained by Parent, the Surviving Corporation or any Subsidiary or Affiliate of Parent and for purposes of benefit accrual under any employee welfare benefit plan or arrangement maintained by Parent, the Surviving Corporation or any Subsidiary or Affiliate of Parent; *provided, however*, that solely to the extent necessary to avoid duplication of benefits, amounts payable under employee benefit plans provided by Parent, the Surviving Corporation or a Parent Subsidiary may be reduced by amounts payable under similar Company Employee Benefit Plans with respect to the same periods of service. Any benefits accrued by employees of the Company or any Subsidiary of the Company prior to the Effective Time under any defined benefit pension plan currently maintained by the Company or any Subsidiary of the Company that employs a final average pay formula shall be calculated based on the employees' final average pay with Parent, the Surviving Corporation or any Parent Subsidiary or other Affiliate employing the employees for as long as the current final average pay benefit formula under such plan is in effect. From and after the Effective Time, Parent and the Surviving

Corporation shall, and Parent shall cause the Subsidiaries and Affiliates of Parent to, (i) waive any pre-existing condition limitations to the extent that the employees or their beneficiaries are not subject to such pre-existing condition limitations under the comparable Company Employee Benefit Plans prior to the Effective Time, and (ii) credit any deductibles and out-of-pocket expenses that are applicable and/or covered under the Company Employee Benefit Plans, and are incurred by the employees and their beneficiaries during the portion of the calendar year prior to participation in the benefit plans provided by Parent, the Surviving Corporation and any Subsidiary or Affiliate of Parent. The provisions of this Section 7.15 shall not create in any employee or former employee of the Company or any Subsidiary of the Company any rights to employment or continued employment with Parent, the Surviving Corporation or the Company or any of their respective Subsidiaries or Affiliates or any right to specific terms or conditions of employment.

(b) During the period commencing at the Effective Time and through at least December 31, 2001, Parent and the Surviving Corporation shall honor, and Parent shall cause its Subsidiaries and Affiliates to honor, in accordance with its terms, the Company's severance policy in effect as of the Closing Date as set forth in Section 7.15 of the Company Disclosure Letter. During the period commencing at the Effective Time and through at least the second anniversary of the Closing Date, Parent and the Surviving Corporation shall honor, and Parent shall cause its Subsidiaries and Affiliates to honor, in accordance with its terms, the Company's Severance Plan for Key Employees. Parent agrees that up to 27 employees listed on Section 7.15 of the Company Disclosure Schedule may be added as participants in the Company's Severance Plan for Key Employees. During the period commencing at the Effective Time and through at least the first anniversary of the Closing Date, Parent and the Surviving Corporation shall honor, and Parent shall cause its Subsidiaries and Affiliates to honor, in accordance with its terms, the Reorganization Severance Plan which the Company will establish prior to the Effective Time in accordance with the term sheet attached to Section 7.15 of the Company Disclosure Letter. Parent shall cause the Surviving Corporation to honor all accrued obligations under its deferred compensation and supplemental retirement plans (including, without limitation, such plans set forth in Section 7.15 of the Company Disclosure Letter). For purposes of this Section 7.15(b), "**Phantom Share**" shall mean each unit of deferred compensation or supplemental savings which pursuant to the governing plan and/or arrangement (of, or with, the Company or a Company Subsidiary) is measured by, or deemed invested in, a share of the Company Common Stock, including, without limitation, a contingently credited share and a vested deferred restricted stock unit. Parent and the Company agree to the following:

(i) as of the Effective Time, each Phantom Share under a plan or arrangement which gives the participants no investment alternatives shall

be automatically converted into the number of phantom shares of Parent Common Stock equal to the sum of (A) $50 divided by the Average Price and (B) the Exchange Ratio; and

(ii) (A) one-third of each Phantom Share under a plan or arrangement which gives the participants investment alternatives shall be automatically converted into the number of phantom shares of Parent Common Stock equal to the Exchange Ratio; and (B) two-thirds of each Phantom Share shall automatically be deemed converted into $50 in cash which shall be deemed invested in the most conservative deemed investment alternative under the applicable plan or arrangement until new instructions as to deemed investments are received from the participant.

The terms and conditions applicable to each Phantom Share under the Company's existing plans and arrangements shall continue to apply to the related converted Phantom Share.

(c) In addition, Parent shall cause the Surviving Corporation to honor, in accordance with their terms, any individual employment, change of control, severance, retirement or termination agreement between the Company or any Subsidiary of the Company, and any current or former officer, director or employee of the Company or any Subsidiary of the Company, including the Company's incentive programs and change in control agreements between the Company and certain of its officers, in each case as set forth in Section 7.15 of the Company Disclosure Letter (including the Trust Agreement), except as otherwise agreed to by any such officer, director or employee. Parent shall also cause the Surviving Corporation to honor the Executive Life Insurance Plan, in accordance with its terms existing immediately prior to the execution of this Agreement, and the related Split Dollar Life Insurance Agreements.

(d) The provisions of this Section 7.15 shall apply to employees of the Company and its Subsidiaries whose terms and conditions of employment are not subject to a collective bargaining agreement and, to the extent required by a collective bargaining agreement, to employees of the Company and its Subsidiaries whose terms and conditions of employment are subject to a collective bargaining agreement.

(e) Parent acknowledges that a "**Potential Change in Control**" has occurred as defined in the Trust Agreement and that the Company shall deliver the Funding Amount to the trustee under the Trust Agreement.

(f) Parent agrees that the consummation of the Merger shall constitute a "**Change in Control**" of the Company for all purposes within the meaning of all

applicable compensation or benefit plans or agreements of the Company and its subsidiaries, including, without limitation, the Company Stock Plans and the employment agreements set forth on the Company Disclosure Letter.

(g) The Company shall deliver to Parent copies of all notices, schedules and other documents it proposes to deliver to, or receives from, the trustee under the Trust Agreement after the date hereof, or in connection with the transactions contemplated hereby, including, without limitation, the Payment Schedule, as defined in the Trust Agreement. Parent shall have a reasonable opportunity to review such notices, schedules and other documents proposed to be delivered to such trustee prior to such delivery thereof.

(h) Parent agrees that the Company shall pay a pro rata bonus to each of the approximately 650 participants in its annual bonus plan in respect of such participant's employment with the Company in 2000 through the Closing Date. The amount of such participant's bonus shall be determined as follows: (i) if such participant is not terminated by the Company, the Surviving Corporation or Parent (as the case may be) on or prior to December 31, 2000, such participant shall receive a pro rata bonus equal to the amount of such participant's "actual bonus" for 2000 through the Closing Date, which amount shall be paid on or prior to February 28, 2001 in accordance with Parent's standard policies in effect for bonus payments in respect of 2000; *provided, however*, that such participant shall not have voluntarily terminated his or her employment on or prior to the bonus payment date; and (ii) if such participant is terminated without "cause" by the Company, the Surviving Corporation or Parent (as the case may be) on or prior to December 31, 2000, such participant shall receive a pro rata bonus equal to the amount of such participant's "actual bonus" for 2000 through the Closing Date, which amount shall be paid within five days of such participant's termination. For purposes of this Section 7.15(h), "actual bonus" shall be determined by the Company in a manner consistent with past practice (except that it shall be determined as of the Closing Date) and shall be reviewed with and reasonably acceptable to Parent, and "cause" shall have the definition of such term in the Severance Plan for Key Employees. For the avoidance of doubt, any participant who is terminated with "cause" or who voluntarily terminates his or her employment on or prior to the bonus payment date shall not receive any bonus. Notwithstanding the foregoing provisions of this Section 7.15(h), a Named Executive entitled to a payment at the time of his termination pursuant to Section 7.15(j) shall also be entitled to be paid his pro rata bonus pursuant to this Section 7.15(h).

(i) Parent agrees that it shall pay (or cause to be paid) a pro rata bonus to each of the approximately 650 participants in the Company's annual bonus plan in respect of such participant's employment with the Surviving Corporation or

Parent for the period commencing on the day following the Closing Date and ending on December 31, 2000 (the "**Post-Closing Period**"); *provided* that a similarly situated employee of Parent participates in Parent's bonus plans. The amount of such participant's bonus shall be determined as follows: (i) if a participant is not terminated by the Surviving Corporation or Parent (as the case may be) on or prior to December 31, 2000, such participant shall receive a pro rata bonus equal to the amount of such participant's "Company target bonus" for the Post-Closing Period; *provided, however*, that such participant shall not have voluntarily terminated his or her employment on or prior to the bonus payment date; and (ii) if a participant is terminated without "cause" by the Surviving Corporation or Parent (as the case may be) on or prior to December 31, 2000, such participant shall receive a pro rata bonus equal to the amount of such participant's "Company target bonus" for the period commencing on the day following the Closing Date and ending on such termination date, in each case, which amount shall be paid on or prior to February 28, 2001 in accordance with Parent's standard policies in effect for bonus payments in respect of 2000. For purposes of this Section 7.15(i), "Company target bonus" shall be reasonably determined by Parent by application of the Company's targets (as in effect on the date hereof) and Parent's performance measures (as in effect on the date hereof), and "cause" shall have the definition of such term in the Severance Plan for Key Employees. For the avoidance of doubt, any participant who is terminated with "cause" or who voluntarily terminates his or her employment on or prior to the bonus payment date shall not receive any bonus. Notwithstanding the foregoing provisions of this Section 7.15(i), a Named Executive entitled to a payment at the time of his termination pursuant to Section 7.15(j) shall also be entitled to be paid his pro rata bonus pursuant to this Section 7.15(i).

(j) With respect to Messrs. Olson, Nichols, Brown, Fox, Corey, Diforio, Hart, McWilliams and Nimons (each, a "**Named Executive**"), unless otherwise agreed in writing by such Named Executive and Parent after the execution of this Agreement and prior to any termination of employment, he shall receive, at the time of his termination of employment by wire transfer to an account designated by him, the respective aggregate payment on account of the lump sum amounts (including, without limitation, the Gross-Up Payment) to which he will become entitled upon such termination under his employment or severance agreement and this Section 7.15(j) plus the pro rata bonus to which he is entitled pursuant to Sections 7.15(h) and 7.15(i); *provided* that (i) such Named Executive continues to be employed by the Company after the Closing Date (being paid his salary in effect immediately prior to the Closing) and does not terminate his employment prior to December 31, 2000, (ii) the date of termination of such Named Executive shall be at the election of Parent (if such termination occurs before December 31, 2000), (iii) such Named Executive agrees that he will not in any way knowingly make any statement, written or oral, or take any other action

relating to Parent, the Company, the Surviving Corporation or their respective officers, directors or shareholders that would disparage or otherwise harm Parent, the Company, the Surviving Corporation or their respective business or reputation or those of any of its officers, directors or shareholders (except as required in connection with any governmental, judicial or regulatory agency proceeding) and (iv) such Named Executive agrees that, at least until the earlier of December 31, 2000 or the termination of his employment at the election of Parent, he will fully cooperate with Parent by providing Parent with such information about the Company (and information about such other companies which is not covered by confidentiality agreements with those companies) as it may reasonably request and he will use his reasonably best efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary or desirable in order to effect an orderly and expeditious integration of the Company and Parent after the Closing. Such termination shall be deemed a termination without Cause for all purposes of such severance or employment agreement and all agreements and plans applicable to such individual.

(k) Prior to the Effective Time, the Company shall establish a retention plan for certain of the Company's employees. Such retention plan shall have an aggregate cost of up to $11,500,000 and shall contain participants who are determined as reasonably and mutually acceptable to Parent and the Company. Payment under such retention plan shall be made to the Company's employees who are employed by the Company at the first anniversary of the Closing Date (or who have previously been terminated without cause, terminated as a result of death or disability or terminated by the participant as a result of such participant's reduction in salary or relocation, unless such relocation is to the Borough of Manhattan in New York, New York, if the participant is located in Stamford, Connecticut prior to the Effective Time, or to a location not more than 35 miles away from such participant's principal place of employment prior to the Effective Time) within five days of such anniversary date (or within five days of such date of termination, if applicable). Such payment made to any participant shall equal 50% of such participant's salary as in effect immediately prior to the Closing.

SECTION 7.16. *Section 16 Matters*. Prior to the Effective Time, Parent and the Company shall take all such steps as may be required to cause any dispositions of Company Common Stock (including derivative securities with respect to the Company Common Stock) and acquisitions of Parent Common Stock (including derivative securities with respect to Parent Common Stock) resulting from the transactions contemplated by this Agreement by each individual who is subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to the Company to be exempt under Rule 16b-3 promulgated under the Exchange Act, such steps to be taken in accordance with the No-Action Letter, dated January 12, 1999, issued by the SEC to Skadden, Arps, Slate, Meagher & Flom LLP.

SECTION 7.17. *Voting of Shares*. Parent agrees to vote all shares of Company Common Stock beneficially owned by it or any of its Subsidiaries in favor of adoption of this Agreement at the Company Shareholder Meeting.

ARTICLE 8
CONDITIONS TO THE MERGER

SECTION 8.01. *Conditions to Obligations of Each Party*. The obligations of the Company, Parent and Merger Sub to consummate the Merger are subject to the satisfaction of the following conditions:

(a) to the extent required by applicable law this Agreement shall have been approved and adopted by the shareholders of the Company in accordance with the BCL;

(b) no provision of any applicable law or regulation and no judgment, injunction, order or decree shall prohibit the consummation of the Merger;

(c) Parent Common Stock to be issued in the Merger shall have been authorized for listing on the NYSE, subject to official notice of issuance;

(d) the Merger Registration Statement shall have become effective in accordance with the provisions of the Securities Act, no stop order suspending the effectiveness of the Merger Registration Statement shall have been issued by the SEC and no proceedings for that purpose shall have been initiated by the SEC and not concluded or withdrawn and all state securities or blue sky authorizations necessary to carry out the transactions contemplated hereby shall have been obtained and be in effect; and

(e) Merger Sub shall have purchased shares of Company Common Stock pursuant to the Offer.

SECTION 8.02. *Conditions To the Obligations of Parent and Merger Sub*. The obligations of Parent and Merger Sub to consummate the Merger are subject to the satisfaction of the following further condition: that the Company shall have performed in all material respects all of its obligations hereunder required to be performed by it at or prior to the Effective Time.

ARTICLE 9

TERMINATION AND ABANDONMENT

SECTION 9.01. *Termination*. This Agreement may be terminated at any time prior to the Effective Time, whether before or after the Company Shareholder Approval:

(a) by mutual written consent of Parent and the Company; or

(b) by Parent:

(i) if at any time prior to the acceptance for payment of shares of Company Common Stock pursuant to the Offer, the Company has breached in any material respect any representation, warranty, covenant or other agreement contained in this Agreement, which (i) would give rise to the failure of a condition set forth in clause (f) of Annex I, (ii) cannot be or has not been cured prior to the Termination Date and (iii) has not been waived by Parent pursuant to the provisions hereof;

(ii) if at any time after the date hereof and prior to the acceptance for payment of shares of Company Common Stock pursuant to the Offer, (A) the Company, or its Board of Directors, as the case may be, shall have (w) entered into any agreement with respect to any Takeover Proposal other than the Offer or the Merger and other than a confidentiality agreement permitted under Section 7.07, (x) amended, conditioned, qualified, withdrawn or modified, or proposed or resolved to do so, in a manner adverse to Parent or Merger Sub, its approval and recommendation of the Offer, the Merger and this Agreement, or (y) approved or recommended, or proposed to approve or recommend, any Takeover Proposal other than the Offer or the Merger, or (B) the Company or the Company's Board of Directors or any committee thereof shall have resolved to do any of the foregoing; or

(iii) if the Company breaches any of its obligations under Section 7.07 or Section 9.01(c) hereof;

(c) by the Company if at any time prior to the acceptance for payment of shares of Company Common Stock pursuant to the Offer a Superior Proposal is received by the Company and the Board of Directors of the Company reasonably determines in good faith (after receiving the advice of outside legal counsel) that it is necessary to terminate this Agreement and enter into an agreement to effect the Superior Proposal to comply with its fiduciary duties under applicable law; *provided* that the Company may not terminate this Agreement pursuant to this

Section 9.01(c) unless and until (i) three (3) Business Days have elapsed following delivery to Parent of a written notice of such determination by the Board of Directors of the Company and during such three (3) Business Day period the Company has fully cooperated with Parent, including, without limitation, informing Parent of the terms and conditions of such Superior Proposal, and the identity of the Person making such Superior Proposal, with the intent of enabling both parties to agree to a modification of the terms and conditions of this Agreement so that the transactions contemplated hereby may be effected; (ii) at the end of such three (3) Business Day period the Takeover Proposal continues to constitute a Superior Proposal and the Board of Directors of the Company confirms its determination (after receiving the advice of outside legal counsel) that it is necessary to terminate this Agreement and enter into an agreement to effect the Superior Proposal to comply with its fiduciary duties under applicable law; and (iii) (x) at or prior to such termination, Parent has received all fees and Expenses set forth in Section 9.03 hereof by wire transfer in same day funds and (y) immediately following such termination the Company enters into a definitive acquisition, merger or similar agreement to effect the Superior Proposal;

(d) by either Parent or the Company:

(i) if the Offer has not been consummated on or before September 30, 2000 (the "**Termination Date**"); *provided* that the right to terminate this Agreement pursuant to this clause shall not be available to any party whose failure to fulfill any material obligation of this Agreement or other material breach of this Agreement has been the cause of, or resulted in, the failure of the Offer to have been consummated on or prior to the aforesaid date; or

(ii) if any court of competent jurisdiction or any Governmental Authority shall have issued an order, decree or ruling or taken any other action permanently restricting, enjoining, restraining or otherwise prohibiting acceptance for payment of, and payment for, shares of Company Common Stock pursuant to the Offer or consummation of the Merger and such order, decree, ruling or other action shall have become final and nonappealable.

SECTION 9.02. *Effect of Termination*. In the event of termination of this Agreement by Parent or the Company, as provided in Section 9.01, this Agreement shall forthwith become void and there shall be no liability hereunder on the part of the Company, Parent or Merger Sub or their respective officers or directors (except as set forth in Section 7.02, this Section 9.02 and Sections 9.03, 10.03, 10.04, 10.05, 10.11 and 10.13, which shall survive the termination); *provided, however,*

that nothing contained in this Section 9.02 or in Section 9.03 shall relieve any party hereto from any liability for any breach of this Agreement.

SECTION 9.03. *Payment of Certain Fees.* (a) If this Agreement is terminated by Parent in accordance with Section 9.01(b)(i), 9.01(b)(ii)(A)(w), 9.01(b)(ii)(A)(y), 9.01(b)(ii)(B) (unless related to a resolution to take any of the actions set forth in Section 9.01(b)(ii)(A)(x), in which case Section 9.03(c) shall apply) or 9.01(b)(iii) hereof or by the Company pursuant to Section 9.01(c), then the Company shall (A) reimburse Parent for all of its Expenses and (B) pay to Parent in immediately available funds a termination fee in an amount equal to $300 million (the "**Termination Fee**").

(b) If this Agreement is terminated by Parent or the Company pursuant to Section 9.01(d)(i) hereof and (x) a Takeover Proposal has been made and publicly announced or communicated to the Company's shareholders after the date of this Agreement and prior to the Termination Date and, to the extent applicable, (y) concurrently with or within twelve (12) months of the date of such termination a Third Party Acquisition Event occurs, then the Company shall (i) within one Business Day of the date of termination pursuant to Section 9.01(d)(i) (A) pay to Parent 50% of the Termination Fee and (B) reimburse Parent for all of its Expenses, and (ii) within one Business Day of the occurrence of such a Third Party Acquisition Event (including any revisions or amendments thereto) pay to Parent 50% of the Termination Fee.

"**Third Party Acquisition Event**" shall mean (i) the consummation of a Takeover Proposal involving the purchase of a majority of either the equity securities of the Company or of the consolidated assets of the Company and its Subsidiaries, taken as a whole, or any such transaction that, if it had been proposed prior to the termination of this Agreement would have constituted a Takeover Proposal or (ii) the entering into by the Company or any of its Subsidiaries of a definitive agreement with respect to any such transaction.

"**Expenses**" shall mean documented and reasonable out-of-pocket fees and expenses up to a maximum aggregate amount of $10 million incurred or paid in connection with the Merger or the consummation of any of the transactions contemplated by this Agreement, including, but not limited to, all filing fees, printing fees and reasonable fees and expenses of law firms, commercial banks, investment banking firms, accountants, experts and consultants.

(c) If this Agreement is terminated by Parent pursuant to Section 9.01(b)(ii)(A)(x), then (i) the Company shall (A) pay to Parent 50% of the Termination Fee and (B) reimburse Parent for all of its Expenses and (ii) if concurrently with or within 12 months after such termination a Third Party

Acquisition Event occurs, then the Company shall pay to Parent 50% of the Termination Fee within one Business Day of the occurrence of such a Third Party Acquisition Event (including any revisions or amendments thereto).

(d) Any payment of the Termination Fee (and reimbursement of Expenses) pursuant to this Section 9.03 shall be made within one Business Day after termination of this Agreement (or as otherwise expressly set forth in this Agreement) by wire transfer of immediately available funds. If either party fails to pay to (or reimburse) the other party any fee or expense due hereunder (including the Termination Fee), such party shall pay the costs and expenses (including legal fees and expenses) in connection with any action, including the filing of any lawsuit or other legal action, taken to collect payment, together with interest on the amount of any unpaid fee and/or expense at the publicly announced prime rate of Citibank, N.A. from the date such fee was required to be paid to the date it is paid.

ARTICLE 10
MISCELLANEOUS

SECTION 10.01. *Representations and Warranties.* The respective representations and warranties of the Company, on the one hand, and Parent and Merger Sub, on the other hand, contained herein or in any certificates or other documents delivered prior to or at the Closing shall not be deemed waived or otherwise affected by any investigation made by any party. Each and every such representation and warranty shall expire with, and be terminated and extinguished by, the Closing and thereafter none of the Company, Parent or Merger Sub shall be under any liability whatsoever with respect to any such representation or warranty. This Section 10.01 shall have no effect upon any other obligation of the parties hereto, whether to be performed before or after the Effective Time.

SECTION 10.02. *Extension; Waiver.* At any time prior to the Effective Time, the parties hereto, by action taken by or on behalf of the respective Boards of Directors of the Company, Parent or Merger Sub, may (i) extend the time for the performance of any of the obligations or other acts of the other parties hereto, (ii) waive any inaccuracies in the representations and warranties contained herein by any other applicable party or in any document, certificate or writing delivered pursuant hereto by any other applicable party or (iii) waive compliance with any of the agreements or conditions contained herein. Any agreement on the part of any party to any such extension or waiver shall be valid only if set forth in an instrument in writing signed on behalf of such party.

SECTION 10.03. *Notices.* All notices, requests, demands, waivers and other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if delivered in person or mailed, certified or registered mail with postage prepaid, or sent by telex, telegram or telecopier, as follows:

(a) if to the Company, to it at:

Champion International Corporation
One Champion Plaza
Stamford, Connecticut 06921
Telecopy: 203-358-6562
Attention: General Counsel

with a copy (which shall not constitute notice) to:

Skadden, Arps, Slate, Meagher & Flom LLP
Four Times Square
New York, New York 10036
Telecopy: 212-735-2000
Attention: Blaine V. Fogg, Esq.
Joseph A. Coco, Esq.

(b) if to either Parent or Merger Sub, to it at:

International Paper Company
2 Manhattanville Road
Purchase, New York 10577
Telecopy: 914-397-1909
Attention: General Counsel

in each case, with a copy (which shall not constitute notice) to:

Davis Polk & Wardwell
450 Lexington Avenue
New York, New York 10017
Telecopy: 212-450-5744
Attention: Dennis S. Hersch, Esq.

or to such other Person or address as any party shall specify by notice in writing to each of the other parties. All such notices, requests, demands, waivers and communications shall be deemed to have been received on the date of delivery unless if mailed, in which case on the third Business Day after the mailing thereof

except for a notice of a change of address, which shall be effective only upon receipt thereof.

SECTION 10.04. *Entire Agreement.* This Agreement and the schedules and other documents referred to herein or delivered pursuant hereto, collectively contain the entire understanding of the parties hereto with respect to the subject matter contained herein and supersede all prior agreements and understandings, oral and written, with respect thereto.

SECTION 10.05. *Binding Effect; Benefit; Assignment.* This Agreement shall inure to the benefit of and be binding upon the parties hereto and, with respect to the provisions of Sections 7.10, 7.15(c), 7.15(j) and 7.16 hereof, shall inure to the benefit of the Persons or entities benefitting from the provisions thereof who are intended to be third-party beneficiaries thereof and their respective successors and permitted assigns, but neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by any of the parties hereto without the prior written consent of the other parties, except that Merger Sub may assign and transfer its right and obligations hereunder to any of its Affiliates. Except as provided in the immediately preceding sentence, nothing in this Agreement, expressed or implied, is intended to confer on any Person other than the parties hereto or their respective successors and permitted assigns, any rights, remedies, obligations or liabilities under or by reason of this Agreement.

SECTION 10.06. *Amendment and Modification.* Subject to applicable law, this Agreement may be amended, modified and supplemented in writing by the parties hereto in any and all respects before the Effective Time (notwithstanding the Company Shareholder Approval), by action taken by the respective Boards of Directors of Parent, Merger Sub and the Company or by the respective officers authorized by such Boards of Directors or otherwise, as the case may be; *provided, however,* that after the Company Shareholder Approval, no amendment shall be made which by law requires further approval by the shareholders of the Company without such further approval:

SECTION 10.07. *Further Actions.* Each of the parties hereto agrees that, except as otherwise provided in this Agreement and subject to its legal obligations, it will use its reasonable best efforts to fulfill all conditions precedent specified herein, to the extent that such conditions are within its control, and to do all things reasonably necessary to consummate the transactions contemplated hereby.

SECTION 10.08. *Headings.* The descriptive headings of the several Articles and Sections of this Agreement are inserted for convenience only, do not constitute a part of this Agreement and shall not affect in any way the meaning or interpretation of this Agreement.

SECTION 10.09. *Enforcement.* The parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms. It is accordingly agreed that the parties shall be entitled to specific performance of the terms hereof, this being in addition to any other remedy to which they are entitled at law or in equity.

SECTION 10.10. *Counterparts.* This Agreement may be executed in several counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed to be one and the same instrument.

SECTION 10.11. *Applicable Law.* This Agreement and the legal relations between the parties hereto shall be governed by and construed in accordance with the laws of the State of New York, without regard to the conflict of laws rules thereof.

SECTION 10.12. *Severability.* If any term, provision, covenant or restriction contained in this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void, unenforceable or against its regulatory policy, the remainder of the terms, provisions, covenants and restrictions contained in this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

SECTION 10.13. *Waiver of Jury Trial.* Each of the parties to this Agreement hereby irrevocably waives all right to a trial by jury in any action, proceeding or counterclaim arising out of or relating to this Agreement or the transactions contemplated hereby.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, each of Parent, Merger Sub and the Company has caused this Agreement to be executed by its officers thereunto duly authorized, all as of the date first above written.

INTERNATIONAL PAPER COMPANY

By: _____
Name: William B. Lytton
Title: Sr. V.P. + General Counsel

CONDOR ACQUISITION CORPORATION

By: _____
Name: C. Cato Ealy
Title: Vice President

CHAMPION INTERNATIONAL CORPORATION

By: _____
Name:
Title:

IN WITNESS WHEREOF, each of Parent, Merger Sub and the Company has caused this Agreement to be executed by its officers thereunto duly authorized, all as of the date first above written.

INTERNATIONAL PAPER COMPANY

By: _____
Name:
Title:

CONDOR ACQUISITION CORPORATION

By: _____
Name:
Title:

CHAMPION INTERNATIONAL CORPORATION

By: _____
Name: Stephen B. Brown
Title: Senior Vice President and General Counsel

Merger of

HOERNER WALDORF CORPORATION

Into

CHAMPION INTERNATIONAL CORPORATION

February 24, 1977

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(d) Letter, dated January 25, 1977, from counsel for Champion to the SEC, transmitting the definitive proxy soliciting material pursuant to Rule 14a-6(c);

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V. INDENTURES

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(a) Letter, dated December 14, 1976, from counsel for Champion to the Commissioner of Internal Revenue, enclosing the ruling request for filing;

(b) Letter, dated December 14, 1976, from counsel for Hoerner Waldorf to the Commissioner of Internal Revenue, regarding proposed deletions (deleted version omitted);

(c) Letter, dated January 11, 1977, from counsel for Hoerner Waldorf to the Commissioner of Internal Revenue, regarding proposed deletions (deleted version omitted);

(d) Letter, dated February 3, 1977, from counsel for Champion to the Commissioner of Internal Revenue, regarding proposed deletions;

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VII. BLUE SKY MATTERS

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(a) Letter, dated January 4, 1977, from counsel for Champion to the Arkansas Securities Department, requesting confirmation of exemption from registration;

(b) Letter, dated January 14, 1977, from the Arkansas Securities Department to counsel for Champion, advising of "no-action" position;

(c) Letter, dated January 26, 1977, from counsel for Champion to the Arkansas Securities Department, enclosing definitive proxy soliciting material.

Florida: — 111

(a) Letter, dated January 4, 1977, from counsel for Champion to the Florida Division of Securities, requesting confirmation of exemption from registration (received verbal confirmation of "no-action" position);

(b) Letter, dated January 26, 1977, from counsel for Champion to the Florida Division of Securities, enclosing definitive proxy soliciting material.

Georgia: — 112

(a) Letter, dated January 7, 1977, from counsel for Champion to the Georgia Securities Division, requesting confirmation of exemption from registration;

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(b) Letter, dated January 13, 1977, from the Georgia Securities Division to counsel for Champion, confirming exemption from registration.

Indiana: 113

(a) Letter, dated January 11, 1977, from counsel for Champion to the Indiana Securities Division, requesting confirmation of exemption from registration;

(b) Letter, dated January 25, 1977, from the Indiana Securities Division to counsel for Champion, advising of "no-action" position;

(c) Letter, dated January 26, 1977, from counsel for Champion to the Indiana Securities Division, enclosing definitive proxy soliciting material.

Iowa: 114

(a) Letter, dated January 4, 1977, from counsel for Champion to the Iowa Securities Division, requesting confirmation of exemption from registration (received initial confirmation of "no-action" position by telephone);

(b) Letter, dated January 31, 1977, from the Iowa Securities Division to counsel for Champion, advising of "no-action" position;

(c) Letter, dated January 26, 1977, from counsel for Champion to the Iowa Securities Division, enclosing definitive proxy soliciting material.

Item No.

Kansas: 115

(a) Letter, dated January 7, 1977, from counsel for Champion to the Kansas Securities Commission, requesting confirmation of exemption from registration (received initial confirmation of "no-action" position by telephone);

(b) Letter, dated January 31, 1977, from the Kansas Securities Commission to counsel for Champion, advising of "no-action" position;

(c) Letter, dated January 26, 1977, from counsel for Champion to the Kansas Securities Commission, enclosing definitive proxy soliciting material.

Minnesota: 116

(a) Letter, dated January 7, 1977, from counsel for Champion to the Securities Division, Department of Commerce of the State of Minnesota, requesting confirmation of exemption from registration;

(b) Letter, dated January 10, 1977, from the Securities Division, Department of Commerce of the State of Minnesota to counsel for Champion, requesting payment of filing fee;

(c) Letter, dated January 14, 1977, from counsel for Champion to the Securities Division, Department of Commerce of the State of Minnesota, enclosing filing fee;

(d) Letter, dated January 19, 1977, from the Securities Division, Department of Commerce of the State of Minnesota to counsel for Champion, confirming exemption from registration;

Item No.

(e) Letter, dated January 26, 1977, from counsel for Champion to the Securities Division, Department of Commerce of the State of Minnesota, enclosing definitive proxy soliciting material.

New Hampshire: 117

(a) Letter, dated January 11, 1977, from counsel for Champion to the New Hampshire Securities Division, requesting confirmation of exemption from registration (confirmation of exemption noted at bottom).

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(a) Letter, dated January 7, 1977, from counsel for Champion to the New Mexico Securities Division, requesting confirmation of exemption from registration;

(b) Letter, dated January 10, 1977, from the New Mexico Securities Division to counsel for Champion, confirming exemption from registration;

(c) Letter, dated January 26, 1977, from counsel for Champion to the New Mexico Securities Division, enclosing definitive proxy soliciting material.

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(a) Application for Exemption executed by Champion;

(b) Letter, dated January 11, 1977, from counsel for Champion to the Securities Bureau, Department of Law of the State of New York, enclosing Application for Exemption;

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(c) Letter, dated January 13, 1977, from the Securities Bureau, Department of Law of the State of New York to Champion, advising that application for exemption has been granted;

(d) Letter, dated January 26, 1977, from counsel for Champion to the Securities Bureau, Department of Law of the State of New York, enclosing definitive proxy soliciting material.

Ohio: 120

(a) Letter, dated January 7, 1977, from counsel for Champion to the Ohio Division of Securities, requesting confirmation of exemption from registration;

(b) Letter, dated January 14, 1977, from the Ohio Division of Securities to counsel for Champion, advising of "no-action" position.

Rhode Island: 121

(a) Letter, dated January 7, 1977, from counsel for Champion to the Department of Business Regulation of the State of Rhode Island, requesting confirmation of exemption from registration;

(b) Letter, dated January 25, 1977, from the Department of Business Regulation of the State of Rhode Island to counsel for Champion, confirming exemption from registration.

Vermont: 122

(a) Letter, dated January 7, 1977, from counsel for Champion to the Vermont Securities Division, requesting confirmation of exemption from registration;

Item No.

(b) Letter, dated January 12, 1977, from the Vermont Securities Division to counsel for Champion, confirming exemption from registration;

(c) Letter, dated January 26, 1977, from counsel for Champion to the Vermont Securities Division, enclosing definitive proxy soliciting material.

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(b) Letter, dated February 22, 1977, from Champion to various agents, enclosing the Memorandum of Instructions and a copy of the Joint Proxy Statement.

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(a) Press Release, dated October 25, 1976;

(b) Press Release, dated December 13, 1976;

(c) Press Release, dated January 18, 1977;

(d) Press Release, dated February 24, 1977.

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Letter, dated January 21, 1977, from Champion to Arthur Andersen & Co., regarding "pooling of interests"	129

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Merger of

HOERNER WALDORF CORPORATION

Into

CHAMPION INTERNATIONAL CORPORATION

Timetable and Agenda

CI refers to Champion International Corporation;
HW refers to Hoerner Waldorf Corporation;
CGSH refers to Messrs. Cleary, Gottlieb, Steen & Hamilton;
WH refers to Whyte & Hirschboeck S.C.
AA refers to Arthur Andersen & Co.;
PW refers to Price Waterhouse & Co.;
DP refers to Duff and Phelps, Inc.;
NYSE refers to the New York Stock Exchange, Inc.;
PSE refers to the Pacific Stock Exchange, Inc.;
CSE refers to the Cincinnati Stock Exchange;
SEC refers to the Securities and Exchange Commission.

ITEM	DATE	PARTIES RESPONSIBLE
	1976	
Boards of CI and HW approved merger in principal	October 25	CI, HW
Issued Press Release		CI, HW
Commenced drafting Plan and Agreement of Merger	October 26	CI, CGSH
Commenced drafting ruling request for Internal Revenue Service	November 1	HW, WH
Began survey of blue sky requirements	November 3	CGSH
Commenced drafting proxy material and S-14 "wrap-around"	November 9	
Introduction; Summary		CGSH
Description of Merger		CGSH
Description of CI Business, Management and Common Stock; Management's Discussion and Analysis		CI
Description of HW Business; Management's Discussion and Analysis		HW
Financial Statements of CI		CI, AA
Financial Statements of HW		HW, PW

ITEM	DATE	PARTIES RESPONSIBLE
Pro-Forma Combined Financial Statements		CI, AA, HW, PW
Distributed questionnaires to officers and directors of CI	December 1	CI
CI Board of Directors Meeting (among other things, to approve Plan and Agreement of Merger; authorize filing of Joint Proxy Statement and Registration Statement and fix record and meeting dates for shareholder meeting)	December 12	
HW Board of Directors Meeting (among other things, to approve Plan and Agreement of Merger; authorize filing of Joint Proxy Statement and fix record and meeting dates for stockholder meeting)	December 13	
Issued Press Release announcing approval of Plan and Agreement of Merger and anticipated redemption of $5.50 Preferred Stock if merger consummated		CI, CGSH
Plan and Agreement of Merger executed		
HW's audited year-end financials available		HW, PW
Filed tax ruling request with Internal Revenue Service	December 14	WH, CGSH
Submitted preliminary proxy materials to SEC	December 20	CI, HW, CGSH, WH
Discussed Timetable with NYSE, PSE and CSE; discussed procedure for delisting HW common stock and continuing listing of HW Convertible Debentures on NYSE	December 30	CGSH
	1977	
Filed draft listing application with NYSE	January 4	CGSH
Made such blue sky filings as were necessary	By January 13	CGSH
Received SEC Comments	January 19	

ITEM	DATE	PARTIES RESPONSIBLE
CI Board of Directors Meeting (among other things, to adopt authorizing resolutions for appointment of Exchange Agent, issuance of common stock pursuant to the merger and filing of Plan and Agreement and Certificate of Merger in Delaware and New York, respectively)	January 20	
Responded to SEC Comments by filing amended preliminary proxy material (9:00 A.M.)	January 21	CI, HW, CGSH, WH
Received SEC Comments on amended preliminary proxy material by telephone (4:00 P.M.)		
Filed S-14 with requests by CI and HW that it be declared effective as soon after filing as practicable (9:00 A.M.)	January 24	CI, HW, CGSH, WH
S-14 declared effective (11:00 A.M.)		
CI and HW each received a comfort letter		AA, PW
Mailed proxy material to shareholders of CI and HW, with copies to SEC, NYSE, PSE and CSE	January 25	CI, HW, CGSH, WH
Filed Listing Applications with PSE and CSE	February 18	CGSH
Circulated Memorandum of Instructions	February 22	CI, CGSH
Mailed to holders of HW Preferred Stock letter announcing redemption, including Notice of Redemption, Letter of Transmittal for Conversion and Letter of Transmittal for Redemption		HW, WH
HW deposited funds to defease its outstanding Preferred Stock	February 23	HW, WH
Executed Certificate of Merger and held in escrow for delivery to New York Department of State after "closing"		CI, HW, CGSH

ITEM	DATE	PARTIES RESPONSIBLE
Re-executed, certified and acknowledged Plan and Agreement of Merger and held in escrow for filing with Delaware Secretary of State after "closing"		CI, HW, CGSH
Executed "Affiliates" undertakings	By February 24	HW, WH
Special Meetings of Shareholders of CI and HW	February 24	
Exchanged opinions, certificates, comfort letters and other closing documents (including waiver of IRS ruling)		CI, HW, CGSH, WH, AA, PW
Listing authorized on NYSE, PSE and CSE		
Delivered Supplemental Indenture to HW Indenture and opinions relating thereto		CI, CGSH
Delivered Certificates of "disinterested person" under certain CI Indentures and related supporting documents		DP, CI, CGSH
Certificate of Merger filed by Department of State (N.Y.) and Plan and Agreement of Merger (together with payment of all franchise taxes due) filed with Secretary of State (Del.)		
Notified NYSE, PSE, CSE and various agents of effectiveness of merger		CI, CGSH
Issued Press Release announcing shareholder approval		CI
Mailed letter to former holders of HW Common Stock announcing consummation of merger and enclosing Letter of Transmittal	February 25	CI, CGSH
Mailed Notice of Redemption of CI $5.50 Preferred Stock to holders thereof, together with Letter of Transmittal	March 1	CI, CGSH
Received ruling from Internal Revenue Service	April 6	

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Champion International Corporation

Andrew C. Sigler
President and Chief Executive Officer

1 Landmark Square
Stamford, Connecticut 06921

January 25, 1977

Dear Shareholder:

The notice of meeting and proxy statement for the proposed merger of Hoerner Waldorf Corporation with and into Champion International Corporation are attached.

The Boards of Directors of Champion International and Hoerner Waldorf have approved a Plan and Agreement of Merger between the two companies, subject to the approval of their shareholders, providing for each share of Common Stock of Hoerner Waldorf to become .95 of a share of Common Stock of Champion International. The attached material and enclosed form of proxy relate to a Special Meeting of Shareholders scheduled to be held on February 24, 1977 for that purpose. The proxy statement includes a summary of the terms of the merger, detailed descriptions of the businesses of the two companies, certain financial information, a copy of the Plan and Agreement of Merger, and information on a proposal to amend the certificate of incorporation of Champion International to increase the number of authorized shares of Common Stock.

Hoerner Waldorf is a manufacturer and marketer of paper packaging products, such as corrugated containers, folding cartons and grocery, shopping and multiwall bags, and other wood fiber-based products. We believe that its combination with Champion International will enable us to better utilize our timber resources, broaden our forest products base through the addition of Hoerner Waldorf's "brown paper" business to our "white paper" and wood products businesses, and achieve a more stable earnings pattern by adding operations having a different business cycle than either "white paper" or wood products.

Shares of Champion International Common Stock, $1.20 Cumulative Convertible Preference Stock and $5.50 Cumulative Preferred Stock would remain outstanding after the merger becomes effective. However, the Board of Directors intends to call all shares of $5.50 Cumulative Preferred Stock for redemption at $105 a share plus accrued dividends if the merger is approved and becomes effective.

The affirmative vote of two-thirds of the outstanding shares of the $5.50 Cumulative Preferred Stock, voting as a separate class, and the affirmative vote of the holders of Common Stock and $1.20 Cumulative Convertible Preference Stock having at least two-thirds of the votes entitled to be cast by the holders of all outstanding shares of those classes, voting as a single class, are required for approval of the merger.

The Board of Directors and management of Champion International believe the merger terms are fair and in the best interests of the shareholders and the Company, and the directors and executive officers intend to vote their stock in favor of the merger. The Board of Directors and management recommend that you vote your shares for the merger by promptly signing and returning the enclosed proxy.

Sincerely,

Andrew C. Sigler

CHAMPION INTERNATIONAL CORPORATION

1 LANDMARK SQUARE
STAMFORD, CONNECTICUT 06921

NOTICE OF SPECIAL MEETING OF SHAREHOLDERS

FEBRUARY 24, 1977

A Special Meeting of Shareholders of Champion International Corporation will be held at Chemical Bank, 55 Water Street, New York, New York, on Thursday, February 24, 1977, at 10:30 a.m., for the following purposes:

1. To consider and act upon a proposal to approve and adopt a Plan and Agreement of Merger providing for the merger of Hoerner Waldorf Corporation with and into the Company on the terms and conditions set forth therein, which terms and conditions include an amendment to the certificate of incorporation of the Company to increase the number of shares of Common Stock that the Company shall have authority to issue. A copy of the Plan and Agreement of Merger, which includes the text of the proposed amendment to the certificate of incorporation of the Company, is attached as Exhibit A to the Joint Proxy Statement accompanying this Notice.

2. To transact such other business as may come before the meeting or any adjournments thereof.

The Board of Directors has fixed the close of business on January 14, 1977 as the record date for the determination of the holders of Common Stock, Preference Stock, $1.20 Cumulative Convertible Series, and $5.50 Cumulative Preferred Stock of the Company entitled to notice of and to vote at the meeting.

Please sign and return promptly the enclosed proxy so that your shares may be represented at the meeting. A return envelope, which requires no postage if mailed in the United States, is enclosed for your convenience.

By order of the Board of Directors,

PHILIP R. O'CONNELL
Secretary

January 25, 1977

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No person has been authorized to give any information or to make any representation not contained in this Joint Proxy Statement and, if given or made, such information or representation must not be relied upon as having been authorized. The delivery of this Joint Proxy Statement shall not create an implication that the information herein is correct as of any time subsequent to its date.

CHAMPION INTERNATIONAL CORPORATION
HOERNER WALDORF CORPORATION

JOINT PROXY STATEMENT

FOR SPECIAL MEETINGS OF SHAREHOLDERS TO BE HELD FEBRUARY 24, 1977

January 25, 1977

INTRODUCTION

This Joint Proxy Statement is being furnished to shareholders of Champion International Corporation, a New York corporation ("Champion"), and to shareholders of Hoerner Waldorf Corporation, a Delaware corporation ("Hoerner Waldorf"), in connection with the solicitation of proxies by the managements of Champion and Hoerner Waldorf for use at their respective special meetings of shareholders to be held on February 24, 1977 and at any adjournments thereof (the "Special Meetings"). All information contained in this Joint Proxy Statement with respect to Champion and Hoerner Waldorf was supplied by Champion and Hoerner Waldorf, respectively, for inclusion herein. The first date on which this Joint Proxy Statement and forms of proxy are being sent to shareholders of Champion and Hoerner Waldorf is on or about January 25, 1977.

Purpose of Special Meetings

The purpose of each of the Special Meetings is to consider and vote upon a proposal to approve and adopt a Plan and Agreement of Merger dated as of December 13, 1976 between Champion and Hoerner Waldorf (the "Agreement"), a copy of which is attached to this Joint Proxy Statement as Exhibit A. Under the Agreement, Hoerner Waldorf will merge into Champion and each share of Hoerner Waldorf's Common Stock ("Hoerner Waldorf Common Stock") will be converted into .95 of a share of Champion's Common Stock ("Champion Common Stock"). The closing prices for Hoerner Waldorf Common Stock and Champion Common Stock on the composite tape on January 21, 1977 were $22 and $25, respectively.

Voting and Revocation of Proxies

All shares entitled to vote which are represented by properly executed proxies will, unless such proxies previously have been revoked, be voted at the respective Special Meetings in accordance with the directions on the proxies. If no direction is indicated, the shares will be voted for approval and adoption of the Agreement. No other matters are expected to be considered at the Special Meetings, but if any other matters are presented to the Special Meetings for action, it is intended that the persons named in the proxies and acting thereunder will vote in accordance with their best judgment on such matters. A shareholder executing and returning a proxy has the power to revoke it at any time before it is voted by notice in writing to the Secretary of Champion or Hoerner Waldorf, as the case may be.

Shareholder Votes Required

Champion: Approval and adoption of the Agreement by the shareholders of Champion will require the affirmative vote of the holders of at least two-thirds of the outstanding shares of Champion's $5.50 Cumulative Preferred Stock ("$5.50 Preferred Stock"), voting as a separate class, and the affirmative vote of the holders of shares of Champion Common Stock and of Champion's Preference Stock, $1.20 Cumulative Convertible Series ("$1.20 Preference Stock"), having at least two-thirds of the votes entitled to be cast by the holders of all outstanding shares of Champion Common Stock and $1.20 Preference Stock, voting together as a single class.

The Board of Directors of Champion has fixed the close of business on January 14, 1977 as the record date for the determination of shareholders entitled to notice of and to vote at the meeting. On that date, there were outstanding and entitled to vote at the meeting 100,000 shares of $5.50 Preferred Stock, each of which is entitled to one vote, 32,098,189 shares of Champion Common Stock, each of which is entitled to one vote, and 8,094,312 shares of $1.20 Preference Stock, each of which is entitled to one-third of one vote.

On January 14, 1977, nominees of Morgan Guaranty Trust Company of New York owned of record 3,423,200 shares, or approximately 10.7% of the outstanding shares, of Champion Common Stock. Morgan Guaranty Trust Company of New York has advised Champion that none of such shares are owned by it beneficially. As of January 14, 1977, no other person owned of record or was known by Champion to own beneficially more than 10% of any class of voting securities of Champion.

Hoerner Waldorf: Approval and adoption of the Agreement by shareholders of Hoerner Waldorf will require the affirmative vote of the holders of a majority of the outstanding shares of Hoerner Waldorf Common Stock.

The Board of Directors of Hoerner Waldorf has fixed the close of business on January 14, 1977 as the record date for the determination of holders of Hoerner Waldorf Common Stock entitled to notice of and to vote at the meeting. On that date, there were outstanding and entitled to vote at the meeting 15,086,663 shares of Hoerner Waldorf Common Stock, each of which is entitled to one vote. January 14, 1977 has also been fixed by the Board of Directors of Hoerner Waldorf as the record date for the determination of holders of Hoerner Waldorf's Series A $4.00 Cumulative Convertible Preferred Stock ("Hoerner Waldorf Preferred Stock") entitled to notice of the meeting. Holders of Hoerner Waldorf Preferred Stock will not be entitled to vote at the meeting.

On January 14, 1977, Brack & Co., the nominee of First Trust Company of St. Paul, was the only record owner of more than 10% of the outstanding shares of Hoerner Waldorf Common Stock, holding of record on that date 1,899,507 shares or approximately 12.6% of the outstanding shares of Hoerner Waldorf Common Stock. To the knowledge of Hoerner Waldorf, there were no beneficial owners of more than 10% of the outstanding shares of Hoerner Waldorf Common Stock.

SUMMARY OF PROPOSED MERGER

This section summarizes certain of the matters discussed in this Joint Proxy Statement. It is not intended to be a complete explanation of the matters covered in this Joint Proxy Statement and is qualified in all respects by reference to the detailed explanations contained herein.

Summary of Businesses

Champion: Champion is a major forest products enterprise engaged in the manufacture and marketing of building materials, paper and related products, and furnishings. It owns or controls substantial land and timber resources in the United States and Canada, as well as significant holdings in Brazil. (See "Business and Properties of Champion".) Champion's principal executive offices are located at 1 Landmark Square, Stamford, Connecticut 06921 and its telephone number is (203) 357-8500.

Hoerner Waldorf: Hoerner Waldorf is a manufacturer and marketer of paper packaging products, including corrugated containers, folding cartons and grocery, shopping and multiwall bags, and other wood fiber-based products. (See "Business and Properties of Hoerner Waldorf".) Hoerner Waldorf's principal executive offices are located at 2250 Wabash Avenue, Saint Paul, Minnesota 55114, and its telephone number is (612) 645-0131.

Principal Terms

Proposed Merger: Under the Agreement, Hoerner Waldorf will be merged with and into Champion. (See "Proposed Merger—The Merger".) It is anticipated that the merger will be consummated on a date (the "Effective Date") as soon as practicable after the later of the approval and adoption of the Agreement at the Special Meetings or receipt of the Internal Revenue Service ruling described under "Proposed Merger—Federal Income Tax Consequences", and satisfaction of certain other conditions herein described.

Conversion Ratio of Hoerner Waldorf Common Stock: Each share of Hoerner Waldorf Common Stock outstanding on the Effective Date will be converted into .95 of one share of Champion Common Stock. (See "Proposed Merger—Conversion Ratio of Hoerner Waldorf Common Stock".)

Redemption of Hoerner Waldorf Preferred Stock: On or before the Effective Date, all shares of Hoerner Waldorf Preferred Stock then outstanding will be called for redemption, subject to the conversion rights provided in Hoerner Waldorf's certificate of incorporation. (See "Proposed Merger—Redemption of Hoerner Waldorf Preferred Stock".)

Redemption of Hoerner Waldorf Convertible Debentures: Champion's Board of Directors intends, if the merger becomes effective, to call for redemption all outstanding 5% Convertible Subordinated Debentures, due May 1, 1994, of Hoerner Waldorf ("Hoerner Waldorf Debentures"), subject to the conversion rights of the Debentures. (See "Proposed Merger—Hoerner Waldorf Convertible Debentures".)

Outstanding Champion Stock; Redemption of Champion $5.50 Preferred Stock: On the Effective Date, each share of Champion $5.50 Preferred Stock, $1.20 Preference Stock and Common Stock then outstanding will remain outstanding without change. However, Champion's Board of Directors intends to call all shares of Champion's $5.50 Preferred Stock for redemption, if the merger is approved and becomes effective. (See "Proposed Merger—Outstanding Champion Stock; Redemption of Champion $5.50 Preferred Stock".)

Fractional Interests: No fractional shares of Champion Common Stock will be issued on the conversion of Hoerner Waldorf Common Stock into Champion Common Stock. Each shareholder who would otherwise be entitled to receive a fractional share will be given the option either of selling such fractional share or purchasing an additional fractional share sufficient to make a full share. (See "Proposed Merger—Fractional Interests".)

Federal Income Tax Consequences: A ruling has been requested from the Internal Revenue Service to the effect that the merger will constitute a tax-free reorganization within the meaning of the Internal Revenue Code of 1954, as amended, with no gain or loss being recognized by holders of Hoerner Waldorf Common Stock on the conversion of their shares into Champion Common Stock pursuant to the merger, except insofar as such shareholders elect to sell fractional interests in Champion Common Stock. (See "Proposed Merger—Federal Income Tax Consequences".)

Champion Management after the Merger: If the merger is consummated, the Board of Directors of Champion will reexamine its composition in light of the business activities of the combined companies, the intention of the Champion Board to increase the number of directors, and the availability of qualified persons to serve on the Board of Directors. It is not anticipated that there will be any change by reason of the merger in Champion's principal executive officers. (See "Management of Champion".)

Accounting Treatment: The merger is to be treated as a pooling of interests.

Increase in Authorized Shares of Champion Common Stock: Approval and adoption of the Agreement will also include approval of an amendment to Champion's certificate of incorporation to increase the number of shares of Common Stock that Champion is authorized to issue from 60,000,000 to 100,000,000. (See "Proposed Merger—Increase in Authorized Shares of Champion Common Stock".)

No Appraisal Rights: Neither Champion shareholders nor Hoerner Waldorf shareholders have any appraisal rights in connection with the proposed merger.

COMPARATIVE PRO FORMA PER SHARE DATA

Pro forma share and per share amounts have been determined by using the conversion ratio of .95 of one share of Champion Common Stock for each share of Hoerner Waldorf Common Stock and by assuming the conversion of each share of Hoerner Waldorf Preferred Stock into 5.2782 shares of Champion Common Stock (see "Proposed Merger—Conversion Ratio of Hoerner Waldorf Common Stock; Redemption of Hoerner Waldorf Preferred Stock"). For additional pro forma financial information, see "Pro Forma Earnings and Balance Sheet Data".

Net Income on Common Stock (Unaudited)

The following table, which is based on the Consolidated Statement of Income of Champion, the Consolidated Statement of Income of Hoerner Waldorf, a consolidated statement of income of Hoerner Waldorf for the nine month periods ended July 31, 1975 and July 31, 1976 (not appearing herein) and the Pro Forma Summary of Combined Earnings (see "Pro Forma Earnings and Balance Sheet Data"), presents the actual and pro forma net income per share of Champion Common Stock and Hoerner Waldorf Common Stock:

	Fiscal Years Ended December 31, for Champion, and October 31, for Hoerner Waldorf					Nine Months Ended September 30, for Champion, and July 31, for Hoerner Waldorf(e)	
	1971	1972	1973	1974	1975	1975	1976
CHAMPION							
Net income per common share, assuming no dilution:							
Actual, before issuance of shares for Hoerner Waldorf(a)	$1.22	$1.71	$2.63	$3.19	$1.82	$1.33	$2.39
Pro forma, after issuance of shares for Hoerner Waldorf(b)	$1.15	$1.59	$2.46	$2.96	$1.91	$1.35	$2.21
Net income per common share, assuming that all outstanding $1.20 convertible preference stock, convertible preferred stock of a subsidiary and convertible long-term debt were converted at the beginning of the period:							
Actual, before issuance of shares for Hoerner Waldorf	$1.21	$1.59	$2.30	$2.72	$1.66	$1.22	$2.05
Pro forma, after issuance of shares for Hoerner Waldorf, assuming that all outstanding $4.00 convertible preferred stock and long-term debt of Hoerner Waldorf were converted at the beginning of the period	$1.13	$1.48	$2.17	$2.57	$1.73	$1.24	$1.94
HOERNER WALDORF							
Net income per common share, assuming no dilution:							
Actual, before exchange for shares of Champion(c)	$ .94	$1.27	$1.98	$2.35	$1.99	$1.33	$1.73
Pro forma, after exchange for shares of Champion(d)	$1.09	$1.51	$2.34	$2.81	$1.81	$1.28	$2.10
Net income per common share, assuming that all outstanding dilutive $4.00 convertible preferred stock and convertible long-term debt were converted at the beginning of the period:							
Actual, before exchange for shares of Champion	$ .87	$1.16	$1.78	$2.12	$1.80	$1.20	$1.57
Pro forma, after exchange for shares of Champion, assuming that all outstanding $1.20 convertible preference stock, convertible preferred stock of a subsidiary and convertible long-term debt of Champion were converted at the beginning of the period	$1.07	$1.41	$2.06	$2.44	$1.64	$1.18	$1.84

NOTES:

(a) Based on the weighted average number of shares of Champion Common Stock outstanding during each of the respective periods, after deducting dividends on the Champion preference and preferred stocks.

(b) Based on the weighted average number of shares of Champion Common Stock, as described in (a) above, increased by the number of shares of Champion Common Stock issuable in respect of the

weighted average number of shares of Hoerner Waldorf Common Stock outstanding during each of the respective periods, retroactively adjusted to give effect to a two-for-one split of Hoerner Waldorf Common Stock in February, 1974, and after deducting dividends on preference and preferred stocks.

(c) Based on the weighted average number of shares of Hoerner Waldorf Common Stock outstanding during each of the respective periods, retroactively adjusted to give effect to a two-for-one stock split in February, 1974, after deducting dividends on Hoerner Waldorf $4.00 Convertible Preferred Stock.

(d) Based on the net income applicable to .95 of one share of Champion Common Stock issuable in respect of each share of Hoerner Waldorf Common Stock after calculating the number of shares of Champion Common Stock outstanding as described in (b) above and after deducting dividends on preference and preferred stocks.

(e) The nine month periods have been combined on the basis that Champion intends to follow after the merger. If Hoerner Waldorf's nine months ended October 31, 1975 and 1976 were combined with Champion's nine months ended September 30, 1975 and 1976, Hoerner Waldorf's per share amounts would be as follows:

	Nine Months Ended September 30, for Champion, and October 31, for Hoerner Waldorf	
	1975	1976
Net income per common share, assuming no dilution:		
Actual, before exchange for shares of Champion	$1.50	$1.92
Pro forma, after exchange for shares of Champion	$1.34	$2.16
Net income per common share, assuming that all outstanding dilutive $4.00 convertible preferred stock and convertible long-term debt were converted at the beginning of the period:		
Actual, before exchange for shares of Champion	$1.36	$1.75
Pro forma, after exchange for shares of Champion, assuming that all outstanding $1.20 convertible preference stock, convertible preferred stock of a subsidiary and convertible long-term debt of Champion were converted at the beginning of the period	$1.22	$1.90

Dividends (Unaudited)

The following table presents the actual cash dividends declared on Champion Common Stock and Hoerner Waldorf Common Stock and the pro forma dividends per share of Hoerner Waldorf Common Stock, retroactively adjusted, in the case of the Hoerner Waldorf Common Stock, to give effect to a two-for-one common stock split in February, 1974:

	Fiscal Years Ended December 31, for Champion, and October 31, for Hoerner Waldorf					Nine Months Ended September 30, for Champion, and July 31, for Hoerner Waldorf	
	1971	1972	1973	1974	1975	1975	1976
Champion, actual	$.84	$.84	$.88	$.98	$1.00	$.75	$.75
Hoerner Waldorf, actual	$.45	$.4675	$.50375	$.59	$ .72	$.54	$.60
Hoerner Waldorf, pro forma, after exchange for shares of Champion, based on .95 of a share of Champion Common Stock	$.798	$.798	$.836	$.931	$ .95	$.7125	$.7125

NOTE:
No stock dividends were paid by Champion or Hoerner Waldorf during the periods.

During the first three quarters of fiscal 1976, Hoerner Waldorf paid quarterly cash dividends on its Common Stock of $.20 per share. During the last quarter of fiscal 1976, it increased its quarterly dividend rate to $.22½ per share. The most recent quarterly cash dividend on Hoerner Waldorf Common Stock was $.22½ per share declared on December 13, 1976 and paid on January 10, 1977, to holders of record on December 27, 1976.

Champion has paid regular cash dividends on its Common Stock since 1939. The most recent quarterly dividend on Champion Common Stock was $.25 per share declared on November 18, 1976 and paid on January 12, 1977 to holders of record on December 17, 1976. The payment of future dividends by Champion will be determined by Champion's Board of Directors in light of the earnings and financial condition of Champion and other relevant considerations. For certain limitations on the payment of dividends by Champion, see "Description of Champion Common Stock".

Book Value Data (Unaudited)

The following table sets forth book value data per share of Champion Common Stock and Hoerner Waldorf Common Stock and respective pro forma book value data after giving effect to the merger of Hoerner Waldorf into Champion on a pooling of interests basis:

	Champion Sept. 30, 1976	Hoerner Waldorf July 31, 1976
Book Value Per Share, Including Intangible Assets:		
Actual(a)	$22.85	$15.04
Pro forma(b):		
Before conversion of Champion's $1.20 convertible preference stock, convertible long-term debt, a Champion subsidiary's convertible preferred stock and Hoerner Waldorf's convertible long-term debt	$20.74	$19.70
After conversion of Champion's $1.20 convertible preference stock, convertible long-term debt, a Champion subsidiary's convertible preferred stock and Hoerner Waldorf's convertible long-term debt	$20.90	$19.86
Book Value Per Share, Excluding Intangible Assets:		
Actual(a)	$20.24	$14.98
Pro forma(b):		
Before conversion of Champion's $1.20 convertible preference stock, convertible long-term debt, a Champion subsidiary's convertible preferred stock and Hoerner Waldorf's convertible long-term debt	$18.90	$17.96
After conversion of Champion's $1.20 convertible preference stock, convertible long-term debt, a Champion subsidiary's convertible preferred stock and Hoerner Waldorf's convertible long-term debt	$19.39	$18.42

NOTES:

(a) Based on Champion's book value at September 30, 1976 and Hoerner Waldorf's book value at July 31, 1976 before giving effect to the issuance of shares of Champion Common Stock pursuant to the merger.

(b) The pro forma comparative book value data, which is based on the Pro Forma Combined Balance Sheet (see "Pro Forma Earnings and Balance Sheet Data"), gives effect to the proposed merger of Hoerner Waldorf into Champion on a pooling of interests basis, to the issuance of .95 share of Champion Common Stock for each share of Hoerner Waldorf Common Stock and assumes the conversion of each share of Hoerner Waldorf $4.00 Convertible Preferred Stock into 5.2782 shares of Champion Common Stock (see "Proposed Merger—Redemption of Hoerner Waldorf Preferred Stock"). The pro forma amounts for Hoerner Waldorf are based on the pro forma book value of .95 of one share of Champion Common Stock.

(c) Intangible assets consist of excess cost of businesses acquired over amounts assigned to net tangible assets ($77,323,000 for Champion at September 30, 1976) and unamortized financing expenses ($6,385,000 for Champion at September 30, 1976 and $756,000 for Hoerner Waldorf at July 31, 1976).

COMPARATIVE MARKET PRICES

Hoerner Waldorf's Common Stock is listed on the New York Stock Exchange and Champion's Common Stock is listed on the New York, Pacific and Cincinnati Stock Exchanges.

The following table sets forth the reported high and low sales prices of Hoerner Waldorf's and Champion's Common Stocks during the periods indicated on the New York Stock Exchange through January 23, 1976 and thereafter on the composite tape (adjusted, in the case of Hoerner Waldorf Common Stock, to reflect a two-for-one stock split in February 1974):

	Hoerner Waldorf		Champion	
	High	Low	High	Low
1972	$19	$13 11/16	$30½	$19
1973	21⅝	12 5/16	23	14⅛
1974	20	6¾	20⅞	9⅜
1975				
1st Quarter	13¾	8½	17⅜	10½
2nd Quarter	15¾	11⅜	18¼	13¾
3rd Quarter	15⅛	12½	18	13⅝
4th Quarter	15⅝	11⅞	18⅜	13⅞
1976				
1st Quarter	20⅝	14¾	28½	18
2nd Quarter	18⅛	16	25⅞	22⅝
3rd Quarter	19⅞	17⅛	25⅞	22⅝
4th Quarter	23½	18	27⅝	22
1977				
1st Quarter (through January 21, 1977)	23¼	21⅛	27⅜	23⅞
Closing price on January 21, 1977	$22		$25	

Announcement of the agreement in principle for the merger of Hoerner Waldorf into Champion on the basis of .95 of one share of Champion Common Stock for each outstanding share of Hoerner Waldorf Common Stock was made on October 25, 1976. Prior to that date, on October 4, 1976, Hoerner Waldorf announced that it was engaged in merger discussions, which, in light of previous discussions with Champion (see "Proposed Merger—History of Negotiations"), may have affected market prices. The closing prices of Champion Common Stock on the composite tape on the last trading days prior to these dates were $23½ and $24⅜, respectively, while the closing prices of Hoerner Waldorf Common Stock on the composite tape on the last trading days prior to these dates were $18⅝ and $20⅜, respectively.

PROPOSED MERGER

The following information, insofar as it summarizes the terms of the Agreement, is qualified by, and made subject to, the text of the Agreement, a copy of which is attached to this Joint Proxy Statement as Exhibit A.

The Merger

Pursuant to the Agreement, Hoerner Waldorf will merge with and into Champion on the Effective Date. All of Hoerner Waldorf's properties and assets of every kind will become properties and assets of Champion, and Champion will become liable for all of the debts, liabilities and other obligations of Hoerner Waldorf. After the merger, Hoerner Waldorf will cease to exist as a separate corporation, but will continue to operate as a business unit of Champion.

The terms of the Agreement are the result of arms length negotiations between representatives of Champion and Hoerner Waldorf. Both companies considered their financial positions, historic results of operations, market prices of their common stocks and other factors deemed pertinent, and made judgments with regard to the prospects of the companies separately and on a combined basis. In addition, Champion's management and Board of Directors took into account the uncertainties regarding the matters

discussed under "Business and Properties of Hoerner Waldorf—Litigation." While Champion does not anticipate that such matters would have a material adverse effect on the financial position or results of operations of the combined companies, no assurance to this effect can be given.

The Board of Directors of each company considered management's views as to the potential benefits of the merger. Champion's management believes that the merger would enable Champion to better utilize its timber resources, broaden Champion's forest products base through the addition of Hoerner Waldorf's "brown paper" business to Champion's "white paper" and wood products businesses, and enable Champion to achieve a more stable earnings pattern by adding operations having a different business cycle than either "white paper" or wood products. Hoerner Waldorf's management believes that the proposed merger represents an attractive opportunity for the shareholders of Hoerner Waldorf to acquire an interest in a company having access to large quantities of timber to provide a portion of the raw materials for Hoerner Waldorf's present operations and future growth on a long term basis.

Boards of Directors' Recommendations

The Boards of Directors of Champion and Hoerner Waldorf have, by unanimous vote, found the proposed merger of Champion and Hoerner Waldorf advisable on the terms and conditions set forth in the Agreement and have recommended that the Agreement be approved and adopted by the shareholders of Champion and Hoerner Waldorf, respectively. (See "History of Negotiations" below for information regarding the rejection by Hoerner Waldorf's Board of Directors of a previous proposal to combine Hoerner Waldorf with Champion.) The directors of Champion and Hoerner Waldorf have indicated their present intention to vote the shares they hold in their respective corporations in favor of the merger. On November 30, 1976, the directors of Hoerner Waldorf owned beneficially, in the aggregate, 2,561,315 shares, or approximately 17.2% of the number of shares of Hoerner Waldorf Common Stock then outstanding. Of such shares, Alvin J. Huss, Chairman of Hoerner Waldorf, owned beneficially 1,400,000 shares, or approximately 9.4% of the outstanding shares. For information regarding the holdings of Champion stock by the directors of Champion, see "Management of Champion". No director or officer of Champion or Hoerner Waldorf holds any shares of the other company.

The Boards of Directors of Champion and Hoerner Waldorf recommend that their respective shareholders vote FOR approval and adoption of the Agreement.

Opinions of Investment Bankers

The Boards of Directors of Champion and Hoerner Waldorf each obtained the opinion of investment bankers with respect to the fairness of the conversion ratio to the shareholders of their respective companies.

Copies of the opinions of Blyth Eastman Dillon & Co. Incorporated and Goldman, Sachs & Co., engaged by Champion for this purpose, are attached as Exhibits B and C, respectively, to this Joint Proxy Statement. Such opinions state that such firms, with Champion's consent, did not take into their consideration any potential impact on Hoerner Waldorf of the antitrust litigation and investigation referred to under "Business and Properties of Hoerner Waldorf—Litigation", in view of the impossibility of their assessing the ultimate liability, if any, which Hoerner Waldorf may incur in connection with these matters.

Champion will pay Blyth Eastman Dillon & Co. Incorporated and Goldman, Sachs & Co. a fee of $200,000 each, plus certain expenses, for rendering their opinions in connection with the merger and has agreed to indemnify such firms for liabilities that they may incur under the federal securities laws or otherwise. Blyth Eastman Dillon & Co. Incorporated and Goldman, Sachs & Co. advised Champion with respect to the proposed merger and the prior proposal for the combination of Hoerner Waldorf with Champion (see "History of Negotiations" below). Such firms in the past have acted for Champion and its subsidiaries as co-managers in the underwriting of securities, including the public offering of 4,000,000 shares of Champion Common Stock in May 1976, and as advisers in other financial matters. Such firms also have provided brokerage services for Champion and for its employee stock purchase plans and Goldman, Sachs & Co. has acted as dealer in commercial paper issued by Champion. Each of such firms

in the past has acted for Hoerner Waldorf as manager or co-manager in the underwriting of securities, including an offering of pollution control revenue bonds issued in 1976 managed by Blyth Eastman Dillon & Co. Incorporated and an offering of similar bonds in 1971 managed by Goldman, Sachs & Co., and as advisers in other financial matters. Neither firm has acted for Hoerner Waldorf in this transaction.

A copy of the opinion of Lazard Freres & Co., delivered to Hoerner Waldorf's Board of Directors, is attached as Exhibit D to this Joint Proxy Statement. Such opinion states that such firm did not consider any potential impact upon Champion of the litigation and investigations referred to under "Business and Properties of Champion—Litigation". Hoerner Waldorf will pay Lazard Freres & Co. a fee of $200,000, plus certain expenses, for rendering its opinion in connection with the merger and has agreed to indemnify such firm for liabilities that it may incur under the federal securities laws or otherwise.

Morgan Stanley & Co. Incorporated rendered financial advice to Hoerner Waldorf with respect to a prior proposal to merge Hoerner Waldorf into Champion (see "History of Negotiations" below). Morgan Stanley & Co. Incorporated declined to render advice with respect to the proposed merger and has advised Hoerner Waldorf that it declined to do so because of the press of existing activities and the time requirements of the undertaking.

History of Negotiations

On June 30, 1975, the Board of Directors of Hoerner Waldorf voted eight to two to reject a proposal to enter into an agreement in principle for a combination of Hoerner Waldorf with Champion on the basis of an exchange of one share of Champion Common Stock for each outstanding share of Hoerner Waldorf Common Stock. Alvin J. Huss and Richard N. Hoerner, Jr., the two directors of Hoerner Waldorf who favored the proposal, believed that it should have been submitted to Hoerner Waldorf's shareholders for their decision as to whether the proposal should be accepted. Immediately after rejecting the merger proposal, the Hoerner Waldorf Board of Directors removed Mr. Huss as Chairman of the Board and elected the President of Hoerner Waldorf, John F. Allen, to the additional position of Chairman of the Board. Thereafter, Messrs. Huss and Hoerner formed the Hoerner Waldorf Stockholders Committee (the "Committee") to seek to replace those members of the Board of Directors of Hoerner Waldorf who had rejected the merger proposal and to solicit proxies to accomplish this objective. In communications to Hoerner Waldorf shareholders, the Committee stated that the proposed conversion ratio was favorable to Hoerner Waldorf shareholders, in part on the basis of an opinion of Morgan Stanley & Co. Incorporated (rendered prior to the Board's rejection of the proposal and for which Morgan Stanley & Co. Incorporated was paid $75,000 by Hoerner Waldorf) to the effect that, from a financial point of view, the proposed conversion ratio would be fair and equitable to Hoerner Waldorf shareholders and in part on the grounds that the proposed conversion ratio represented a potential premium in market value to Hoerner Waldorf shareholders as well as an increase in dividend rate and book value per share. The Committee further stated that a combination with Champion would permit the shareholders of Hoerner Waldorf to acquire an interest in a corporation having access to large quantities of timber, providing raw materials for present operations and future growth on a long-term basis. In opposing the efforts of the Committee, the management of Hoerner Waldorf questioned Champion's debt to equity ratio and financial performance, the experience of Champion's senior management, the availability of Champion's timber holdings for Hoerner Waldorf's operations and the adequacy of the proposed conversion ratio, and expressed concern over a decline in Champion's earnings during the first and second quarters of 1975 in comparison with the corresponding periods in 1974.

On December 15, 1975 an agreement was reached between Hoerner Waldorf's management and the Committee under which the two sides agreed on a slate of 13 nominees for election to the Board of Directors at the annual meeting of shareholders held on February 24, 1976. This slate consisted of the ten directors then in office (including Messrs. Huss and Hoerner and seven of the eight other directors who had been in office on June 30, 1975, one having resigned in the interim) plus three additional nominees selected by the Committee. At the meeting of the Board of Directors following the annual meeting of shareholders on February 24, 1976, Mr. Allen was not reelected as Chairman of the Board or as President and Chief Executive Officer of Hoerner Waldorf, Mr. Huss was elected to the newly created office of Chairman and John H. Myers was elected President and Chief Executive Officer. Since February 1976, Mr. Allen and two other directors who voted against the initial merger proposal have resigned and Mr. Hoerner has been elected to replace Mr. Myers as President and Chief Executive Officer.

Four of the present directors of Hoerner Waldorf voted to reject the prior proposal for the combination of Hoerner Waldorf with Champion. These directors have informed Hoerner Waldorf that the primary reasons they voted in favor of the present proposal were as follows:

1. In June 1975, Champion, in their opinion, was highly leveraged and they doubted whether it had the financial resources necessary to finance both its and Hoerner Waldorf's capital expansion programs. Since then, Champion's financial condition has been strengthened by the receipt of proceeds of more than $90 million from the sale of common stock and the use of such proceeds to repay a substantial amount of debt, with resulting improvement in its debt to equity ratio. As a result, they believe it is now realistic to expect that Champion will be able to finance both companies' capital expansion programs.

2. Since June 1975, Champion's earnings improved in comparison to Hoerner Waldorf's, and they believe Champion's earnings prospects have improved as a result of its expressed intention to dispose of its furnishings business.

3. They believe that Champion's plan to dispose of its furnishings business and to concentrate on forest products will enable it to better utilize the combined resources of Champion and Hoerner Waldorf.

4. In June 1975, the top management of Champion had been serving as such only since September 1974. The four Hoerner Waldorf directors no longer have reservations regarding Champion's top management. Also, since June 1975, Hoerner Waldorf has itself experienced some turnover in its top management.

Outstanding Champion Stock; Redemption of Champion $5.50 Preferred Stock

On the Effective Date, each share of Champion's $5.50 Preferred Stock, $1.20 Preference Stock and Common Stock then outstanding will remain outstanding without change. However, Champion's Board of Directors intends, if the merger is approved and becomes effective, to call for redemption the 100,000 outstanding shares of Champion's $5.50 Preferred Stock. The redemption price would be $105 per share, plus accrued dividends. If the merger becomes effective, holders of $5.50 Preferred Stock will be given more detailed information and instructions when their shares are called for redemption.

Conversion Ratio of Hoerner Waldorf Common Stock

Each share of Hoerner Waldorf Common Stock outstanding on the Effective Date will be converted into .95 of one share of Champion Common Stock. (See "Description of Champion Common Stock".)

Based on the number of shares of Hoerner Waldorf Common Stock outstanding on November 30, 1976, Champion will issue as a result of the merger 14,174,509 shares of Champion Common Stock to holders of Hoerner Waldorf Common Stock. Champion also will be required as a result of the merger to reserve 1,465,635 additional shares of Common Stock for issuance on conversion of Hoerner Waldorf Preferred Stock and Hoerner Waldorf Debentures and on exercise of Hoerner Waldorf employee stock options, based on the number of outstanding shares of Hoerner Waldorf Preferred Stock, the outstanding principal amount of Hoerner Waldorf Debentures and the number of shares of Hoerner Waldorf Common Stock subject to outstanding stock options as of November 30, 1976. (See "Redemption of Hoerner Waldorf Preferred Stock", "Hoerner Waldorf Stock Options and Incentive Compensation" and "Hoerner Waldorf Convertible Debentures" below.) For information regarding the number of shares of Champion Common Stock outstanding and reserved for issuance as of November 30, 1976, see "Capitalization".

Exchange of Certificates; Dividends

Promptly following consummation of the merger, instructions will be given to holders of Hoerner Waldorf Common Stock concerning the forwarding of their stock certificates to Chemical Bank in New York City, acting as Exchange Agent, for surrender and exchange for Champion stock certificates. **Holders of Hoerner Waldorf Common Stock should not forward their stock certificates until after receipt of these instructions.**

Holders of Hoerner Waldorf Common Stock will not receive any dividends that may be declared to be payable to holders of Champion Common Stock of record as of any date after the Effective Date until they have surrendered their Hoerner Waldorf stock certificates for exchange. Any such dividends will be remitted, without interest, to a holder of Hoerner Waldorf Common Stock (or his transferee) at the time that his stock certificates are surrendered for exchange.

Fractional Interests

No fractional shares or scrip certificates will be issued in connection with the merger. In lieu thereof, each holder of Hoerner Waldorf Common Stock entitled to a fractional share of Champion Common Stock will be afforded the opportunity, during a period of not less than 60 days following the Effective Date, to instruct the Exchange Agent to sell the fractional share interest to which he is entitled or to purchase an additional fractional interest sufficient to make a full share of Champion Common Stock. Any fractional share interest with respect to which instructions are not received by the Exchange Agent within the prescribed period will be sold for the benefit of the holder entitled thereto and the proceeds will be remitted, without interest, to such holder (or his transferee) at the time that his stock certificates are surrendered for exchange. All expenses incidental to the sale and purchase of fractional share interests will be borne by Champion.

Gain or loss for federal income tax purposes will be recognized by holders of Hoerner Waldorf Common Stock in respect of sales of fractional interests in shares of Champion Common Stock.

Redemption of Hoerner Waldorf Preferred Stock

On or before the Effective Date, all shares of Hoerner Waldorf Preferred Stock then outstanding will be called for redemption. The redemption price will be $101 per share, if the redemption date is prior to April 1, 1977, or $100 if the redemption date is on or after April 1, 1977, in each case plus accrued dividends. Notice of redemption will be given at least 30 days in advance of the date fixed for redemption. Notwithstanding this notice, each share of Hoerner Waldorf Preferred Stock will be convertible, at the option of the holder thereof, up to the close of business on the fifth full business day prior to the redemption date, into shares of Hoerner Waldorf Common Stock prior to the Effective Date, and after the Effective Date into shares of Champion Common Stock at the rate of .95 of one share of Champion Common Stock for each share of Hoerner Waldorf Common Stock issuable on conversion of such share of Hoerner Waldorf Preferred Stock immediately prior to the Effective Date. No fractional shares or scrip certificates will be issued on conversion, but in lieu thereof cash will be paid in an amount calculated in accordance with the provisions of Hoerner Waldorf's certificate of incorporation. Holders of Hoerner Waldorf Preferred Stock will be given more detailed information and instructions at the time their shares are called for redemption.

Hoerner Waldorf Preferred Stock is now convertible into Hoerner Waldorf Common Stock at the rate of 5.556 shares of Hoerner Waldorf Common Stock for each share of Hoerner Waldorf Preferred Stock (equivalent to 5.2782 shares of Champion Common Stock for each share of Hoerner Waldorf Preferred Stock following the merger). Based on the number of shares of Hoerner Waldorf Preferred Stock outstanding on November 30, 1976, and assuming that all such shares of Hoerner Waldorf Preferred Stock were converted into Champion Common Stock following the Effective Date, Champion would be required to issue 86,483 shares of Champion Common Stock on such conversion.

Hoerner Waldorf Stock Options and Incentive Compensation

All Hoerner Waldorf employee stock options outstanding on the Effective Date will remain in effect following consummation of the merger on the same terms and conditions, except that for each share of Hoerner Waldorf Common Stock subject to each such option there will be substituted .95 of one share of Champion Common Stock. Based on the number of shares of Hoerner Waldorf Common Stock reserved on November 30, 1976 for issuance on exercise of then outstanding Hoerner Waldorf employee stock options, Champion will be required on the Effective Date to reserve for issuance on such exercise 361,321 shares of Champion Common Stock.

Champion has indicated that following consummation of the merger it intends to maintain in effect the incentive provisions of Hoerner Waldorf's employee compensation systems, so long as they continue to

contribute significantly to superior profit performance by the operations in which such incentive provisions are installed.

Hoerner Waldorf Convertible Debentures

Hoerner Waldorf Debentures, which now provide for conversion into Hoerner Waldorf Common Stock at a conversion price of $16.75 per share, will be convertible, following consummation of the merger, into Champion Common Stock on the basis of .95 of one share of Champion Common Stock for each share of Hoerner Waldorf Common Stock issuable on conversion of the Hoerner Waldorf Debentures immediately prior to the Effective Date (equivalent to a conversion price of approximately $17.63 per share of Champion Common Stock). Based on the $17,946,000 principal amount of Hoerner Waldorf Debentures outstanding on November 30, 1976, Champion will be required on the Effective Date to reserve for issuance on conversion of Hoerner Waldorf Debentures 1,017,831 shares of Champion Common Stock.

Champion's Board of Directors intends to call all outstanding Hoerner Waldorf Debentures for redemption, if the merger becomes effective. The redemption price of the debentures will be 103.25% of principal amount if the redemption date is prior to May 1, 1977, or 103% of principal amount, if the redemption date is on or after May 1, 1977, in each case plus accrued interest. Notice of redemption will be given at least 30 days in advance of the date fixed for redemption. Notwithstanding such notice, Hoerner Waldorf Debentures will be convertible, at the option of the holder thereof, into shares of Champion Common Stock up to the close of business on the redemption date. Holders of Hoerner Waldorf Debentures will be given more detailed information and instructions at the time the debentures are called for redemption.

Federal Income Tax Consequences

Under the Agreement, the obligations of Champion and Hoerner Waldorf to consummate the proposed merger are conditioned, in part, on receipt of rulings from the Internal Revenue Service to the effect that (i) no gain or loss will be recognized by Champion or its shareholders or by Hoerner Waldorf as a result of the proposed merger; (ii) no gain or loss will be recognized by holders of Hoerner Waldorf Common Stock on the conversion of their Hoerner Waldorf Common Stock into Champion Common Stock; (iii) the basis of the Champion Common Stock to be received by the holders of Hoerner Waldorf Common Stock (including any fractional share interests to which they may be entitled) will be the same as the basis of the Hoerner Waldorf Common Stock exchanged therefor; and (iv) the holding period of the Champion Common Stock to be received by the holders of Hoerner Waldorf Common Stock (including any fractional share interests to which they may be entitled) will include the holding period of the Hoerner Waldorf Common Stock exchanged therefor, provided that such Hoerner Waldorf Common Stock is held as a capital asset on the Effective Date. Each party may agree to waive this condition (see "Waiver and Amendment"), but only on receipt of an opinion of counsel to the effect of the foregoing rulings.

Rulings also have been requested from the Internal Revenue Service to the effect that no gain or loss will be recognized by holders of Hoerner Waldorf Preferred Stock or Hoerner Waldorf Debentures on conversion of their shares or debentures into shares of Champion Common Stock. The receipt of such rulings is not a condition to consummation of the merger.

Gain or loss will be recognized by holders of Hoerner Waldorf Common Stock in respect of sales of fractional interests in shares of Champion Common Stock (see "Fractional Interests" above).

Increase in Authorized Shares of Champion Common Stock

The Agreement provides that on the Effective Date the certificate of incorporation of Champion will be amended, as set forth in paragraph 1.2 of the Agreement, to increase the number of shares of Champion Common Stock that Champion is authorized to issue from 60,000,000 to 100,000,000. Approval and adoption of the Agreement will also constitute approval of this amendment, which will be effective only if the merger becomes effective.

As of November 30, 1976, 32,083,848 shares of Champion Common Stock were outstanding and a total of 11,075,289 additional shares of Champion Common Stock were reserved for issuance on the exercise of employee stock options, under Champion's Contingent Compensation and Bonus Plan, and on conversion of $1.20 Preference Stock and other convertible securities of Champion and its subsidiaries. On that date, 16,840,863 authorized shares of Champion Common Stock remained unreserved and available for issuance.

Based on the numbers of shares of Hoerner Waldorf Common Stock outstanding on November 30, 1976 and issuable on the exercise of outstanding stock options and on conversion of Hoerner Waldorf Preferred Stock and Hoerner Waldorf Debentures outstanding as of that date, Champion would be required, if the merger becomes effective, to issue 14,174,509 shares of Champion Common Stock and to reserve 1,465,635 additional shares for issuance.

While Champion now has a sufficient number of unreserved and available shares of Champion Common Stock to permit it to effect the issuance and reservations of shares necessary in connection with the consummation of the merger, unless the number of shares of Champion Common Stock that Champion is authorized to issue is increased, only 1,200,719 of the 60,000,000 presently authorized shares of Champion Common Stock would remain unreserved and available following the merger.

The Board of Directors of Champion believes therefore that it is in the best interests of Champion to increase the number of shares of Common Stock that Champion is authorized to issue to 100,000,000, so that after the merger there will be additional shares available for issuance. Such shares could be issued by the Board for such corporate purposes as it may deem advisable from time to time in the future without further shareholder action, except where shareholder approval is otherwise required by law or by the terms of agreements between Champion and any securities exchange on which its securities are then listed. Champion has no present plans to issue any shares of Common Stock, except in accordance with the above-described reservations of shares and in connection with the proposed merger. Holders of shares of stock of Champion do not have preemptive rights.

Registration Rights

As a condition to the consummation of the merger, certain principal shareholders of Hoerner Waldorf will be required to deliver to Champion undertakings to the effect that they will not dispose of shares of Champion Common Stock obtained by them in the course of the merger except pursuant to registration statements filed by Champion under the Securities Act of 1933 or an exemption from the registration requirements of the Securities Act. Champion has agreed that persons who hold shares of Champion Common Stock as to which such undertakings are given may, subject to certain limitations, require Champion to file, at Champion's expense, four registration statements under the Securities Act to permit them to dispose of such shares. In connection with any such registration statement, Champion will indemnify such persons against liabilities to which they may be subject under the Securities Act.

Conduct Pending Merger

Champion and Hoerner Waldorf have agreed, among other things, that pending consummation of the merger (i) each will give the other full access to all of its premises, books, records and financial and operating data; (ii) Hoerner Waldorf will continue to operate its business in the ordinary course, except as otherwise consented to by Champion; (iii) Hoerner Waldorf will not declare or pay any dividend with respect to Hoerner Waldorf Common Stock or Hoerner Waldorf Preferred Stock other than quarterly cash dividends not exceeding 22½¢ per share and $1.00 per share, respectively; (iv) Champion will not declare a dividend other than a quarterly cash dividend or split or combine or reclassify its outstanding shares of Common Stock unless an appropriate adjustment is made in the conversion rate of the Champion Common Stock to be issued and reserved for issuance pursuant to the terms of the Agreement; and (v) neither will issue any shares of any class of capital stock except, in the case of Hoerner Waldorf, on conversion of Hoerner Waldorf Preferred Stock or Hoerner Waldorf Debentures or on the exercise of stock options outstanding on the date of the Agreement and, in the case of Champion, capital stock reserved for issuance on the date of the Agreement or in connection with a transaction or transactions which, taken as one transaction, would not require the approval or consent of Champion's shareholders.

Conditions of the Merger

The obligations of Champion and Hoerner Waldorf to consummate the proposed merger are conditioned, among other things, on (i) continued accuracy of the representations and warranties made to each by the other (none of which will survive the proposed merger) and the absence of any breach of any

of the covenants of the other; (ii) receipt of the tax ruling described under "Federal Income Tax Consequences" above; (iii) approval and adoption of the Agreement by the respective shareholders of Champion and Hoerner Waldorf; (iv) approval for listing on the New York Stock Exchange, subject to official notice of issuance, of the shares of Champion Common Stock to be issued and reserved for issuance pursuant to the terms of the Agreement; and (v) delivery of certain legal opinions, accountants' letters and closing certificates. The obligation of Champion to consummate the proposed merger is further subject to receipt of the undertakings described under "Registration Rights" above.

Amendment and Waiver

Any provision of the Agreement may be waived by the party entitled to the benefit thereof, and the Agreement may be amended in any respect, whether before or after approval and adoption of the Agreement by the respective shareholders of Champion and Hoerner Waldorf (except that the ratio applicable to the conversion of shares of Hoerner Waldorf Common Stock into shares of Champion Common Stock may not be changed without shareholder approval).

Termination

The Agreement may be terminated prior to consummation of the merger, whether before or after approval of the merger by the respective shareholders of Champion and Hoerner Waldorf, by the mutual consent of the Boards of Directors of Champion and Hoerner Waldorf, by either Champion or Hoerner Waldorf if the merger shall not have become effective by May 31, 1977 or such later date as may be agreed upon by the Boards of Directors of Champion and Hoerner Waldorf, by either Champion or Hoerner Waldorf if there shall be a misrepresentation or breach of warranty by the other, or by either Champion or Hoerner Waldorf if litigation or proceedings challenging the merger shall be instituted or threatened (see "Department of Justice Inquiry" below).

Expenses

If the proposed merger is consummated, Champion, as the surviving corporation, will bear all costs incurred in connection therewith. If the merger fails to become effective and is abandoned, Champion and Hoerner Waldorf will each bear its own costs, except that printing costs, the fee for filing with the Securities and Exchange Commission of the registration statement of which this Joint Proxy Statement is a part (insofar as it constitutes a prospectus delivered to Hoerner Waldorf shareholders) and certain other expenses will be equally divided.

No Appraisal Rights for Dissenting Shareholders

Shareholders of Champion and Hoerner Waldorf are not entitled to appraisal or dissenter's rights under the laws of New York and Delaware.

Department of Justice Inquiry

Champion and Hoerner Waldorf have each received a letter of inquiry, dated November 4, 1976, from the Antitrust Division of the United States Department of Justice, asking each corporation to submit information concerning the proposed merger and its business and operations in connection with an investigation of the proposed merger commenced by that agency. Each corporation has supplied data to the Department of Justice pursuant to these requests. Champion and Hoerner Waldorf have each received a second letter of inquiry, dated January 14, 1977, asking each corporation to submit further information with respect to certain segments of its operations. Each corporation will supply data to the Department of Justice pursuant to these additional requests. Neither Champion nor Hoerner Waldorf considers these letters of inquiry to represent a threat of litigation or proceedings to challenge the merger of the kind that would permit termination of the merger by either party (see "Termination" above).

CHAMPION INTERNATIONAL CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF INCOME

The following consolidated statement of income of Champion International Corporation ("Champion") and subsidiaries for the five years ended December 31, 1975 has been examined by Arthur Andersen & Co., independent public accountants, whose report is included elsewhere herein. The consolidated statement of income for the nine months ended September 30, 1975 and 1976, not examined by independent public accountants, reflects, in the opinion of Champion, all adjustments, consisting only of normal recurring adjustments, necessary to present fairly the results for these periods. This statement should be read in conjunction with the consolidated financial statements of Champion and subsidiaries and related notes included elsewhere herein.

	Years Ended December 31, (Note a)					Nine Months Ended September 30, (Unaudited)	
	1971	1972	1973	1974	1975	1975	1976
	(in thousands, except per share)						
Net sales	$1,599,829	$1,871,735	$2,207,956	$2,532,269	$2,399,258	$1,749,190	$2,181,747
Cost of products sold	1,293,193	1,510,706	1,747,178	2,008,855	1,959,603	1,422,141	1,760,181
Selling, general and administrative expenses	217,427	236,885	272,585	315,074	300,484	226,428	246,208
	1,510,620	1,747,591	2,019,763	2,323,929	2,260,087	1,648,569	2,006,389
Income from operations	89,209	124,144	188,193	208,340	139,171	100,621	175,358
Other income (expense)—net (Notes b and c)	10,454	8,085	(9,739)	(2,597)	1,090	6,340	(4,823)
	99,663	132,229	178,454	205,743	140,261	106,961	170,535
Interest and debt expense	28,774	32,170	39,198	58,136	57,788	44,502	42,022
Interest capitalized (Note 5 of Notes to Champion Consolidated Financial Statements)	(1,013)	(6,790)	(8,445)	(6,285)	(2,111)	(2,597)	(2,052)
Income before income taxes	71,902	106,849	147,701	153,892	84,584	65,056	130,565
Income taxes (Note d):							
Federal	20,913	36,411	41,937	31,080	10,180	10,840	35,687
State and foreign	5,587	10,889	21,163	23,294	13,385	9,265	15,536
	26,500	47,300	63,100	54,374	23,565	20,105	51,223
Net income (Note c)	45,402	59,549	84,601	99,518	61,019	44,951	79,342
Dividends on preferred and preference stock	10,241	10,292	10,298	10,298	10,298	7,723	7,707
Net income applicable to common stock	$ 35,161	$ 49,257	$ 74,303	$ 89,220	$ 50,721	$ 37,228	$ 71,635
Average number of common shares outstanding	28,714	28,791	28,203	27,937	27,914	27,916	29,970
Per common share:							
Net income—							
Primary	$1.22	$1.71	$2.63	$3.19	$1.82	$1.33	$2.39
Fully diluted	$1.21	$1.59	$2.30	$2.72	$1.66	$1.22	$2.05
Cash dividends declared	$ .84	$ .84	$ .88	$ .98	$1.00	$ .75	$ .75

See Notes to Champion Consolidated Statement of Income on following pages.

CHAMPION INTERNATIONAL CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED STATEMENT OF INCOME

(a) See Note 1 of Notes to Champion Consolidated Financial Statements for Summary of Significant Accounting Policies.

(b) Other income (expense)—net includes the following:

	Years Ended December 31,					Nine Months Ended September 30, (Unaudited)	
	1971	1972	1973	1974	1975	1975	1976
	(in thousands of dollars)						
Interest income	$ 5,512	$4,071	$ 5,387	$ 6,391	$4,071	$3,772	$2,084
Equity in net income (loss) from real estate and 50% or less owned affiliates	4,053	4,012	(2,111)	(1,382)	(2,028)	(2,373)	(738)
Minority interest in income of subsidiaries	(1,549)	(1,906)	(4,197)	(8,307)	(2,100)	(324)	(1,304)
Net gain (loss) on disposal of fixed assets	240	89	(374)	872	1,021	537	1,597
Royalty, rental and commission income	1,090	782	848	1,320	1,861	1,395	1,546
Write-off of deferred engineering costs and related expenses no longer deemed to be recoverable	—	—	(4,200)	—	—	—	—
Provision for discontinuance of certain operations	—	—	(4,044)	(1,334)	(2,327)	—	(7,250)
Unrealized foreign currency translation gains (losses)	418	(478)	(2,891)	(2,764)	(2,608)	(1,926)	(4,780)
Insurance proceeds in excess of net book value of property destroyed in fire	—	—	—	—	1,984	1,200	5,557
Net income of certain foreign subsidiaries to reflect the change in their fiscal year for reporting purposes from September 30 to November 30	—	—	—	2,870	—	—	—
Miscellaneous—net	690	1,515	1,843	(263)	1,216	4,059	(1,535)
	$10,454	$8,085	$(9,739)	$(2,597)	$1,090	$6,340	$(4,823)

(c) Originally reported figures have been restated as follows:

	Years Ended December 31,			
	1971	1972	1973	1974
	(in thousands of dollars)			
Net income:				
As originally reported	$45,754	$59,549	$86,757	$100,863
Amount retroactively included for a change in method of accounting for retail land sales from the accrual method to the installment method in 1972	(352)	—	—	—
Amounts retroactively included for a change in method of accounting for translation of foreign currency financial statements in 1975 to comply with the recent Statement (No. 8) issued by the Financial Accounting Standards Board	—	—	(2,156)	(1,345)
As restated	$45,402	$59,549	$84,601	$ 99,518

CHAMPION INTERNATIONAL CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED STATEMENT OF INCOME —(Continued)

(d) The provision for income taxes includes the following components:

	Years Ended December 31,					Nine Months Ended September 30, (Unaudited)	
	1971	1972	1973	1974	1975	1975	1976
	(in thousands of dollars)						
Provision for income taxes currently payable:							
Federal	$17,327	$27,729	$46,634	$30,251	$20,874	$15,954	$31,131
Investment credit	(5,133)	(1,984)	(3,694)	(6,126)	(12,445)	(9,713)	(6,878)
Foreign	1,451	2,995	8,417	11,139	7,812	7,420	8,978
State and city	2,327	2,728	5,737	4,601	4,026	2,309	5,353
	15,972	31,468	57,094	39,865	20,267	15,970	38,584
Provision for deferred income taxes:							
Federal	8,719	10,666	(1,003)	6,955	1,751	4,599	11,434
Foreign	1,809	5,166	7,009	7,554	1,547	(464)	1,205
	10,528	15,832	6,006	14,509	3,298	4,135	12,639
	$26,500	$47,300	$63,100	$54,374	$23,565	$20,105	$51,223

The variation in the effective tax rate between periods is principally due to (i) the relationship between income from timber capital gains, which is taxable at the capital gains rate, and income taxable at the statutory rate and (ii) the investment credit. Principal reasons for the variations between the effective rate and the statutory Federal income tax rate were as follows:

	Years Ended December 31,				Nine Months Ended September 30, (Unaudited)	
	1972	1973	1974	1975	1975	1976
At statutory rate	48.0%	48.0%	48.0%	48.0%	48.0%	48.0%
Income taxed at capital gains rate	(3.8)	(5.4)	(10.6)	(14.5)	(8.9)	(8.7)
Investment credit	(1.9)	(2.5)	(4.0)	(14.7)	(14.9)	(5.3)
State and city income taxes, net of Federal tax effect	1.3	2.0	1.6	4.8	3.7	2.1
All other—net	0.7	0.6	0.3	4.3	3.0	3.1
Effective income tax rate	44.3%	42.7%	35.3%	27.9%	30.9%	39.2%

Deferred income taxes result from timing differences in income and expense between financial and taxable income, as follows:

	Years Ended December 31,				Nine Months Ended September 30, (Unaudited)	
	1972	1973	1974	1975	1975	1976
	(in thousands of dollars)					
Excess of tax over financial depreciation and cost of timber harvested	$11,507	$11,667	$15,136	$ 2,245	$ 1,435	$12,953
Provision for discontinuance of certain operations—deductible for tax purposes upon final disposition	3,221	(4,558)	920	(535)	153	9
Provision for accrued liabilities—deductible for tax purposes when paid	115	(1,815)	213	1,009	338	(2,247)
Deferral and amortization of preoperating and start-up costs, including interest on major properties—deductible for tax purposes as incurred	40	609	(2,206)	(111)	631	195
All other—net	949	103	446	690	1,578	1,729
	$15,832	$ 6,006	$14,509	$ 3,298	$ 4,135	$12,639

CHAMPION INTERNATIONAL CORPORATION AND SUBSIDIARIES

NOTES TO CONSOLIDATED STATEMENT OF INCOME —(Continued)

Champion's cash outlay for income taxes is not expected to exceed income tax expense in 1976, 1977 or 1978.

It is Champion's intention to reinvest undistributed earnings of certain of its subsidiaries and thereby indefinitely postpone their remittance. Accordingly, no provision has been made for Federal income taxes on these undistributed earnings amounting to $79,000,000 at December 31, 1975 and $89,000,000 at September 30, 1976.

(e) Champion's consolidated interim results of operations (unaudited) are set forth below. The 1975 results have been restated to reflect a change in the method of translating the financial statements of foreign subsidiaries (see Note 10 of Notes to Champion Consolidated Financial Statements). In the opinion of Champion, all adjustments, consisting only of normal recurring adjustments, necessary to present fairly the results for these periods have been included.

					Earnings per Common Share	
	Net Sales	Gross Profit	Income Taxes	Net Income	Primary	Fully Diluted
	(in thousands of dollars, except per share)					
Three Months Ended:						
March 31, 1975	$529,935	$106,085	$ 7,143	$11,213	$ .31	$ .30
March 31, 1976	681,780	136,287	17,107	25,284	.81	.69
June 30, 1975	602,962	110,125	6,651	14,876	.44	.41
June 30, 1976	758,625	146,719	15,353	27,004	.82	.70
September 30, 1975	616,293	110,839	6,311	18,862	.58	.51
September 30, 1976	741,342	138,560	18,763	27,054	.76	.66
Nine Months Ended:						
September 30, 1975	1,749,190	327,049	20,105	44,951	1.33	1.22
September 30, 1976	2,181,747	421,566	51,223	79,342	2.39	2.05

CHAMPION MANAGEMENT'S DISCUSSION AND ANALYSIS OF THE CONSOLIDATED STATEMENT OF INCOME

The following discussion and analysis should be read in conjunction with the information set forth below under "Business and Properties of Champion—Principal Lines of Business" and with the tabular data set forth below under "Business and Properties of Champion—Building Materials; Paper and Related Products; and Furnishings."

1974 Compared to 1973

The improvement in Champion's 1974 performance was attributable principally to the dramatic increase in its paper business which benefited from higher prices and increased volume in fine papers. Although the building materials business was able to sustain high volume during the year, earnings fell sharply as a result of lower prices for lumber and plywood, reflecting the severely depressed conditions of residential construction. While sales of furniture increased modestly over 1973 to a new high, income from operations declined because of higher energy and materials costs. Sales of carpeting increased in 1974, principally as a result of the acquisition of Associated Weavers in January of that year. Income from operations of the domestic carpet operations declined significantly in 1974 as a result of industry over-capacity and reduced demand.

The increase of 15% in the cost of products sold and the increase of 16% in selling, general and administrative expenses in 1974 over the prior year reflected increased volume and the continued

inflationary trend which existed for materials, wages, employee benefits, maintenance and repairs, rents and payroll taxes. Depreciation and cost of timber harvested increased 16% over the prior year, primarily as a result of higher depreciation expense arising from the continuation of Champion's capital program; this increase was reflected principally in the cost of products sold. The increase in interest and debt expense in 1974 resulted from increased total short-term borrowings at high interest rates, as well as additional long-term debt incurred to finance the acquisition of Associated Weavers and to support Champion's operations generally. Other income and expense in 1974 was favorable compared to the previous year due primarily to the write-off of deferred engineering costs and the provision for discontinuance of certain operations in 1973; in addition, 1974 other income and expense reflected additional net income of certain foreign subsidiaries due to a change in their fiscal year. Net income in 1974 benefited from a lower effective tax rate, as set forth in Note (d) of Notes to Champion Consolidated Statement of Income.

1975 Compared to 1974

The decline in Champion's 1975 sales and income from 1974 was a result of the continued severely depressed state of the building industry, as well as a decline in the paper business from 1974's record level. The building materials business was adversely affected by rising costs and by softness in the building materials industry, with resulting lower gross margins. Champion's paper business improved beginning in August, 1975, after a period during which customers reduced inventories and orders were at low levels. Champion's furnishings business, consistent with general economic conditions, experienced reduced sales from the record level in 1974, although income from operations improved. Foreign operations experienced a decline in sales and a significantly greater decline in profit due to depressed economic conditions in Canada and Europe.

The decrease of 2% in the cost of products sold and the decrease of 5% in selling, general and administrative expenses in 1975 as compared with the prior year reflected the decline in sales and management's continued effort to limit these costs and expenses. However, expense levels continued to be affected by the inflationary trend in materials, wages, employee benefits, maintenance and repairs, rents and payroll taxes. Depreciation and cost of timber harvested increased 11% over the prior year, primarily as a result of higher depreciation expense from new facilities put into service; this increase was reflected principally in the cost of products sold. The $4,174,000 decrease in interest capitalized in 1975 resulted primarily from interest no longer being capitalized on various capital projects completed in the first half of 1975. The change in other income and expense is set forth in Note (b) of Notes to Champion Consolidated Statement of Income. Net income in 1975 benefited from a lower effective tax rate, as set forth in Note (d) of Notes to Champion Consolidated Statement of Income.

Nine Months Ended September 30, 1976 Compared to Nine Months Ended September 30, 1975

Each of Champion's three principal lines of business improved its performance in the nine months ended September 30, 1976 as compared with the like period in 1975. Sales and income from operations of the building materials business improved significantly in the nine months ended September 30, 1976, reflecting higher market prices (approximately 22%) and volume increase (approximately 13%). The paper business also experienced improved sales and income from operations in the first nine months of 1976, due to slightly improved market prices (approximately 1%) and increased volume (approximately 17%). Sales and income from operations of the furnishings business increased in the first nine months of 1976 reflecting improved results of the furniture operations and European carpet operations.

Champion's consolidated sales and income from operations for the third quarter of 1976 improved substantially over results for the third quarter of 1975 due likewise to the improved results of Champion's three principal lines of business. The 1976 quarter's results were also favorably affected by a partial settlement of a casualty loss. Results for the third quarter of 1976 declined slightly from results of the second quarter of 1976, reflecting a decline in all three of Champion's principal lines of business.

The consolidated summary of earnings of Champion for the years ended December 31, 1975 and 1976 (unaudited) and for the three months ended December 31, 1975 and 1976 (unaudited) is set forth below. In the opinion of Champion, all adjustments, consisting only of normal recurring adjustments, necessary to present fairly the results of these periods have been included.

	Years Ended December 31,		Three Months Ended December 31,	
	1975	1976	1975	1976
	(in thousands, except per share)			
Net Sales	$2,399,258	$2,910,523	$650,068	$728,776
Costs and Expenses	2,314,674	2,736,702	630,540	685,520
Income Before Income Taxes	84,584	173,821	19,528	43,256
Income Taxes	23,565	70,697	3,460	19,474
Net Income	$ 61,019	$ 103,124	$ 16,068	$ 23,782
Net Income Applicable to Common Stock	$ 50,721	$ 92,851	$ 13,524	$ 21,215
Average Number of Common Shares Outstanding	27,914	30,498	27,906	32,082
Earnings Per Common Share:				
Primary	$1.82	$3.04	$.49	$.65
Fully Diluted	$1.66	$2.63	$.44	$.58

The performance of each of Champion's principal lines of business improved in the year ended December 31, 1976 as compared to the year ended December 31, 1975, due primarily to the domestic economic recovery. Sales and income from operations of Champion's building materials business improved significantly in 1976, reflecting higher market prices (approximately 18%) and increased volume (approximately 11%). The results of Champion's paper business also improved due to somewhat higher market prices (approximately 2%) and increased volume (approximately 14%), particularly in the first half of the year. Champion's furnishings business had increased sales and substantially increased income from operations in 1976 as compared to 1975, reflecting improved results of the furniture operations and European carpet operations.

Champion's consolidated results for the fourth quarter of 1976 also improved over results for the fourth quarter of 1975 due to the improved results in Champion's building materials and paper businesses. Results for the fourth quarter of 1976 declined slightly from results of the third quarter of 1976. Paper operations were adversely affected by softness in the market, particularly for uncoated papers, which caused some curtailed production. The building materials business, however, which historically declines in the fourth quarter, remained at a level similar to that of the third quarter.

Results for an interim period are not necessarily comparable to or indicative of results of, or which may be expected for, any other interim period or for a fiscal year as a whole. See "Business and Properties of Champion—Principal Lines of Business" for information regarding the effect of economic factors on Champion's principal lines of business and with respect to seasonal aspects of Champion's lines of business.

HOERNER WALDORF CORPORATION AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF INCOME

(Numerical note references are to the notes to the Hoerner Waldorf consolidated financial statements)

The following statement has been examined by Price Waterhouse & Co., independent accountants, whose report thereon, which is qualified as to the ultimate resolution of the matters discussed in Note 11, appears elsewhere in this Joint Proxy Statement. This statement should be read in conjunction with the other consolidated financial statements of Hoerner Waldorf and notes thereto included elsewhere in this Joint Proxy Statement.

	Fiscal Year Ended October 31,				
	1972	1973	1974	1975	1976
	(dollars in thousands, except amounts per share)				
Net sales and other revenues:					
Net sales	$303,410	$375,754	$471,440	$441,157	$511,330
Other revenues	1,813	2,192	1,834	1,168	1,178
	305,223	377,946	473,274	442,325	512,508
Cost of goods sold and other expenses (Notes 1 and 12):					
Cost of goods sold	236,801	283,311	363,065	345,890	397,933
Selling, general and administrative expenses	30,578	36,907	42,151	42,849	46,167
Interest expense	4,959	4,443	4,496	6,429	5,043
Other (income) expense	407	136	605	1,287	(724)
	272,745	324,797	410,317	396,455	448,419
Income before Federal and state income taxes	32,478	53,149	62,957	45,870	64,089
Provision for income taxes (Notes 1 and 9):					
Federal	13,337	22,210	25,511	14,857	27,167
State	1,735	3,490	4,154	2,768	4,005
	15,072	25,700	29,665	17,625	31,172
Net income for the period	17,406	27,449	33,292	28,245	32,917
Dividends on preferred stock	196	190	180	176	86
Net income for the period applicable to common stock	$ 17,210	$ 27,259	$ 33,112	$ 28,069	$ 32,831
Per share data:					
Earnings (Note 1)	$1.27	$1.98	$2.35	$1.99	$2.28
Earnings—assuming full dilution (a)	$1.16	$1.78	$2.12	$1.80	$2.08
Cash dividends	$ .46¼	$ .50⅜	$ .59	$ .72	$ .82½
Average number of common shares outstanding	13,596,168	13,740,646	14,073,782	14,113,514	14,374,690

(a) "Earnings per common share—assuming full dilution" is determined under the assumption that the dilutive stock options and warrants (until expired) were exercised and that the preferred stock and debentures were converted at the beginning of the year or date of issue. The increase in common shares assuming the options and warrants were exercised is computed by the "treasury stock" method. Net income is adjusted for the interest (net of tax) on the debentures; no deduction is made for preferred dividends.

The following table shows the average number of shares assumed to be outstanding and the interest (net of tax) on the debentures used in computing earnings per common share—assuming full dilution.

	Fiscal Year Ended October 31,				
	1972	1973	1974	1975	1976
Average number of shares	15,710,080	15,874,200	16,060,871	16,069,274	16,139,592
Interest, net of tax	$750,000	$732,000	$710,000	$708,000	$616,000

HOERNER WALDORF FINANCIAL DISCUSSION AND ANALYSIS

Sales for fiscal 1976 topped one-half billion dollars for the first time while net income increased 16.5%. This review, which should be read in conjunction with the consolidated statement of income and other consolidated financial statements of Hoerner Waldorf and notes thereto included elsewhere in this Joint Proxy Statement, explains the major financial changes which took place during the two years ended October 31, 1976.

The following table shows selected fiscal 1976 and 1975 figures and the changes between years as indicated.

		Changes Between 1975 and 1974 Increase (Decrease)			Changes Between 1976 and 1975 Increase (Decrease)	
	1975	Amount	%	1976	Amount	%
		(dollars in thousands)				
Net sales	$441,157	$(30,283)	(6.4)	$511,330	$70,173	15.9
Cost of goods sold	345,890	(17,175)	(4.7)	397,933	52,043	15.0
Selling, general and administrative expenses	42,849	698	1.7	46,167	3,318	7.7
Interest expense	6,429	1,933	43.0	5,043	(1,386)	(21.6)
Other (income) expense	1,287	682	112.7	(724)	(2,011)	(156.3)
Provision for income taxes	17,625	(12,040)	(40.6)	31,172	13,547	76.9
Net income	28,245	(5,047)	(15.2)	32,917	4,672	16.5

Sales

Sales of each product class increased in fiscal 1976, while sales of each such class except consumer packages were down in fiscal 1975. Sales by product class for 1976 and the four previous fiscal years are presented below.

	1972		1973		1974		1975		1976	
	(dollars in thousands)									
Corrugated containers	$150,572	50%	$193,357	51%	$240,709	51%	$226,681	51%	$255,856	50%
Mill products (principally paperboard)	56,145	18	68,540	18	93,009	20	74,986	17	98,493	19
Consumer packages (principally folding cartons)	43,765	14	48,885	13	60,938	13	69,293	16	76,106	15
Grocery, multiwall and shopping bags	29,734	10	37,511	10	52,078	11	48,669	11	50,036	10
Lumber and lumber products	23,194	8	27,461	8	24,706	5	21,528	5	30,839	6
	$303,410	100%	$375,754	100%	$471,440	100%	$441,157	100%	$511,330	100%

Sales of corrugated containers increased 13% over 1975, primarily the result of a 12% increase in tons sold. The 6% decrease in 1975 corrugated container sales over 1974 was the result of a 24% reduction in tons sold offset in part by price increases and product mix changes.

Hoerner Waldorf's paper mills operated at 79% of capacity during fiscal 1976, compared with operating rates of 72% and 94% in 1975 and 1974, respectively. Approximately 76% of mill products manufactured was used in Hoerner Waldorf's converting divisions (Container, Consumer Packages and Bag), compared to 82% in 1975 and 79% in 1974. Average composite price realization for mill production sold in 1976 was $211 per ton; it was $206 per ton in 1975 and $166 in 1974.

Sales of consumer packages increased 10% in 1976, the result of a 10% increase in tons sold. In 1975, sales increased 14% while tons sold decreased 6%, reflecting higher prices and improved product mix.

Sales of bags in 1976 increased 3%, reflecting a 5% increase in tons sold offset in part by price decreases and product mix changes. The 7% decrease in 1975 bag sales resulted from a 16% decrease in tons sold offset in part by price increases.

Sales of lumber and lumber products increased 43% in 1976 due to a 21% increase in volume and improved prices. The 13% sales decrease in 1975 reflected a depressed lumber market.

Costs and Expenses

Cost of goods sold was 77.8% of sales in fiscal 1976 compared to 78.4% in 1975 and 77.0% in 1974. Most fixed costs were a lower percentage of cost of sales in 1976 due to higher operating rates. However, depreciation and depletion increased by 16.4% to $21,232,000 in 1976 from $18,237,000 in 1975, primarily due to the first full year of depreciation being taken on several large capital projects completed in 1975. Fixed costs were a higher percentage of cost of sales in 1975 compared to 1974 due to lower operating rates in 1975.

Total maintenance and repairs increased 20.6% in fiscal 1976 to $28,978,000 from $24,031,000 for 1975 and decreased 11.7% in 1975 from $27,221,000 in 1974. The 1976 increase and the 1975 decrease resulted from timing of discretionary maintenance and repair projects as well as from the increase (1976) and the decrease (1975) in physical volume which took place in those years.

Total real estate and personal property taxes increased 6.9% in fiscal 1976 to $4,858,000 from $4,545,000 for 1975 and increased 15.9% in 1975 from $3,920,000 in 1974 primarily as a result of tax rate increases.

Total payroll taxes increased 20.5% in 1976 to $6,957,000 from $5,774,000 for 1975 and decreased 10.1% in 1975 from $6,423,000 in 1974. The increase in 1976 is due to increases in total salaries and wages, various taxable wage bases and unemployment compensation tax rates. The decrease in 1975 resulted primarily from a decrease in the number of employees.

Selling, general and administrative expenses were 9.0% of sales in 1976, compared to 9.7% in 1975 and 8.9% in 1974. The percentage decrease in 1976 resulted from increased dollar sales; the 1976 costs, in absolute dollars, increased 7.7% from 1975 reflecting increased salaries and wages, sales commissions, bonuses and professional fees. The percentage increase in 1975 over 1974 resulted primarily from a decrease in sales in 1975.

Interest Expense

Interest expense decreased by 21.6% in 1976 and increased by 43.0% in 1975. The decrease in 1976 and increase in 1975 were primarily caused by the relative levels of short-term borrowings and related interest rates as follows:

	1974	1975	1976
Weighted average daily short-term borrowings during the year	$6,096,000	$31,061,000	$19,548,000
Weighted average stated interest rate during the year	11.7%	8.2%	7.0%

Other (Income) Expense

Other (income) expense in 1976 includes a gain of approximately $1,000,000 representing the excess of insurance proceeds over the net book value of sawmill assets destroyed by fire in Conner, Montana. During fiscal 1975, the Franklin, Ohio mill was shut down and offered for sale; accordingly, 1975 includes a $1,100,000 write-down of the mill to reduce its carrying value to its then estimated sales value. A $697,000 credit is included in 1976 reflecting the excess of the October 1976 sales price over the reduced carrying value of the mill. The decrease in other (income) expense in 1976 and increase in 1975 are largely due to the matters discussed above.

Provision for Income Taxes

The effective income tax rate for fiscal 1976 was 48.6% as compared to 38.4% in 1975 and 47.1% in 1974. The composition of the tax rates for 1976, 1975 and 1974 is explained in Note 9 to Hoerner Waldorf's consolidated financial statements. The significant tax rate increase in 1976 and decrease in 1975 result primarily from investment tax credits of $1,266,000 for 1976, $5,470,000 for 1975 and $1,368,000 for 1974.

PRO FORMA EARNINGS AND BALANCE SHEET DATA

Pro Forma Summary of Combined Earnings (Unaudited)

The following pro forma statement combines the consolidated earnings of Champion and Hoerner Waldorf for the indicated fiscal periods giving effect to the merger of Hoerner Waldorf into Champion on a pooling of interests basis:

	Fiscal Years Ended December 31, for Champion, and October 31, for Hoerner Waldorf					Nine Months Ended September 30, for Champion, and July 31, for Hoerner Waldorf	
	1971	1972	1973	1974	1975	1975	1976
	(in thousands of dollars)						
Net Sales	$1,873,358	$2,175,145	$2,583,710	$3,003,709	$2,840,415	$2,066,431	$2,557,280
Cost of Sales	$1,510,029	$1,747,507	$2,030,489	$2,371,920	$2,305,493	$1,671,826	$2,051,238
Interest and Debt Expense	$ 32,818	$ 30,339	$ 35,196	$ 56,347	$ 62,106	$ 46,741	$ 43,950
Income before Income Taxes	$ 96,767	$ 139,327	$ 200,850	$ 216,849	$ 130,454	$ 95,632	$ 178,136
Income Taxes	38,439	62,372	88,800	84,039	41,190	31,866	73,973
Net Income	58,328	76,955	112,050	132,810	89,264	63,766	104,163
Dividends on Preferred and Preference Stock	10,443	10,488	10,488	10,478	10,474	7,855	7,775
Net Income Applicable to Common Stock	$ 47,885	$ 66,467	$ 101,562	$ 122,332	$ 78,790	$ 55,911	$ 96,388
Average Number of Common Shares Outstanding	41,598	41,707	41,257	41,307	41,322	41,308	43,581
Per Common Share:							
Net Income—							
Primary	$1.15	$1.59	$2.46	$2.96	$1.91	$1.35	$2.21
Fully Diluted	$1.13	$1.48	$2.17	$2.57	$1.73	$1.24	$1.94

NOTE:

No adjustments have been made for intercompany transactions between Champion and Hoerner Waldorf as the amounts thereof are not material.

Pro Forma Combined Balance Sheet (Unaudited)

The following pro forma balance sheet combines the consolidated balance sheets of Champion as of September 30, 1976 and Hoerner Waldorf as of July 31, 1976 to indicate the pro forma effect of the merger of Hoerner Waldorf into Champion on a pooling of interests basis:

	Champion	Hoerner Waldorf	Pro Forma Adjustments(1)	Pro Forma Combined(1)
		(in thousands of dollars)		
ASSETS				
Current Assets:				
Cash	$ 19,176	$ 6,345	$ —	$ 25,521
Certificates of deposit	34,790	—	—	34,790
Receivables—net	318,677	45,037	—	363,714
Inventories	427,999	56,559	—	484,558
Prepaid expenses	—	3,481	—	3,481
Total current assets	800,642	111,422	—	912,064
Investments	59,818	5,563	—	65,381
Other Assets and Deferred Charges	129,458	3,927	—	133,385
Timber and Timberlands, at cost—less cost of timber harvested	265,173	32,340	—	297,513
Property, Plant and Equipment, at cost	1,527,117	365,789	—	1,892,906
Less—Accumulated depreciation	644,864	159,853	—	804,717
	882,253	205,936	—	1,088,189
Funds Held for Construction	730	—	—	730
	$2,138,074	$359,188	$ —	$2,497,262
LIABILITIES				
Current Liabilities:				
Notes payable (principally banks)	$ 57,598	$ 18,400	$ —	$ 75,998
Commercial paper	11,620	—	—	11,620
Accounts payable—trade	126,078	14,104	—	140,182
Accrued liabilities	132,194	22,432	—	154,626
Income taxes	24,197	11,363	—	35,560
Current installments of long-term debt, lease and timber cutting obligations(2)	36,429	1,389	25,644	63,462
Total current liabilities	388,116	67,688	25,644	481,448
Long-Term Debt, Lease and Timber Cutting Obligations(2)	649,816	54,279	(25,644)	678,451
Other Liabilities	35,519	—	—	35,519
Deferred Income Taxes	94,899	18,269	—	113,168
Minority Interest in Subsidiaries	44,613	—	—	44,613
Shareholders' Equity:				
Capital shares of Champion—				
$5.50 cumulative preferred stock, without par value, authorized and issued, 100,000 shares(3)	10,000	—	—	10,000
$1.20 cumulative convertible preference stock, $1.00 par value, authorized 8,346,902 shares, issued 8,113,734 shares (liquidation preference aggregates $182,309,000)(4)	45,319	—	—	45,319
Common stock, $.50 par value, authorized 60,000,000 shares, issued 33,177,632 shares (as adjusted, authorized 100,000,000 shares, issued 47,003,692 shares)	281,380	—	30,002	311,382
Capital shares of Hoerner Waldorf—				
$4.00 cumulative convertible preferred stock, $1.50 par value, authorized 100,000 shares, issued 17,932 shares (liquidation value aggregates $1,793,000)(5)	—	27	(27)	—
Common stock, $.25 par value, authorized 24,000,000 shares, issued 14,454,118 shares	—	3,614	(3,614)	—
Capital in excess of par value	—	26,479	(26,479)	—
Retained earnings(6)	610,073	188,950	—	799,023
	946,772	219,070	(118)	1,165,724
Less—treasury shares, at cost:				
Champion—				
$1.20 preference, 11,125 shares	216	—	—	216
Common, 1,101,918 shares	21,445	—	—	21,445
Hoerner Waldorf, Common, 12,200 shares	—	118	(118)	—
Total Shareholders' Equity	925,111	218,952	—	1,144,063
	$2,138,074	$359,188	$ —	$2,497,262

NOTES:

(1) The pro forma balance sheet gives effect to the proposed merger of Hoerner Waldorf into Champion on a pooling of interests basis and to the issuance of .95 of a share of Champion Common Stock for each share of Hoerner Waldorf Common Stock and assumes the conversion of each share of Hoerner Waldorf $4.00 Convertible Preferred Stock into 5.2782 shares of Champion Common Stock (see "Proposed Merger—Redemption of Hoerner Waldorf Preferred Stock").

(2) The pro forma adjustments reflect the classification on the pro forma combined balance sheet of the principal amount of Hoerner Waldorf Debentures ($25,644,000 at July 31, 1976) as current installments of long-term debt, by reason of the intention of Champion's Board of Directors to redeem the Debentures if the merger becomes effective (see "Proposed Merger—Hoerner Waldorf Convertible Debentures").

(3) See "Proposed Merger—Outstanding Champion Stock; Redemption of Champion $5.50 Preferred Stock" for information regarding the intention of Champion's Board of Directors to redeem these shares if the merger is approved and becomes effective.

(4) As of September 30, 1976, the liquidation preference of Champion $1.20 Convertible Preference Stock exceeded the stated amount of the stock by $137,206,000. There is no restriction upon the payment of dividends or other distributions out of retained earnings by reason of such excess.

(5) As of July 31, 1976, the liquidation preference of Hoerner Waldorf $4.00 Convertible Preferred Stock exceeded the stated amount of the stock by $1,766,000. There is no restriction upon the payment of dividends or other distributions out of retained earnings by reason of such excess.

(6) See Note 5(g) of Notes to Champion Consolidated Financial Statements, Note 5 of Notes to Hoerner Waldorf Consolidated Financial Statements and "Description of Champion Common Stock" as to provisions restricting the amounts of retained earnings available for the payment of dividends. The amount of pro forma retained earnings that would not be so restricted will not be less than the amount of retained earnings of Champion not so restricted prior to the merger.

(7) See Note 11 of Notes to Champion Consolidated Financial Statements and Note 11 of Notes to Hoerner Waldorf Consolidated Financial Statements regarding contingent liabilities.

(8) No adjustments have been made for intercompany transactions between Champion and Hoerner Waldorf as the amounts thereof are not material.

CAPITALIZATION

The following table sets forth the short-term debt and capitalization of Champion and Hoerner Waldorf and their consolidated subsidiaries as of November 30, 1976, and on a pro forma basis after giving effect to the proposed merger of Hoerner Waldorf into Champion on a pooling of interests basis.

Title of Class	Champion	Hoerner Waldorf	Pro Forma Combined
	(in thousands of dollars)		
Short-Term Debt and Current Portion of Long-Term Obligations:			
Sundry short-term notes (a)	$ 60,176	$ —	$ 60,176
Current installments of long-term debt, lease and other contractual obligations, and timber cutting obligations (b)(c)	39,818	1,842	59,606
Total short-term debt and current installments of long-term obligations	$ 99,994	$ 1,842	$ 119,782
Long-Term Debt (excluding current installments) (a):			
8% Debentures, redeemable through 1996	$ 100,000	$ —	$ 100,000
7.7% Effective rate, multicurrency revolving credit notes, expiring 1982	57,000	—	57,000
8.34% Effective rate, serial notes, payable 1978 through 1983	28,500	—	28,500
9¾% First mortgage and collateral trust bonds, redeemable through 1991	23,413	—	23,413
9% First mortgage notes, payable through 2004	21,101	—	21,101
15.6% Effective rate, Euro-currency revolving credit notes, expiring 1982	20,383	—	20,383
5% Convertible subordinated debentures due May 1, 1994(c)	—	17,946	—
4⅝% Debentures, redeemable through 1990	16,250	—	16,250
5.45% Notes, payable through 1988	15,696	—	15,696
6% Debentures, redeemable through 1985	13,370	—	13,370
4.15% Debentures, redeemable through 1980	7,900	—	7,900
4½% Debentures, redeemable through 1981	7,200	—	7,200
6⅞% First mortgage and collateral trust bonds, Series B, redeemable through 1984	6,534	—	6,534
4½% Convertible subordinate debentures, redeemable through 1984 (d)	5,652	—	5,652
Other (interest ranging from 4% to 11.5%)	53,038	6,991	60,029
Long-Term Lease Obligations and Other Contractual Obligations (excluding current installments) (a):			
Facilities financed through municipal industrial revenue bonds:			
Effective rate 5.71%, payable through 1997	105,500	—	105,500
Effective rate 6.875%, payable through 1996	—	13,300	13,300
Facilities financed through pollution control revenue bonds:			
Effective rate 5.55%, payable 1984 through 1998	19,198	—	19,198
Effective rate 6.77%, payable through 1996	—	10,700	10,700
Effective rate 7.47%, payable 1978 through 1999	7,400	—	7,400
Other (effective rate ranging from 4.5% to 7.3%)	23,072	8,240	31,312
Long-Term Timber Cutting Obligations (excluding current installments) (a):			
Effective rate 8.05%, payable through 1997	96,000	—	96,000
Effective rate 7.12%, payable through 1988	20,549	—	20,549
Total	647,756	57,177	686,987
Less unamortized discount	407	—	407
Total long-term debt, lease and other contractual obligations, and timber cutting obligations (excluding current installments)	647,349	57,177	686,580
Minority Interest in Subsidiaries	45,388	—	45,388
Shareholders' Equity:			
Preferred Stock—			
$5.50 Cumulative, without par value—authorized and outstanding 100,000 shares(e)	10,000	—	10,000
$4.00 Cumulative convertible, $1.50 par value—authorized 100,000 shares, outstanding 16,385 shares (liquidation value aggregates $1,639,000)(f)	—	25	—
Preference Stock—			
$1.20 Cumulative convertible series, $1 par value—authorized 8,346,902 shares, outstanding 8,099,298 shares (exclusive of 11,125 treasury shares) (liquidation preference aggregates $182,234,000)(g)(h)	45,090	—	45,090
Undesignated series—authorized 11,531,431 shares, unissued	—	—	—
Common Stock—			
$.50 par value—authorized 60,000,000 shares, outstanding 32,083,848 shares (as adjusted, authorized 100,000,000 shares, outstanding 46,344,840 shares) (exclusive of 1,101,918 treasury shares)(i)	260,043	—	297,904
$.25 par value—authorized 24,000,000 shares, outstanding 14,920,536 shares (exclusive of 12,200 treasury shares)(j)	—	3,730	—
Capital in excess of par value	—	34,106	—
Retained Earnings(k)	616,587	196,301	812,888
Total shareholders' equity	931,720	234,162	1,165,882
Total long-term obligations and equity	$1,624,457	$291,339	$1,897,850

NOTES:

(a) See Notes 4 and 5 of Notes to Champion Consolidated Financial Statements and Notes 4 and 5 of Notes to Hoerner Waldorf Consolidated Financial Statements.

(b) Includes $17,152,000 of long-term debt of Intermills S.A., a foreign subsidiary of Champion, which is classified as a current liability due to non-compliance with certain financial ratio covenants. The principal lender has indicated that it has no present intention to accelerate payment of this debt. Neither the continuance of this technical default nor acceleration of the debt involved would permit the holder of any other debt of Champion or its subsidiaries to accelerate the payment of such other debt.

(c) The amount of pro forma combined current installments of long-term debt also includes $17,946,000 principal amount of Hoerner Waldorf Debentures, by reason of the intention of Champion's Board of Directors to redeem the Debentures if the merger becomes effective (see "Proposed Merger—Hoerner Waldorf Convertible Debentures"). The Debentures are convertible into Hoerner Waldorf Common Stock at $16.75 per share and after the merger will be convertible into .95 of a share of Champion Common Stock at the same conversion price (equivalent to a conversion price of approximately $17.63 per share of Champion Common Stock).

(d) The present conversion rate for the Debentures is 1.74 shares of Champion Common Stock and 2.17 shares of Champion $1.20 Convertible Preference Stock for each $100 principal amount of Debentures.

(e) See "Proposed Merger—Outstanding Champion Stock; Redemption of Champion $5.50 Preferred Stock" for information regarding the intention of Champion's Board of Directors to redeem these shares if the merger is approved and becomes effective.

(f) Each share is convertible into 5.556 shares of Hoerner Waldorf Common Stock. These shares will be called for redemption on or before the effective date of the merger. See "Proposed Merger—Redemption of Hoerner Waldorf Preferred Stock" for information as to the redemption price and the convertibility of the shares into Champion Common Stock.

(g) The present conversion rate is one share of Champion Common Stock for each share of Champion $1.20 Convertible Preference Stock.

(h) Not including 129,870 shares of Champion $1.20 Convertible Preference Stock reserved for issuance upon exercise of stock options and conversion of 4½% Convertible Subordinate Debentures.

(i) Not including 11,075,289 shares of Champion Common Stock reserved for (1) issuance upon exercise of stock options; (2) conversion of $1.20 Convertible Preference Stock; (3) conversion of preferred stock of a subsidiary; (4) conversion of long-term debt; and (5) awards under Champion's contingent compensation and bonus plan.

(j) Not including 1,451,740 shares of Hoerner Waldorf Common Stock (after the merger 1,379,152 shares of Champion Common Stock) issuable on exercise of outstanding stock options and conversion of long-term debt.

(k) See Note 5 (g) of Notes to Champion Consolidated Financial Statements, Note 5 of Notes to Hoerner Waldorf Consolidated Financial Statements and "Description of Champion Common Stock" as to provisions restricting the amounts of retained earnings available for the payment of dividends. The amount of pro forma retained earnings that would not be so restricted will not be less than the amount of retained earnings of Champion not so restricted prior to the merger.

For further information concerning the extent of obligations under long-term leases, see Note 5 (d) of Notes to Champion Consolidated Financial Statements and Note 10 of Notes to Hoerner Waldorf Consolidated Financial Statements.

BUSINESS AND PROPERTIES OF CHAMPION

General

Champion is a major forest products enterprise engaged in the manufacture and marketing of building materials, paper and related products, and furnishings. It owns or controls substantial land and timber resources in the United States and Canada, as well as significant holdings in Brazil. References in this section to "Champion" include Champion and its subsidiaries, unless the context otherwise requires.

Champion was incorporated in New York in 1937 under the name United States Plywood Corporation. In 1967, United States Plywood Corporation, whose principal business was the manufacture and marketing of wood-based building materials, merged with Champion Papers Inc., whose principal business was the manufacture and marketing of paper, pulp and paperboard. At that time, the corporate name was changed to U. S. Plywood-Champion Papers Inc. and, in 1972, to Champion International Corporation.

Champion entered the furnishings business in 1968 through the acquisition of Drexel Enterprises, Inc. (now Drexel Heritage Furnishings), a major furniture company, and expanded its interests in that and related businesses with the 1969 acquisition of Trend Industries, Inc. (now Trend Carpet), a manufacturer of tufted broadloom carpet, the 1970 acquisition of Roberts Consolidated Industries, Inc., a manufacturer of floor covering installation materials and tools, and the acquisition in early 1974 of Associated Weavers, a British carpet manufacturer.

In late 1974, Champion adopted the objective of growth through concentration and expansion in the forest products business, rather than through its furnishings business or by further diversification. Consistent with this objective, Champion subsequently determined to seek to dispose of furnishings and other assets not within its primary area of forest products concentration. In accordance with its program, Champion has reached an agreement in principle (subject to agreement on a definitive contract and to the ability of the proposed purchaser to obtain financing) to sell the assets, subject to certain liabilities, of Drexel Heritage Furnishings (other than its wrought iron and aluminum furniture business) for their net book value (approximately $53,000,000 on September 30, 1976) plus $1,000,000 (see "Furnishings"), and on November 4, 1976 sold Roberts Consolidated Industries for $21,000,000 cash, $5,000,000 in notes and $3,000,000 of instalment payments.

While Champion may effect dispositions of Trend Carpet, Associated Weavers or other units not within its primary area of forest products concentration, no understanding or agreement with respect to the disposition of Trend Carpet, Associated Weavers or any other material unit exists at present. Gain or loss, if any, in the event of the disposition of Trend Carpet, Associated Weavers or any other unit would be reflected in Champion's statement of income for the period of the transaction.

Principal Lines of Business

Champion's principal lines of business are the manufacture and marketing of building materials, paper and related products, and furnishings. The following table shows the contributions of Champion's lines of business to net sales and income from operations for the five years ended December 31, 1975 and for the nine months ended September 30, 1975 and 1976:

	Years Ended December 31,					Nine Months Ended September 30,	
	1971	1972	1973	1974	1975	1975	1976
	(in millions of dollars)						
Net Sales:							
Building materials	$ 808.8	$ 983.3	$1,163.6	$1,119.4	$1,105.9	$ 800.2	$1,082.5
Paper and related products	600.4	668.7	785.6	1,059.5	975.7	714.6	843.9
Furnishings	183.7	211.8	251.0	346.1	310.6	229.3	249.5
Other	6.9	7.9	7.8	7.3	7.1	5.1	5.8
Total	$1,599.8	$1,871.7	$2,208.0	$2,532.3	$2,399.3	$1,749.2	$2,181.7
Income from Operations:							
Building materials	$ 61.7	$ 100.0	$ 141.9	$ 61.9	$ 44.2	$ 33.9	$ 74.3
Paper and related products	37.5	34.3	63.1	170.9	102.9	76.1	103.1
Furnishings	9.8	11.0	13.6	8.5	15.1	8.0	20.3
General corporate expense	(19.8)	(21.2)	(30.4)	(32.9)	(23.0)	(17.4)	(22.3)
Total	$ 89.2	$ 124.1	$ 188.2	$ 208.4	$ 139.2	$ 100.6	$ 175.4

Income from operations is before income taxes and does not include other income (expense) and interest and debt expense (net of interest capitalized). See "Champion Management's Discussion and Analysis of the Consolidated Statement of Income" for additional information regarding Champion's principal lines of business during the four years ended December 31, 1976 and during certain interim periods. Net sales attributable to Roberts Consolidated Industries, Inc. (sold November 1976) and Drexel Heritage Furnishings (subject to agreement in principle for sale, excluding its wrought iron and aluminum furniture business) during the nine months ended September 30, 1976 were approximately $49,517,000 and $77,720,000, respectively, and income from operations attributable to these units amounted to $1,922,000 and $7,527,000, respectively. Such units are included in the above table under "Building Materials" and "Furnishings", respectively (see "General").

Champion's principal lines of business may be considered cyclical in the sense that their sales and income are subject to general economic and business conditions. The building materials and furnishings businesses are affected principally by levels of residential housing and other construction activity, as well as consumer purchasing patterns. Sales and income of the principal products of Champion's paper business, which include printing and writing papers and business forms, tend to follow general economic trends. Champion's operations are also seasonal to some extent, with the building materials business typically being stronger in the spring and summer months.

Building Materials

Champion's building materials business is carried on through its Champion Building Products unit (formerly known as U. S. Plywood); its 74%-owned Canadian subsidiary, Weldwood of Canada Limited and its subsidiaries (collectively, "Weldwood"); and a wholly-owned subsidiary, Lewers & Cooke, Inc.

Champion manufactures, purchases and sells a wide range of building materials products throughout the United States and Canada, the Canadian operations being conducted by Weldwood. These products include softwood plywood, hardwood plywood (including prefinished paneling marketed under Champion's "Weldwood" trademark), particleboard, various plywood specialties, hardboard and lumber.

The following table shows Champion's net sales attributable to building materials products during the five years ended December 31, 1975 and for the nine months ended September 30, 1975 and 1976:

	Years Ended December 31,					Nine Months Ended September 30,	
	1971	1972	1973	1974	1975	1975	1976
	(in thousands of dollars)						
Softwood plywood other than fir and other specialties	$179,579	$236,960	$ 248,941	$ 242,284	$ 307,670	$216,243	$ 334,113
Fir and other softwood plywood specialties	110,728	147,399	169,461	145,595	128,024	107,985	125,473
Hardwood plywood, related sheet and laminated products and hardboard	167,237	191,289	231,319	200,166	163,817	107,952	146,387
Particleboard	42,365	58,187	76,733	67,576	55,247	38,575	56,308
Lumber	116,171	128,118	202,238	174,915	172,441	125,734	203,417
Logs	21,371	20,999	30,385	39,495	31,949	22,745	22,988
Veneers	5,241	5,067	5,325	8,752	18,843	13,635	19,190
Doors*	28,285	28,796	29,529	33,089	25,024	18,876	17,650
Bleached kraft market pulp**	—	—	15,872	29,898	29,592	20,891	23,011
Miscellaneous products	101,255	120,688	96,917	110,666	114,709	83,652	84,409
Products of Roberts Consolidated Industries (sold November 1976)	36,594	45,811	56,884	66,998	58,579	43,949	49,517
Total	$808,826	$983,314	$1,163,604	$1,119,434	$1,105,895	$800,237	$1,082,463

* The manufacture and sale of doors by Champion Building Products was phased-out in 1976. Weldwood, which had door sales of $5,697,000 and $6,295,000, respectively, in 1975 and the first nine months of 1976, continues in this business.

** See "Paper and Related Products" for information regarding the production of bleached kraft market pulp by a joint venture in which Weldwood has a 50% interest.

The principal domestic building materials manufacturing units owned or leased by Champion consist of twelve softwood plywood manufacturing plants, thirteen units for the production of softwood lumber,

three plants producing particleboard, three hardboard plants, three plants for finishing hardwood plywood and five softwood veneer manufacturing plants. Principal Canadian manufacturing facilities owned by Weldwood include six plywood plants, seven sawmills, a flakeboard plant, a planer mill and two veneer plants. The Canadian facilities are subject to a first mortgage lien and comprise a portion of the assets referred to in Note 5(a) of Notes to Champion Consolidated Financial Statements.

As of December 31, 1976, Champion had an approximate annual productive capacity of 1,572 million square feet (⅜" basis) of softwood plywood, 630 million board feet of lumber, 278 million square feet (¾" basis) of particleboard, and 417 million square feet of hardboard (⅛" basis) in its domestic building materials manufacturing facilities, and 573 million square feet (⅜" basis) of softwood plywood, 484 million board feet of lumber, and 90 million square feet of flakeboard (⅜" basis) in its Canadian facilities.

Champion sells more building materials products than it produces, buying from other manufacturers to satisfy its total sales requirements. During 1976, Champion's domestic plants and mills produced 47% of its sales requirements of softwood plywood, 66% of its sales requirements of particleboard, 80% of its sales requirements of hardboard and 64% of its sales requirements of lumber for the United States market. In addition, a substantial portion of Weldwood's lumber production is sold in the United States. A significant part of Champion's sales of hardwood plywood consists of imported panels procured from others and prefinished in Champion's plants. During 1976, merchandise procured from others accounted for 47% of the total dollar volume of building materials sales in the United States (excluding sales of Roberts Consolidated Industries). However, Champion is not dependent on any single supplier for such merchandise and believes that, in general, such merchandise is available.

Distribution of plywood and other building materials products in the United States is effected principally through a coast-to-coast chain of sales offices and warehouses which covers every major metropolitan region in the country, and through the sales office and warehouse of Lewers & Cooke in Hawaii. Weldwood, which had sales of $251,888,000 in 1975 and $242,792,000 for the first nine months of 1976 (as compared with $183,902,000 for the corresponding period in 1975), distributes its products through a chain of warehouses and design centers in nine Canadian provinces.

The plywood and related products industries are highly competitive. However, the national scope of the operations of Champion's building materials business and the integration of its distribution systems with its manufacturing facilities and foreign sources of plywood have enabled Champion to maintain its position as one of the largest distributors of plywood in the United States. Champion is also one of the largest plywood manufacturers in the United States. Despite this strong position, Champion's sales and profits are affected by levels of residential housing and other construction activity and by related price fluctuations in the plywood and allied wood products industries.

Paper and Related Products

Champion's paper and related products business is carried on by its Champion Papers, DairyPak, Champion Packages, Federal Envelope, Nationwide Papers, Federal Office Products, Champion Papel e Celulose S.A. ("Champion Papel") and Intermills S.A. units.

Champion Papers is engaged primarily in the manufacture and marketing of fine paper, pulp and paperboard. Most of its pulp production is used in its paper mills. Its paper products are used for many kinds of printing, as business papers and for a wide variety of converting purposes, including the production of envelopes, tablets and business forms. Cast-coated papers are marketed under the trademarks "Kromekote" and "Colorcast". The major part of its paperboard production is used by the DairyPak unit. Champion Papers maintains 12 sales offices in various parts of the United States for the sale of its products directly and through independent merchants.

The principal manufacturing properties of Champion Papers consist of integrated pulp and paper mills at Courtland, Alabama, Canton, North Carolina and Pasadena, Texas, and a paper mill at Hamilton, Ohio. As of December 31, 1976, the domestic pulp and paper mills had an annual capacity of approximately 1,000,000 tons of pulp and 1,190,000 tons of paper and paperboard. As a result of the phasing-out of certain operations at the Hamilton, Ohio paper mill, it is anticipated that paper and paperboard capacity will be reduced slightly in 1977.

Champion's newest pulp and paper manufacturing complex, near Courtland, Alabama, started commercial production in 1971 with a pulp mill and a machine for the production of uncoated fine papers. The second phase of the project, an advanced-design, twin wire, fine paper machine for the manufacture of coated and uncoated papers, became fully operational in the second half of 1975. The first paper machine has a capacity of 110,000 tons a year and the second machine has a 140,000 ton annual capacity.

The total cost of these two phases of the project, including the acquisition of supporting timberlands, was approximately $180,000,000. A major expansion of pulp capacity, scheduled for completion in 1979, is estimated to cost approximately $170,000,000, and will increase pulp production capacity from 200,000 tons to 460,000 tons a year. Champion leases the Courtland facility under a long-term net lease, expiring in 1997, which provides for rental payments sufficient over the term of the lease to pay interest on and to retire the public authority bonds issued in connection with the initial financing of the facility. Champion is required to purchase the Courtland facility for a nominal sum at the time the bonds are fully retired.

DairyPak converts polyethylene coated paperboard into milk cartons and markets them in 40 states. Champion Packages produces packages and packaging materials for a wide range of consumer products, manufactures and sells bottle closures and bottle capping equipment, and prints, laminates and coats flexible packaging materials. Federal Envelope produces and markets envelopes, principally for business uses. The DairyPak, Champion Packages and Federal Envelope units operate 21 manufacturing plants in 14 states.

The paper distribution operations are carried out through 32 wholesale warehouse facilities in 19 states. The products stocked in these distribution centers are sold by two major marketing units, Nationwide Papers and Federal Office Products. Nationwide Papers markets printing and writing papers, packaging products, food service products, sanitary papers and other supply items to publishing and printing, industrial, retail and institutional users. Federal Office Products markets a wide variety of office supplies and equipment, and office furniture and accessories, to office supply dealers and stationers. In 1976, 69% of the sales of these distribution operations were of products purchased from several hundred manufacturers other than Champion. However, these businesses are not dependent on any single supplier for merchandise purchased from others.

The following table shows Champion's net sales attributable to its paper and related products business during the five years ended December 31, 1975 and for the nine months ended September 30, 1975 and 1976:

	Years Ended December 31,					Nine Months Ended September 30,	
	1971	1972	1973	1974	1975	1975	1976
	(in thousands of dollars)						
Fine papers	$300,984	$331,123	$398,413	$ 516,311	$456,516	$330,072	$406,105
Other papers and paperboard	103,102	123,101	134,788	222,885	197,826	145,634	174,883
Milk cartons	70,501	72,285	70,025	100,401	125,768	93,511	102,407
Other packages	34,410	37,712	42,555	49,687	46,183	33,955	43,625
Envelopes	22,973	26,610	29,823	38,857	43,224	34,271	36,115
Office products	39,425	44,852	52,974	64,551	63,849	47,305	53,746
All other	28,994	32,985	57,018	66,786	42,304	29,898	26,978
Total	$600,389	$668,668	$785,596	$1,059,478	$975,670	$714,646	$843,859

Principal foreign paper operations are conducted by Champion Papel and Intermills, of which Champion owns 92% and 58% of the outstanding capital stock, respectively. Champion Papel, a major integrated manufacturer of pulp and paper in Brazil, had sales of $56,310,000 in 1975 and $38,323,000 in the first nine months of 1976 (as compared with $43,133,000 in the corresponding period of 1975). An expansion program recently completed at Champion Papel more than doubled pulp production capacity to 200,000 metric tons a year. In addition, a new paper machine, which started operating in December 1976, will increase paper production capacity from 80,000 metric tons to 150,000 metric tons a year. Most of the $140,000,000 budgeted for the expansion program (all of which has been and will be financed by

Champion Papel from internally generated funds and borrowings) had been expended by the end of 1976. Intermills, one of the largest paper manufacturers in Belgium, had sales of $153,074,000 in 1975 and $114,459,000 for the first nine months of 1976 (as compared with $116,094,000 for the corresponding period of 1975). Intermills has experienced substantial pre-tax losses in 1975 and 1976, due to increases in the price of pulp, lower sales prices, and generally unfavorable conditions in the European paper markets in which it operates, and additionally in 1976 to nonrecurring charges incurred in connection with a restructuring program as well as currency translation losses.

A bleached kraft pulp mill at Quesnel, British Columbia, having a rated capacity of 260,000 tons a year, is operated by The Cariboo Pulp and Paper Company, a joint venture in which Weldwood and Daishowa-Marubeni International Limited are equal participants. Weldwood's 50% share of the sales of the Cariboo mill is shown in the table under "Building Materials" and is not included in the above table.

The markets in which the products of the paper and related products business are sold are highly competitive. In 1975, Champion substantially expanded its production capacity in printing and writing papers in anticipation of long-term growth in demand. Based on data as to tonnages shipped published by a paper industry trade association, Champion believes that Champion Papers is the second largest producer of printing and writing papers in the United States. Based on information published by its competitors and by a paper industry trade association, Champion believes that DairyPak ranks second in the domestic sale of milk cartons.

Furnishings

Champion's furnishings business is carried on by the Drexel Heritage Furnishings, Trend Carpet and Associated Weavers units.

Drexel Heritage produces and markets upholstered and wood household furniture in many styles and lines. This furniture is sold nationally and in Canada under the trademarks "Drexel" and "by Drexel" in the middle and upper middle price ranges and under the trademark "Heritage" in the higher price ranges. Drexel also produces and markets lines of church furniture and furniture manufactured on a contract basis to customer order, as well as a line of casual wrought iron and aluminum furniture under the "Meadowcraft" trademark at its Birmingham Ornamental Iron operations.

As referred to above under "General", Champion has reached an agreement in principle with Dominick International Corporation to sell the assets, subject to certain liabilities, of Drexel Heritage (other than the Birmingham Ornamental Iron business) for their net book value (approximately $53,000,000 at September 30, 1976) plus $1,000,000. The agreement in principle (which is subject to agreement on a definitive contract and to the ability of the proposed purchaser to obtain financing) provides for the payment to Champion of at least $37,500,000 cash, with the balance of the purchase price to be paid in preferred stock and/or subordinated notes to be retired within five years of the sale.

Trend Carpet produces tufted broadloom carpet for the residential and contract markets. Its carpet manufacturing operations are conducted in two plants in Georgia, and its facilities also include a yarn spinning plant and a recently completed space dyeing plant, both in Georgia. The residential carpet lines are marketed through retailers and distributors; the contract lines are sold primarily through retailers, distributors, architects and specifiers.

Associated Weavers is a leading British manufacturer of printed tufted and woven Axminster carpeting, fabrics for upholstery and apparel, and vinyl-coated fabrics, whose products are marketed in the United Kingdom and elsewhere in Western Europe. Associated Weavers had sales of $107,626,000 in 1975 and $74,940,000 in the first nine months of 1976 (as compared with $78,215,000 in the corresponding period of 1975). It operates seven plants in the United Kingdom. In addition, Champion's wholly-owned subsidiary, Associated Weavers—Europe N.V., operates two plants (formerly part of Trend Carpet) in Belgium, which are managed by Associated Weavers. Champion purchased Associated Weavers in early 1974 for $91,254,000 cash, and the excess of this cost over the net assets acquired, amounting to $70,755,000, is being amortized on a straight-line basis over 40 years (approximately $1,770,000 per year).

The following table shows Champion's net sales attributable to its furnishings products during the five years ended December 31, 1975 and for the nine months ended September 30, 1975 and 1976:

	Years Ended December 31,					Nine Months Ended September 30,	
	1971	1972	1973	1974	1975	1975	1976
	(in thousands of dollars)						
Furniture (Drexel Heritage):							
Operations Subject to Agreement in Principle	$ 91,445	$100,109	$113,391	$112,726	$ 86,065	$ 63,411	$ 77,720
Birmingham Ornamental Iron Operations	6,231	7,120	7,607	9,494	9,296	6,954	7,425
Carpet	86,048	104,600	129,995	223,834	215,194	158,931	164,355
Total	$183,724	$211,829	$250,993	$346,054	$310,555	$229,296	$249,500

The furniture industry is highly competitive; many companies are engaged in the production of the same types of products as those manufactured by Drexel Heritage. Champion believes Drexel Heritage is one of the largest producers, measured in sales volume, of living room, dining room and bedroom furniture.

The carpet industry is highly competitive and also competes with hard surface floor covering products. Prior to 1974, the carpet industry grew rapidly and the number of mills in operation increased accordingly. During 1974-75, this growth leveled off but there was no significant change in the number of competitors. Currently, there are approximately 300 companies engaged in the manufacture and sale of rugs and carpets in the United States and no single company enjoys a dominant position in the carpet industry. Champion believes Trend Carpet accounts for 3% to 4% of the total United States market for tufted carpets and rugs.

See "General" regarding Champion's plan for its furnishings business.

Timber Properties

In 1976, Champion obtained approximately 55% of its domestic fiber requirements from Champion-owned or controlled sources. In accordance with accepted practice, Champion's timberlands are carried on its balance sheets at cost and the excess over cost of the current value of these properties, which is substantial, is thus not reflected.

At December 31, 1976, Champion owned approximately 460,000 acres and controlled approximately 144,000 acres of timberlands in California, Oregon and Washington. The volume of merchantable sawtimber available to Champion at that date from such owned and controlled timberlands amounted to approximately 2.2 billion board feet and 900 million board feet, respectively. In Montana, Champion owns timber cutting rights under a long-term timber cutting contract with respect to approximately 670,000 acres of timberlands containing about 3.8 billion board feet of merchantable sawtimber. Champion has the right to acquire this acreage at nominal cost upon expiration of the contract in 1997. In the southern portion of the United States, Champion owns approximately 1,250,000 acres and controls approximately 175,000 acres of timberlands containing, respectively, approximately 3.5 billion board feet and 150 million board feet of merchantable sawtimber and approximately 9 million cords of pulpwood. Champion's domestic log and pulpwood requirements are procured from its owned and controlled lands, from short-term timber purchase contracts with agencies of the United States and various state governments, from independent timber owners and from open market purchases. In the opinion of management, these sources will provide an adequate supply of logs and pulpwood to meet Champion's principal raw materials requirements for the foreseeable future. It is also management's opinion that such sources will provide an adequate supply of logs and pulpwood to meet the additional requirements of the merged companies. Hoerner Waldorf's principal raw materials requirements complement those of Champion.

On August 31, 1976, Champion purchased from Kimberly-Clark Corporation, for $11,400,000, options to acquire approximately 388,000 acres of timberlands in the upper peninsula of Michigan and in northern Wisconsin for $46,900,000, against which the $11,400,000 already paid will be credited if all such options are exercised. The purchase price is subject to reduction in the event of early exercise of the options and to reflect credits for exchanges of Champion timberlands with Kimberly-Clark in lieu of cash payments. The property subject to the options contains approximately 356 million board feet of

merchantable sawtimber plus approximately 3.8 million cords of pulpwood. Champion plans to construct, beginning in the early 1980's, a bleached pulp and paper mill in the upper peninsula of Michigan, which would utilize timber from this property.

Weldwood's lumber, plywood and flakeboard manufacturing operations obtain their raw materials from its timber holdings (which at December 31, 1976 amounted to about 59,000 acres of timberlands); from sustained-yield, long-term licenses (under which Weldwood has exclusive cutting rights on approximately 580,000 acres of government-owned timberlands); from short-term licenses; and from long-term agreements with other companies based on their harvesting licenses. Under its harvesting licenses and agreements, Weldwood has rights to harvest or obtain approximately 449 million board feet (from long-term licenses), 42 million board feet (from short-term licenses) and 85 million board feet (from agreements with other companies) of wood on an annual basis. It is estimated that the properties to which such licenses and agreements relate presently contain 9.1 billion board feet of merchantable sawtimber. Weldwood believes that these sources assure, for an extended period, the continuity of the lumber, plywood and flakeboard operations in Canada.

Cariboo Pulp and Paper Company, a joint venture in which Weldwood and Daishowa-Marubeni International Limited are equal participants (see "Paper and Related Products"), holds rights to harvest up to 35 million cubic feet of pulpwood annually from approximately 3,900,000 acres of government-owned forest lands in British Columbia. Weldwood believes that this source of pulpwood, as well as supplies of wood chips from sawmills and plywood plants in the area, assures the continuity of operations of Cariboo's bleached kraft pulpmill for an extended period. A Philippine company, Maranaw Timber Industries Inc., in which Champion has a 40% interest, holds long-term harvesting rights on approximately 200,000 acres of tropical hardwood timberlands in the Philippines. Champion Papel owns or controls 74,000 acres of Brazilian timberlands.

Certain of Champion's land holdings have a value substantially in excess of that of land primarily used for fiber supply purposes. Approximately 75,000 acres of this land have been acquired to date by Champion's wholly-owned real estate subsidiaries, Champion Properties Corporation and Champion Realty Corporation. These separate real estate subsidiaries have sold approximately 38,000 acres to date for residential, recreational, commercial or industrial purposes, and are holding the balance of the acreage for similar sale or long-term appreciation.

Coal

Champion operates mines in Harlan County, Kentucky, primarily to provide low-ash, low-sulphur fuel for certain of its pulp and paper mills, although some coal is sold to others. Champion also has coal deposits in Tennessee and Alabama, certain of which are mined under leases from Champion by others.

A preliminary geological survey of properties on Vancouver Island, British Columbia, to which Weldwood holds mineral rights, has indicated substantial coal deposits as well as the possibility of commercial recovery of coal from waste slack piles created by earlier mining operations of Canadian Collieries Resources Limited, a Weldwood subsidiary whose operations became uneconomic and were abandoned in 1967. The coal deposits include a range of qualities potentially suitable for industrial and power generation markets and, according to a preliminary mining feasibility study, are contained in seams which are large enough for commercial recovery. Weldwood is holding discussions with several Canadian mining companies about possible joint venture arrangements to explore, develop, mine and sell coal from these properties. An exploration program is currently being conducted on a limited area and is scheduled to be completed in 1978. If the program produces favorable results, and if market conditions are favorable at the time, Weldwood would undertake preparations looking to the commencement of commercial production in that area by the early 1980's.

Capital Expenditures

In the five years 1972 to 1976, inclusive, Champion's capital expenditures amounted to $895,000,000, including $707,000,000 for plant acquisition, expansion and improvements and $188,000,000 for the acquisition of timber and for timberlands expenditures. During 1976, Champion spent approximately $123,000,000 for plant expansion and improvements (of which approximately $38,000,000 represented part of Champion Papel's expansion program) and $20,000,000 for timber and timberlands expenditures.

In 1976, Champion also began a program to expand pulp and paper capacity at Courtland, Alabama. The first part of this program involves an additional pulp mill, expected to be completed in 1979, which will add 260,000 tons a year to pulp capacity and is estimated to cost approximately $170,000,000. The second stage of the program, scheduled to be completed in 1980, will involve a third paper machine at the Courtland complex, having a cost currently estimated at $75,000,000.

A significant portion of the expenditures during the past five years has been for major expansion projects. Among these were expenditures of $137,000,000 for a plywood and lumber complex in Bonner, Montana, including the acquisition of approximately 670,000 acres of timberlands in 1972; a $16,000,000 stud and plywood mill in Newberry, South Carolina; and the acquisition of a plywood mill in Corrigan, Texas for $16,000,000.

In 1977, Champion plans total capital expenditures of approximately $221,000,000, of which about $190,000,000 will be for property, plant and equipment, and about $31,000,000 will be for timber and timberlands expenditures. Of the amount for property, plant and equipment, approximately $33,000,000 will be spent on the pulp and paper expansion program at Courtland, Alabama.

Foreign Operations

The net sales of Champion's foreign subsidiaries for 1975 were $610,120,000, accounting for 25.4% of the consolidated net sales of Champion, compared with net sales of $633,953,000, or 25.0% of consolidated net sales, in 1974. Net income of the foreign subsidiaries (after minority interest) for 1975 was $8,466,000, or 13.9% of the consolidated net income of Champion, compared with $23,121,000, or 23.2% of consolidated net income, in 1974. For the nine months ended September 30, 1976, net sales of foreign subsidiaries were $502,877,000, or 23.0% of consolidated net sales (as compared with net sales of $452,063,000, or 25.8% of consolidated net sales, in the corresponding period of 1975), and net income of those subsidiaries (after minority interest) was $3,429,000, or 4.3% of consolidated net income (as compared with net income (after minority interest) of $7,579,000, or 16.9% of consolidated net income, for the corresponding period of 1975). The major foreign operations, which are discussed above under their respective business headings, are in Canada, Brazil, the United Kingdom and Belgium. These operations are subject to certain restrictions, such as currency and exchange controls in the United Kingdom and Brazil and price and income guidelines in Canada, as well as to local economic conditions which, in the case of Brazil and the United Kingdom, include high rates of inflation. During 1976 economic conditions in the United Kingdom deteriorated and the British pound showed marked weakness in foreign exchange markets. (See Note 10 of Notes to Champion Consolidated Financial Statements for further information as to foreign operations.)

An internal investigation by Champion in May 1976 in connection with implementation of its policy regarding standards of business conduct determined that a foreign subsidiary of Champion had engaged in certain questionable practices with respect to the receipt and payment of rebates. The Audit Committee of Champion's Board of Directors, which is composed solely of outside directors, conducted an investigation of such subsidiary with the assistance of outside legal counsel and independent auditors.

The investigation confirmed that the foreign subsidiary had agreed to pay one of its customers a rebate in the amount of approximately $141,000 (at May 1976 exchange rates). Two payments have been made on account of this rebate: approximately $71,000 in December 1975 and approximately $31,000 in February 1976. Such payments were not recorded on the subsidiary's books when made. The funds used to make the payments were obtained principally (a) from rebates received from two suppliers and an agent (which rebates were not recorded on the subsidiary's books), (b) from amounts paid to the subsidiary by Champion to reimburse it for expenses incurred by it on behalf of Champion (which amounts were recorded on Champion's books but not, in these instances, on the books of the subsidiary) and (c) from an interest-free, demand loan made to the subsidiary by its president, who was at the time a Vice President of Champion (which loan was not recorded on the books of the subsidiary). The income received and rebate instalments paid by the subsidiary have now been recorded on its books. The rebate instalment paid in 1975 was reported in the 1975 tax return of the subsidiary and the instalment paid in 1976 will be reported in the subsidiary's tax return for that year. Payment of the balance of the rebate will be recorded on the subsidiary's books and reported for tax purposes in accordance with local requirements.

The investigation also confirmed that a unit of the foreign subsidiary had received, and paid, rebates and other amounts which were not recorded on the unit's books or reported to local tax authorities. In the years 1971 through 1975, rebates were received in the amounts of $71,000, $70,000, $98,000, $148,000 and $69,000, respectively, and rebates and other payments were made in the amounts of approximately $54,000, $89,000, $88,000, $94,000 and $71,000, respectively (all such amounts being translated at May 1976 exchange rates). Payments other than rebates during the period aggregated approximately $14,000 and were made to employees of its customers (including a governmental entity), to a prison official for services performed by inmates and to a customer of another unit of the subsidiary to settle a commercial dispute. A further unrecorded payment in the amount of approximately $51,000 was also made as a severance indemnity to an employee of the other unit of the subsidiary. All of the above amounts have now been recorded in the unit's books and reported to its local tax authorities.

The investigation further disclosed that the same unit which had made the payments discussed in the preceding paragraph had apparently facilitated rebates by its suppliers to its customers by permitting certain of its suppliers to overbill it by amounts up to 3% with the understanding that the unit would overbill by the same amount the customer to whom the goods were ultimately sold by it. The aggregate amount of such overbillings could not be determined. In addition, the same unit participated in arrangements under which goods were delivered to one customer but were invoiced to, and paid for by, another customer (who apparently was reimbursed directly by the customer to whom the goods were actually delivered). In this way, one customer of the unit acquired "off book" inventory and the other customer could reduce his earnings by deducting the invoices. The unit received no commission or other special compensation for its role in these arrangements, other than payment for the goods sold. The total amount of sales involved in these arrangements was reported to be approximately $50,000.

The practices of making or receiving unrecorded payments, passing on overbillings and mis-directing invoices have been discontinued. Champion believes that the amounts involved in such practices, and the sales to which they relate, are not material to Champion and that such practices will not have a material adverse effect on Champion's financial position or results of operations. Except for the president of the foreign subsidiary involved, none of the officers or directors of Champion had knowledge of such practices prior to Champion's internal investigation in May 1976.

Champion's policy, expressed in its Standards of Business Conduct, prohibits false or misleading entries in corporate books or records and unrecorded funds or assets and requires compliance with generally accepted accounting rules and internal controls. Champion has an extensive, on-going, internal auditing program, involving approximately twenty-five full-time employees.

Fuel and Energy

Champion believes it is in a position to meet its present and foreseeable fuel and energy needs. Many of the residual waste products associated with the manufacturing of pulp, building materials and furniture, such as pulping liquors, bark and wood waste, provide fuel and energy sources for its manufacturing operations. In addition, Champion's coal mines are capable of meeting the requirements of the Canton, North Carolina and Hamilton, Ohio mills (the only pulp or paper mills of Champion which utilize coal) from its reserves in Kentucky, Tennessee and Alabama. Champion estimates it is self-sufficient with respect to 64% of the energy needs of its domestic manufacturing plants. Champion's needs for natural gas, propane and fuel oil have been anticipated and Champion believes it now has adequate sources of supply, subject to the possible imposition of mandatory allocation programs or curtailments.

The Pasadena, Texas pulp and paper mill is supplied with natural gas under a 20-year contract extending through 1980. The contract supplier has contended for a number of years that delivery prices should have increased periodically over the price Champion believes payable, which is substantially below the current market prices at which Champion is being billed. In 1973, Champion filed a petition for a declaratory judgment in a Texas state court, and the proceeding is currently in the pretrial discovery stage. Deliveries have continued, although Champion is paying at the rate it believes to be payable. From July 1, 1973 through December 31, 1976, the difference between billings and payments aggregated approximately $16,000,000 and is increasing, based on market price and consumption. The increase claimed by the supplier for 1976 was approximately $10,800,000. In the event the litigation is resolved unfavorably to

Champion or if gas deliveries to the mill should be otherwise curtailed, Champion would have to obtain new or additional gas or convert the facility to another fuel. This would result in higher fuel costs and, in the event of conversion, capital expenditures and temporary disruption of operations.

Champion is unable to predict the effect a nationwide fuel and energy shortage might have on the economy generally and, therefore, on its customers and suppliers, but is of the opinion it is no more vulnerable in this regard than other large manufacturing concerns.

Environmental Quality Program

Champion recognizes the public interest in natural resources as well as the public's concern with the quality of the environment in the areas in which Champion's operations are located. During the period 1968 through 1975, Champion spent more than $101,000,000 to purchase, install and construct air and water pollution control systems and equipment. Some of these changes, accomplished primarily in connection with Champion's environmental quality program, have also produced improvements in operating efficiency. In 1976, environmental quality expenditures amounted to approximately $12,900,000. An additional $12,700,000 has been authorized, and is anticipated to be spent in 1977 and 1978. In carrying forward its environmental quality program, it is expected that Champion will commit additional sums for air and water quality improvements and noise abatement, most of which will increase product costs but not increase productivity. However, because of constantly changing government regulations in this area, it is not possible for Champion to estimate or predict meaningfully the amount of these additional expenditures.

Employees

Champion employs approximately 50,000 persons in its worldwide operations. Of these, approximately 35,000 are domestic employees, about 44% of whom are covered by contracts with labor unions. On a worldwide basis, approximately 52% of the employees are organized into labor unions. Champion's union contracts are for varying terms and must be renewed on a recurring basis. The union contracts covering Champion's West Coast plywood and lumber operations and its Pasadena, Texas and Courtland, Alabama pulp and paper mills are scheduled to expire in May and June of 1977, with the contracts covering the Bonner, Montana plywood and lumber complex and Hamilton, Ohio paper mill expiring in September of 1977. Contracts covering a substantial portion of Weldwood's operations also will expire on various dates during 1977.

Champion considers its employee relations to be good.

Litigation

In April 1974, the Federal Trade Commission filed a complaint against Champion and six other corporations (two of which have entered into settlement agreements) alleging that respondents had established and maintained a system of delivered prices for southern pine plywood based on computation of rail freight from the Pacific Northwest and based upon computation of rail freight applied to shipments made by other modes of transportation, refused to permit customers who purchased plywood from southern plants the option of picking up purchases at the plant at "true" F.O.B. mill prices and used an identical schedule of estimated weights as a basis for quoting delivered prices for softwood plywood. In an initial decision filed on November 29, 1976, an Administrative Law Judge of the Federal Trade Commission held that the practices in question violated Section 5 of the Federal Trade Commission Act and ordered the respondents to cease and desist from using the practices in question. It is Champion's present intention to appeal this decision.

Champion also has been named as a defendant, along with a substantial number of other corporations, in twenty private antitrust suits, thirteen of which are class actions and all of which involve the same alleged practices challenged in the Federal Trade Commission proceeding. These suits, each of which seeks treble damages in an unspecified amount, have been consolidated for pre-trial purposes in the United States District Court in New Orleans, which has certified five plaintiff classes. The court determined that the actions can proceed on behalf of the named plaintiffs and, by the named plaintiffs, on behalf of the following classes of purchasers of softwood plywood: dealers, subcontractors, contractors, builder-owners and manufacturers.

Champion also is a defendant in a class action involving an area in east Alabama and west Georgia, alleging a conspiracy to fix prices in connection with the purchase of pulpwood and seeking treble damages in an unspecified amount, filed under the antitrust laws in the United States District Court in Alabama by a number of pulpwood producers against approximately thirty paper manufacturers and pulpwood dealers. Champion has filed a motion for summary judgment on the ground, among others, that it does no business in the areas involved.

In September 1974, a misdemeanor criminal proceeding under the antitrust laws of the United States and a separate civil action under those laws and the Federal False Claims Act were instituted by the United States Department of Justice against Champion and several other defendants alleging a conspiracy among Champion and others relating to bids for timber offered for sale by the United States Forest Service in the Detroit Ranger District of the Willamette National Forest. The criminal case was tried and resulted in the conviction of Champion and a number of other defendants. Champion was fined $50,000 by the District Court and has filed an appeal with the United States Court of Appeals for the Ninth Circuit. No specific amount of damages has been claimed in the civil action. A federal grand jury was convened early in 1976 to conduct an investigation involving similar allegations relating to timber bidding throughout the State of Oregon. Champion has been served with subpoenas requiring the production of documents and three employees and two former employees of Champion have testified before the grand jury. Champion is unable to predict at this time the outcome of the investigation.

In early 1976, a federal grand jury in the Northern District of Illinois indicted Champion and 22 other corporations in the folding carton industry (including Hoerner Waldorf) on charges of conspiracy to fix, raise, maintain and stabilize the prices of folding cartons. Pleas of nolo contendere by 22 of the corporate defendants, including Champion and Hoerner Waldorf, were accepted by the court, and fines were assessed. Champion paid a fine of $30,000. The remaining corporate defendant was convicted. The indictment also named 50 current or former employees of the corporations, none of whom are or were employees of Champion. The Department of Justice also has filed civil antitrust suits against Champion and the other corporate defendants in the criminal proceeding, seeking a prohibition against future price fixing agreements, damages in an unspecified amount (based on government purchases of folding cartons) and specified damages resulting from alleged false claims arising from the asserted illegal acts. Champion also has been named as a defendant (among other corporate defendants) in more than 60 private antitrust suits, most of which purport to be class actions, all involving the same alleged practices challenged in the government's proceedings and all seeking treble damages in unspecified amounts. Most of these suits have now been consolidated into a single action for pre-trial purposes in the United States District Court for the Northern District of Illinois. Champion believes that it is a relatively small factor in the folding carton industry. However, several of the private antitrust actions also allege conspiracy in the sale of milk cartons, as to which Champion believes that it ranks second in domestic sales.

In December 1976, Champion was served with a subpoena requiring the production of documentary information to a federal grand jury in the Eastern District of Pennsylvania apparently conducting an antitrust investigation into possible violations of the Sherman Act in connection with the pricing of paper. The subpoena also calls for the production of documents relating to the alleged "paper shortage", which is defined in the subpoena as "a market situation during the period of time beginning approximately in the Spring of 1973 and continuing until early 1975, during all or part of which period the supply of some or all types of paper reportedly was insufficient to meet the perceived demand therefor." Champion understands that numerous other manufacturers of paper have received similar subpoenas. It is not possible at this time to predict the outcome of the investigation.

See "Fuel and Energy" with respect to a litigation regarding prices of gas supplied to Champion's Pasadena, Texas pulp and paper mill.

While the result of any litigation necessarily contains an element of uncertainty, Champion's management presently believes that, with respect to the above and other known contingent liabilities, including other lawsuits, federal taxes, claims and guarantees, the aggregate amount of any liability and costs which might result would not have a material adverse effect on Champion's consolidated financial position or operating results.

BUSINESS AND PROPERTIES OF HOERNER WALDORF

Hoerner Waldorf is a manufacturer and marketer of paper packaging products. Its principal products include corrugated containers, folding cartons, grocery, shopping and multiwall bags, bleached softwood pulp, unbleached kraft paper, kraft linerboard, corrugating medium, recycled combination boxboard, dimension lumber and other wood products. For information with respect to sales by product class for the five years ended October 31, 1976, see "Hoerner Waldorf Financial Discussion and Analysis". References in this section to "Hoerner Waldorf" include Hoerner Waldorf and its subsidiaries, unless the context otherwise requires.

Hoerner Waldorf operates four paper mills, 43 corrugated container plants, four consumer packaging plants, nine bag plants and seven lumber mills located in 28 states and Puerto Rico. Hoerner Waldorf owns or leases in excess of 300,000 acres of forest lands in Michigan, Montana, North Carolina and Virginia. In the fiscal year ended October 31, 1976, approximately 50% of total sales was represented by corrugated containers, 15% by folding cartons, 10% by grocery, multiwall and shopping bags, 6% by lumber and lumber products and the remaining 19% primarily by paperboard sold to other users.

Hoerner Waldorf resulted from the merger, in 1966, of Waldorf Paper Products Company, founded in 1891, and Hoerner Boxes, Inc., founded in 1920.

Products and Sales

Hoerner Waldorf operates four paperboard mills producing kraft linerboard and corrugating medium, which are processed into corrugated containers by Hoerner Waldorf's container plants. The Roanoke Rapids, North Carolina mill also produces unbleached kraft paper, which is processed by nine bag plants into grocery, shopping and multiwall bags. Boxboard, produced at the St. Paul, Minnesota mill, is processed by three of the four consumer packaging plants into folding cartons. The Missoula, Montana mill also produces bleached softwood pulp which is sold on the open market. Hoerner Waldorf operates seven lumber mills.

Hoerner Waldorf's products are used extensively in the packaging and shipping of food products, glassware, canned goods, clothing, detergents, beverages, furniture, automotive products and accessories, machinery, petroleum products, chemicals, electrical equipment, household equipment, textiles, drugs, tobacco and many other products.

During the fiscal year ended October 31, 1976, approximately 76% of Hoerner Waldorf's paperboard production was consumed by its own converting operations, accounting for approximately 74%, 63% and 93%, respectively, of Hoerner Waldorf's paperboard requirements for its corrugated container, folding carton and bag plants. Hoerner Waldorf also buys and sells paperboard in the open market.

Hoerner Waldorf sells corrugated containers, folding cartons, bags and lumber products to commercial and industrial users throughout the United States. Paperboard and lumber are also sold to manufacturers for further processing. Packaging products are generally designed and manufactured to customer's specifications which vary as to size, strength, quality, color and printing. Hoerner Waldorf's staff of approximately 265 packaging specialists provides services to customers located within areas supplied by the various regional container, carton and bag plants. These packaging specialists are compensated on a basis which generally provides incentives related to the profitability of the products sold. Working with Hoerner Waldorf's design, art and testing departments, this staff develops containers, cartons and bags to meet customer shipping and display requirements. Hoerner Waldorf's effectiveness in its sales efforts is believed attributable in part to its methods of incentive compensation as well as its practice of developing packaging systems for its customers, including the design of automated packaging machinery engineered to meet specific customer requirements. This machinery is purchased or leased by Hoerner Waldorf and is leased or sold to customers. Plant managers have overall responsibility for both production and sales; each plant constitutes a profit center, and plant manager compensation also includes incentives based on profit performance.

Sales of Hoerner Waldorf's products are made to over 10,000 customers. For the year ended October 31, 1976, Hoerner Waldorf's largest customer accounted for 3.1% of its sales and its ten largest customers accounted for less than 14% of its total sales.

Raw Materials

Chips and logs are purchased from numerous sources, principally under contracts, and reclaimed paper is purchased in the open market. Logs and timber for processing into lumber are obtained from Hoerner Waldorf lands and from public and private sources, including Federal agencies. Hoerner Waldorf's timberlands are a minor but growing source for its pulpwood requirements. Future use of this pulpwood, which will depend on market conditions and alternative sources of supply, is not expected to affect significantly Hoerner Waldorf's earnings. Hoerner Waldorf's mills supply the principal portion of paperboard used in its converting facilities. Hoerner Waldorf has experienced no significant production delays due to shortage of raw materials and is not materially dependent on any supplier or group of suppliers.

Plants and Facilities

The nature of Hoerner Waldorf's operations is such that the products are most efficiently manufactured near the source of raw material, or near the market for the product. As a result, many plants are utilized and no single plant can be considered a principal plant. The estimated annual production capacities of the manufacturing plants operated in fiscal 1976 and the estimated average percent of capacity employed during the year ended October 31, 1976 are as follows:

	Estimated Annual Production Capacity	Estimated Average Capacity Employed
Paper mills (4)	1,219,000 tons (a)	79%
Corrugated container plants (43)	14,341,000 M. sq. ft. (b)	64%
Consumer packaging plants (4)	140,000 tons (b)	91%
Bag plants (9)	196,000 tons (b)	65%
Lumber mills (7)	194,000,000 board ft. (c)	80%

(a) Based on a three-shift, seven-day week.
(b) Based on a three-shift, five-day week.
(c) Based on a two-shift, five-day week.

All plants are owned except for 24 corrugated container plants, four bag plants and one lumber mill operated under lease agreements. Leases on these facilities expire on various dates to October 31, 2027. In the opinion of Hoerner Waldorf management, all of its facilities are well maintained, are in good operating condition and are capable of meeting its production requirements for the immediate future.

Paper Mills. Hoerner Waldorf operates four paper mills for which certain information is detailed below:

Location	Number of Paper Machines	Estimated Annual Production Capacity
Ontonagon, Michigan	two	205,000 tons of corrugating medium
St. Paul, Minnesota	two two	119,000 tons of corrugating medium 122,000 tons of boxboard
Missoula, Montana (a)	two	361,000 tons of kraft linerboard 50,000 tons of dried kraft pulp
Roanoke Rapids, North Carolina	two	362,000 tons of kraft paper and kraft linerboard

(a) Hoerner Waldorf has announced plans to add a sawdust digester and additional environmental control equipment at a total estimated cost of $20,000,000.

Lumber Mills. Hoerner Waldorf operates seven lumber manufacturing facilities with a combined annual capacity of approximately 194 million board feet. Principal products include dimension lumber, treated timbers, laminated beams, railroad ties and millwork. The locations of the lumber mills are as follows:

North Fork, Idaho
Salmon, Idaho
Conner, Montana
Darby, Montana
Missoula, Montana
Creedmoor, North Carolina
Whaleyville, Virginia

Converting Plants. Hoerner Waldorf's converting plants are strategically located to effectively serve its customers.

Hoerner Waldorf operates 43 container plants of which 23 have corrugating machines to convert linerboard and corrugating medium into corrugated sheets for further processing into corrugated containers. The remaining 20 container plants process corrugated sheets, obtained principally from Hoerner Waldorf container plants with corrugating machines, into corrugated containers.

Hoerner Waldorf's four consumer packaging plants convert boxboard, obtained principally from the St. Paul mill, into consumer packaging for use by food processors and others.

Hoerner Waldorf operates nine bag plants which convert kraft paper principally produced at Roanoke Rapids into grocery, shopping and multiwall bags, the latter being used mainly for chemicals, fertilizers, salt and other industrial products.

The locations of Hoerner Waldorf's converting plants are as follows:

Container Plants

Birmingham, Alabama
Fort Smith, Arkansas
Little Rock, Arkansas
Fullerton, California
Salinas, California
San Leandro, California
Denver, Colorado
Atlanta, Georgia
Danville, Illinois
Gurnee, Illinois
Joliet, Illinois
Naperville, Illinois
Columbus, Indiana
Burlington, Iowa
Des Moines, Iowa
Keokuk, Iowa
Sioux City, Iowa
Waterville, Maine
Mansfield, Massachusetts
Minneapolis, Minnesota
St. Cloud, Minnesota
St. Paul, Minnesota
Tupelo, Mississippi
North Kansas City, Missouri
St. Joseph, Missouri
St. Louis, Missouri
Springfield, Missouri
Lincoln, Nebraska
Reno, Nevada
Lexington, North Carolina
Fargo, North Dakota
Cleveland, Ohio
Jefferson, Ohio
Oklahoma City, Oklahoma
Sand Springs, Oklahoma
Sioux Falls, South Dakota
Collierville, Tennessee
Grand Prairie, Texas
Houston, Texas
Richmond, Virginia
LaCrosse, Wisconsin
Milwaukee, Wisconsin
Neenah, Wisconsin

Consumer Packaging Plants

Chicago, Illinois
Fowler, Indiana
St. Paul, Minnesota
Milwaukee, Wisconsin

Bag Plants

Fullerton, California
Quincy, Illinois
Des Moines, Iowa
Chester, New York
Walden, New York
Middletown, Ohio
Bayamon, Puerto Rico
Richmond, Virginia (2)

Competition

Hoerner Waldorf encounters strong competition in each of its major market areas. There are numerous other manufacturers of paperboard, corrugated containers, folding cartons and bags, some of which have substantially larger resources than those of Hoerner Waldorf. In addition to numerous competitors within the industry, Hoerner Waldorf's products are also in competition with packaging made of other materials, including plastics.

Fuel and Energy

Hoerner Waldorf believes it can satisfy its present and foreseeable fuel and energy needs. In addition to electrical generating capabilities at each mill location, the continuing program of energy conservation and utilization of waste forest products residuals and pulping liquors for fuel places Hoerner Waldorf in a strong position to meet its energy needs. Hoerner Waldorf's two largest kraft mills provide for over 50% of their energy needs from internally available resources. All mills have alternate fuel supplies. While Hoerner Waldorf is concerned about a nationwide fuel and energy shortage or allocation program, it believes it is no more vulnerable than other large industrial users.

Employees—Labor Relations

Hoerner Waldorf employs approximately 8,500 people in 28 states and Puerto Rico, of which approximately 6,000 are hourly-rated production workers. It has contracts with labor unions covering most production and maintenance employees at its various mills and plants. The labor contracts covering all hourly employees at the Missoula, Montana and Roanoke Rapids, North Carolina mills expire in May 1977 and September 1977, respectively. Hoerner Waldorf generally considers its employee relations to be good. Hoerner Waldorf provides group life insurance, hospitalization, medical insurance plans, pension plans, profit sharing plans and various incentive plans.

Environment

Hoerner Waldorf has on-going programs intended to bring its converting plants and mills into compliance with current state and Federal environmental control regulations. During the five years ended October 31, 1976, $47,500,000 was spent in furtherance of these programs. The primary project currently underway is the construction of pollution control facilities at the Ontonagon, Michigan mill. The waste treatment portion of this project was to have been in operation by July, 1976. Although the system is mechanically functional at the present time, the system involves a biological treatment process which cannot be put into operation until the spring of 1977 when the weather is warmer. The power boiler particulate emission control portion of the project is required to be in operation by December 31, 1977 and Hoerner Waldorf presently expects to be able to comply with this deadline. Hoerner Waldorf also has additional pulp washing facilities under construction at its Missoula, Montana mill to further improve color removal so as to insure continuing compliance with current pollution control requirements. After completion of these and other current projects, estimated to cost not more than $12 million, Hoerner Waldorf believes that it will be in compliance with all current state and Federal environmental regulations.

Timberlands

Hoerner Waldorf owns approximately 33,000 acres of timberlands in upper Michigan, 12,000 acres of timberlands in Montana and 223,000 acres of timberlands located in North Carolina and Virginia and has long-term leaseholds on approximately 70,000 acres in North Carolina. In accordance with accepted practice, Hoerner Waldorf's timberlands are carried on its balance sheets at cost and the excess over cost of the current values of these properties, which is substantial, is thus not reflected.

Litigation

On February 18, 1976, a criminal indictment was returned by a grand jury convened in the Northern District of Illinois, Eastern Division, against Hoerner Waldorf, 22 other corporations (including Champion) and 50 current or former employees of the corporate defendants, including the then President, the present Executive Vice President and two other employees of Hoerner Waldorf. The indictment alleged that Hoerner Waldorf and the other defendants engaged in a continuing combination and conspiracy to fix, raise, maintain and stabilize the prices of folding cartons from as early as 1960 until sometime prior to December, 1974 in violation of Section 1 of the Sherman Act. Hoerner Waldorf and its four employees individually named as defendants entered pleas of nolo contendere. Hoerner Waldorf was fined $50,000, the two senior officers were fined and received other sentences and the two other employees were fined. The fines of the four employees aggregated $56,100 and Hoerner Waldorf's Board of Directors has determined that Hoerner Waldorf will reimburse such employees for their legal expenses and the fines. On February 18, 1976, the United States Department of Justice also filed a civil action against Hoerner Waldorf and the other corporate defendants alleging essentially the same violations as set forth in the criminal indictment. The relief requested in this companion civil complaint includes a prohibition against continuing to engage in the alleged combination and conspiracy. On May 3, 1976, the United States commenced another civil action against Hoerner Waldorf and the other corporate defendants named in the criminal indictment seeking antitrust damages in an unspecified amount (based on government purchases of folding cartons) and specified damages resulting from alleged false claims arising from the asserted illegal acts. In excess of 60 additional civil antitrust actions, most of which purport to be class actions, have been filed against Hoerner Waldorf and the other corporate defendants named in the criminal indictment alleging essentially the same violations alleged in the criminal indictment. Most of these actions have been consolidated for pre-trial purposes in the United States District Court for the Northern District of Illinois, Eastern Division. Each of the actions seeks treble damages in unspecified amounts as may be determined to have been sustained by the plaintiffs, and an injunction prohibiting the defendants from continuing the alleged combination and conspiracy. During the five fiscal years ended October 31, 1976, approximately $43,765,000, $48,885,000, $60,938,000, $69,293,000 and $76,106,000, respectively, or from 13% to 16% of Hoerner Waldorf's annual total sales, which ranged from $303,410,000 to $511,330,000 during the period, were attributable to folding cartons and Hoerner Waldorf believes that its sales accounted for approximately 3% to 4% of total national sales of folding cartons during the five year period.

ASSET PURCHASE AGREEMENT

dated as of October 1, 1985

between

Champion International Corporation (the "Seller")

and

Stone Container Corporation (the "Purchaser")

ASSET PURCHASE AGREEMENT

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ASSET PURCHASE AGREEMENT

This ASSET PURCHASE AGREEMENT dated as of October 1, 1985 between Champion International Corporation, a New York corporation (the "Seller") and Stone Container Corporation, an Illinois corporation (the "Purchaser"),

W I T N E S S E T H:

WHEREAS, the parties desire to enter into this Agreement pursuant to which the Seller will convey to the Purchaser or at the option of Purchaser, a wholly-owned subsidiary of Purchaser) (the "Acquisition Sub") and the Purchaser or the Acquisition Sub will acquire from the Seller all of the Seller's right, title and interest in and to substantially all of the property, plant and equipment and the spare parts which relate to or comprise the Seller's Brown Papers System division other than the operations of the mill located at Roanoke Rapids, North Carolina (the "Roanoke Rapids Mill"), (such Brown Papers System division consisting primarily of: the production and sale of linerboard, corrugating medium, kraft paper, corrugated containers, multiwall bags and sacks, dunnage bags, cookie bags and specialty packaging, packaging machinery and equipment and similar and other products at the facilities described in Schedule A-1 hereto (the "Mills") and the facilities described in Schedule A-2 hereto (the "Converting Facilities") (each of the Mills and Converting Facilities being hereinafter referred to individually as a "Facility" and collectively as the "Facilities" and the aforesaid Brown Papers System division of the Seller being hereinafter referred to as the "Brown Papers System Division"), certain additional interests related to the business of the Facilities, the accounts and notes receivable and the inventories associated with the Facilities in exchange for the consideration hereinafter specified.

NOW, THEREFORE, in consideration of the premises and of the respective representations, warranties, covenants, agreements and conditions contained herein, the parties hereto hereby agree as follows:

ARTICLE I

Certain Definitions and Interpretative Matters

1.1 Definitions. For purposes of this Agreement, the following terms shall have the respective meanings as herein set forth:

(a) "Affiliate" shall have the meaning set forth in Rule 12b-2 promulgated under the Exchange Act.

(b) "Ancillary Documents" shall mean the certificates, schedules, instruments and other writings delivered by Seller in connection with the transactions contemplated hereby which are described in Schedule 5.25 hereof together with the statements referred to in Section 7.11(b) hereof.

(c) "Assigned Contracts" shall have the meaning set out in Section 2.1(g).

(d) "Assigned Personal Property Leases" shall have the meaning set out in Section 2.1(e).

(e) "Assumed Liabilities" shall have the meaning set out in Section 2.3(a).

(f) "Average Closing Market Price" shall mean the average of the per share closing sales prices of the Common Shares as reported in the New York Stock Exchange Composite Transactions during the ten consecutive trading days ending on the second trading day prior to the Closing Date.

(g) "Bag Packaging Business" shall mean those operations of the Brown Papers System Division consisting primarily of the production and sale of multiwall bags and sacks, dunnage bags, cookie bags, specialty packaging, packaging machinery and

equipment and similar and other products at the Converting Facilities listed on Schedule A-2 and appearing under the heading "Bag Packaging Business" in such Schedule A-2.

(h) "Books and Records" shall mean all books and records relating primarily to the operation of the Facilities including, without limitation, (i) all books and records relating to the purchase of materials and supplies, manufacture of products, sales of products, dealings with customers, invoices, customers' lists, suppliers' lists and personnel records and (ii) all computer software which is owned or used under license by the Seller and data in computer readable and human readable form used to maintain such books and records together with the media on which such software and data are stored and all documentation relating thereto.

(i) "Cash Closing Amount" shall have the meaning set out in Section 3.1.

(j) "Closing" shall mean the closing of the purchase and sale of the Purchased Assets and the assumption of the Assumed Liabilities in accordance with the terms and conditions of this Agreement.

(k) "Closing Date" shall have the meaning set out in Section 4.1(a).

(l) "Closing Financial Statements" shall have the meaning set out in Section 7.13.

(m) "Commission" shall mean the Securities and Exchange Commission.

(n) "Common Shares" shall mean the Common Shares, no par value, of Purchaser.

(o) "Computer System" shall have the meaning set out in Section 2.1(h).

(p) "Consideration Shares" shall have the meaning set out in Section 3.1.

(q) "Corrugated Containers Business" shall mean those operations of the Brown Papers System Division

consisting primarily of the production and sale of corrugated containers, corrugated sheets and similar and other products at the Converting Facilities listed on Schedule A-2 and appearing under the heading "Corrugated Container Business" in Schedule A-2.

(r) "Encumbrance(s)" shall mean all mortgages, claims, charges, liens, encumbrances, easements, and other imperfections of title, options, pledges, calls, commitments, security interests, conditional sales agreements, title retention agreements, leases, and other restrictions of any kind and nature choate or inchoate, but shall not include liens of current taxes not yet due and payable.

(s) "Exchange Act" shall mean the Securities Exchange Act of 1934.

(t) "Excluded Assets" shall have the meaning set out in Section 2.2.

(u) "Excluded Liabilities" shall have the meaning set out in Section 2.3(b).

(v) "Facilities Financial Statements" shall have the meaning set out in Section 5.2(a).

(w) "Final Closing Financial Statements" shall have the meaning set out in Section 7.14(b).

(x) "HSR Act" shall mean the Hart-Scott-Rodino Antitrust Improvement Act of 1976, as amended.

(y) "Indemnified Purchaser Party" shall have the meaning set out in Section 13.2(a).

(z) "Indemnified Seller Party" shall have the meaning set out in Section 13.3(a).

(aa) "Intellectual Property" shall have the meaning set out in Section 5.5.

(bb) "Inventories" shall have the meaning set out in Section 2.1(f).

(cc) "Inventory Amount" shall mean the value of the Inventories determined in accordance with Section 3.4.

(dd) IRBs shall mean the Industrial Revenue Bonds, the Environmental Improvement Revenue Bonds and other debt instruments relating to the Facilities as are currently outstanding at the date hereof.

(ee) "Leased Real Property" shall have the meaning set out in Section 2.1(c).

(ff) "Licenses" shall have the meaning set out in Section 8.3.

(gg) "Missoula Mill" means the Mill at Missoula, Montana sometimes referred to as being located at Frenchtown or as the "Frenchtown Mill" in the Ancillary Documents.

(hh) "Net Asset Value" shall have the meaning set out in Section 3.2(c).

(ii) "Ontanagon Mill" means the Mill at Ontanagon, Michigan.

(jj) "Ontanagon Mill Timber Contracts" shall mean those timber-cutting agreements relating to the Ontanagon Mill which have a term not in excess of two years.

(kk) "Permitted Encumbrances" shall mean those Encumbrances as do not, and will not, interfere in any material respect with the manner in which the properties subject thereto or affected thereby are currently utilized, or otherwise materially impair present business operations at such properties or materially affect title thereto.

(ll) "Person" shall mean any individual, corporation, partnership, joint venture, association, joint-stock company, trust, unincorporated organization or government or any agency or political subdivision thereof.

(mm) "Personal Property" shall have the meaning set out in Section 2.1(d).

(nn) "Prime Rate" shall mean the prime rate as announced in the City of New York from time to time by Morgan Guaranty Trust Company of New York as its Prime Rate.

(oo) "Proxy Statement" shall have the meaning set out in Section 8.5.

(pp) "Purchased Assets" shall mean the Assets (as defined in Section 2.1) excluding the Excluded Assets.

(qq) "Real Property" shall have the meaning set out in Section 2.1(a).

(rr) "Real Property Leases" shall have the meaning set out in Section 2.1(c).

(ss) "Reconciliation Difference" shall have the meaning set out in Section 3.3(b).

(tt) "Standstill Agreement" shall mean the agreement in the form of Exhibit I.

(uu) "Transition Supply and Services Agreement" shall mean the agreement in the form of Exhibit III.

(vv) "Utility Contracts" shall have the meaning set out in Section 2.1(g).

(ww) "Walden Facility" shall mean the specialty package plant at Walden, New York.

(xx) "Warrant Agreement" shall have the meaning set out in Section 7.10(b).

(yy) "Warrants" shall have the meaning set out in Section 3.1.

The plural or singular of any defined term shall have a meaning correlative to such defined term.

1.2 Schedules. All schedules referred to in this Agreement, other than Schedules A-1, A-2, 5.2(a), 5.25, 6.9 and 9.3 shall, subject to the terms of Sections 7.17 and 8.10 hereof, be delivered after the date hereof.

ARTICLE II

Purchase and Sale

2.1 Purchase and Sale. At the Closing the Seller shall sell, convey and assign to the Purchaser or (if the Purchaser makes the election referred to in section 2.4) the Acquisition Sub and the Purchaser or the Acquisition Sub (as the case may be) shall purchase all of the Seller's right, title and interest to the property, plant, machinery and equipment, vehicles, spare parts, inventories, goodwill and other assets owned or leased by the Seller and used or held for use primarily in connection with the conduct of the business and operations of the Facilities (the "Assets") including, but not necessarily limited to, the following, but excluding the Excluded Assets:

(a) all real property and interests therein owned by the Seller forming part of the Facilities or that is otherwise primarily utilized in the business and operations of the Facilities (the "Real Property"), including, without limitation, all such Real Property to be described in Schedule 2.1(a), together with all buildings, fixtures, improvements and all other appurtenances thereto;

(b) all Intellectual Property used in and applicable exclusively to the business and operations of the Facilities; and an irrevocable, royalty-free, non-exclusive license or sub-license to use Intellectual Property that is used in the business and operations of the Facilities and is also used in or applicable to other business of the Seller, provided that no such license or sub-license is granted for the trade names "Champion", "St. Regis" and "Hoerner Waldorf" and any logo which contains the names "Champion", "St. Regis" or "Hoerner Waldorf" and provided further that, subject to Section 7.16(b) hereof, Seller shall be under no obligation to assign, license or sub-license to Purchaser or the Acquisition Sub such of the Intellectual Property as is presently used by the Seller pursuant to license or other agreements, and which agreements prohibit the granting of licenses or sub-licenses to third parties and other forms of assignment of Seller's right under such agreements;

(c) all the leases of real property forming part of the Facilities or that are otherwise primarily utilized in the business and operation of the Facilities or

relating primarily to the assets described in Section 2.1(m), including, without limitation, all such leases, to be described in Schedule 2.1(c) (the "Leased Real Property"), together with all the Seller's rights and title to and interest in all (i) buildings, facilities and other structures and improvements located on such properties, all mineral and other rights owned by the Seller, privileges, hereditaments and appurtenances appertaining thereto or to any of such buildings, facilities or other structures or improvements, and (ii) to the extent constituting real property under applicable law, all fixtures, machinery, installations, equipment and other property located on such properties (collectively, the "Real Property Leases"); or a sub-lease under any of the Real Property Leases;

(d) all plant machinery, equipment, vehicles, tools, supplies (including store room supplies), pallets, baled waste, all items historically expensed, office and laboratory equipment, furniture, testing facilities, materials, fuel and by-products, and other similar personal property not normally included in inventory (other than personal property leased pursuant to the Assigned Personal Property Leases), located at the Facilities or otherwise used or held for use primarily in connection with the business and operations of the Facilities, including, without limitation, the items to be described in Schedule 2.1(d), with such additions thereto and deletions therefrom as may arise following the date of such Schedule 2.1(d) in the ordinary course of business and in accordance with Section 7.1 prior to the Closing Date (the "Personal Property");

(e) all leases of machinery, equipment, vehicles, furniture, tools, and other similar personal property located at the Facilities or otherwise used or held for use primarily in connection with the business and operations of the Facilities, including, without limitation, such leases to be more particularly described in Schedule 2.1(e) with such additions thereto and deletions therefrom as may arise following the date of such Schedule 2.1(e) in the ordinary course of business and in accordance with Section 7.1 prior to the Closing Date (all such leases assigned by the Seller to the Purchaser being collectively referred to as the "Assigned Personal Property Leases");

(f) the inventory items (including, without limitation, raw materials, work in process, samples,

supply inventory, spare parts, finished goods and products) together with any of the foregoing in transit, located at the Facilities or otherwise used or held for use primarily in connection with the business and operations of the Facilities including, without limitation, the inventory items to be described in Schedule 2.1(f), with such additions thereto and deletions therefrom as may arise following the date of such Schedule 2.1(f), in the ordinary course of business and in accordance with Section 7.1 before the Closing Date (the "Inventories");

(g) (i) agreements for the supply of fuel, water, electricity, the Ontanagon Mill Timber Contracts, third party contracts for the supply of chippable solid wood for manufacturing pulp chips whether whole tree, long-log or otherwise, agreements for the supply of chips, pulp and other raw materials or other goods or services used primarily in connection with the business and operations of the Facilities, (the "Utility Contracts") including, without limitation, such Utility Contracts which are to be more particularly described in Schedule 2.1(g) with such additions thereto and deletions therefrom as may arise following the date of such Schedule 2.1(g) in the ordinary course of business and in accordance with Section 7.1 before the Closing Date, (ii) warranties against third parties relating to or arising under any of the Purchased Assets, (iii) agreements relating to capital improvements with respect to the business and operations of the Facilities all of which (other than agreements which are not material to the financial condition, business or operations of any of the Facilities) are to be described in Schedule 2.1(g), (iv) subject to Article IX hereof as applicable, such other sales, orders, contracts and other agreements relating to the conduct of the business and operations of the Facilities, including, without limitation those to be more particularly described in Schedule 2.1(g) with such additions thereto and deletions therefrom as may arise following the date of such Schedule 2.1(g) in the ordinary course of business and in accordance with Section 7.1 before the Closing Date (all the contracts, warranties, and agreements assigned by the Seller to the Purchaser, including any agreements not required to be listed on Schedule 2.1(g) pursuant to this sub-paragraph (g), being collectively referred to as the "Assigned Contracts").

(h) all hardware, computer terminals, source codes, programs, firmware and software and other equipment and rights related thereto (the "Computer System") used in and applicable exclusively to the business and operations of the Facilities; and with respect to any part of the Computer System that is used in the business and operations of the Facilities and is also used in or applicable to other business of the Seller, the Purchaser shall be granted the non-exclusive, irrevocable, royalty-free licenses and sub-licenses to use software, source codes and programs described in Schedule 2.1(h) provided that subject to section 7.18(b) hereof the Seller shall be under no obligation to assign, license or sub-license to the Purchaser or Acquisition Sub such of the Computer System as is presently used by the Seller pursuant to license or software agreements and which licenses and agreements prohibit the granting of licenses or sub-licenses to third parties and other forms of assignment of the Seller's interest under such licenses and agreements.

(i) the sales literature, promotional literature and other selling material associated primarily with, used or employed by the Seller primarily in connection with the business and operations of the Facilities;

(j) the records, files, invoices, customer lists, supplier lists, blueprints, specifications, designs, drawings, accounting records and books, business records and plans, operating data and other data associated primarily with, used or employed by the Seller primarily in the business and operation of the Facilities;

(k) the notes and accounts receivable associated with the Facilities, subject to repurchase by the Seller as described in Section 3.5 hereto;

(l) the licenses, permits and approvals associated with, used or employed primarily in the business and operations of the Facilities all of which (other than such licenses, permits and approvals which are not material to the business and operations of any of the Facilities) shall be described in Schedule 2.1(l), with such additions thereto and deletions therefrom as may arise following the date of such Schedule 2.1(l) in the ordinary course of business and in accordance with Section 7.1 before the Closing Date;

(m) all assets relating primarily to the distribution or marketing of the products produced at the Facilities; and

(n) all other assets and rights of every kind and nature, real or personal, tangible or intangible, including warranty rights and performance guaranties to the extent assignable with respect to any of the Assets, owned or leased by the Seller and used or held for use primarily in connection with conduct of the business of the Facilities.

The Assets, excluding the Excluded Assets, shall be called the "Purchased Assets".

2.2 Excluded Assets. Notwithstanding the foregoing, the Assets to be sold to the Purchaser or Acquisition Sub (as the case may be) shall not include the following (the "Excluded Assets"):

(a) cash and cash equivalents (other than petty cash of each of the Facilities);

(b) any reserves for bad or doubtful accounts on the books and records of the Seller with respect to the accounts or notes receivable to be transferred pursuant to this Agreement;

(c) any interests of the Seller in any timberlands or standing timber;

(d) any timber-cutting agreements to which Seller is party other than the Ontanagon Mill Timber Contracts;

(e) the Roanoke Rapids Mill and the Walden Facility;

(f) all property, plant, machinery and equipment, vehicles, spare parts, inventories, goodwill and other assets relating primarily to or arising out of the business and operations of the Roanoke Rapids Mill and the Walden Facility that would be, were the Roanoke Rapids Mill or the Walden Facility a Facility, a Purchased Asset;

(g) that part of the Real Property or Real Property Leases that is or was primarily utilized in the business and operations of the Facility at Pensacola, Florida (the "Pensacola Facility").

(h) the trade names "Champion", "St. Regis" and "Hoerner Waldorf" and any logos containing such names.

2.3 Assumption of Liabilities. (a) Except as otherwise specifically provided herein, as of the Closing Date the Purchaser or (in the event that the notice referred to in Section 2.4 is given) the Acquisition Sub shall assume only the following liabilities of the Seller to the extent that the same are unpaid, undelivered or unperformed on the Closing Date:

(i) the liabilities disclosed on the balance sheet forming a part of the Final Closing Financial Statements with respect to the following items: Accounts Payable and Accrued Liabilities;

(ii) the Seller's obligations arising from and after the Closing Date under the Assigned Contracts, Assigned Personal Property Leases and the Real Property Leases provided that the Purchaser does not assume any obligation to deliver products with respect to which payments were made prior to the Closing Date unless the Seller shall remit the amount of such payments to the Purchaser; and

(iii) the liabilities disclosed on the balance sheet forming part of the Facilities Financial Statements with respect to the following items: Short-Term Principle Due, Capitalized Leases; Long-Term Lease; Miscellaneous Notes; Long-Term Principle Due, and Capitalized Leases;

(iv) the Seller's obligations arising from and after the Closing Date under any permits or licenses listed in Schedule 2.1(l) and assigned to the Purchaser.

The items referred to in items (i) through (iv) above shall be called the "Assumed Liabilities".

(b) Except as otherwise expressly provided in this Agreement, the Purchaser does not assume, agree to perform or discharge, indemnify the Seller against or otherwise have any responsibility for any other liabilities or obligations of the Seller, fixed or contingent, and whether arising prior to, on or after the Closing Date. Without limiting the generality of the foregoing in particular the Purchaser does not assume any liability (other than those specifically

referred to in this Agreement), associated with the Purchased Assets or the business of the Facilities incurred or arising out of events, any act done or omitted, or alleged to have been done or omitted, or any state of facts existing prior to the Closing Date. All such liabilities or obligations relating to the Assets or the business of the Facilities not specifically assumed by the Purchaser shall be called the "Excluded Liabilities".

2.4 Acquisition Sub. In the event that the Purchaser notifies the Seller in writing of its election to cause Acquisition Sub to purchase the Purchased Assets in lieu of the Purchaser, Seller shall sell the Purchased Assets to Acquisition Sub and Acquisition Sub shall assume the Assumed Liabilities on the terms and conditions contained herein and Acquisition Sub shall otherwise acquire all the Purchaser's right, title and interest hereunder provided that the Purchaser shall remain fully liable to Seller and its Affiliates hereunder as if such election were not made by the Purchaser.

2.5 Ontanagon Mill Timber Contracts. Notwithstanding any other provision of this Agreement, the Purchaser or the Acquisition Sub's obligation to purchase the Purchased Assets shall be limited as follows: the Purchaser shall have at its option the right to require the Seller to retain any Ontanagon Mill Timber Contract to the extent that the aggregate of liabilities of the Seller under all such contracts assumed by the Purchaser hereunder exceed $100,000.

2.6 Pensacola Facility. The Seller shall pay and shall indemnify and hold the Purchaser harmless from all costs and expenses relating to or associated with the closing of the Pensacola Facility, including, without limitation the costs and expenses of dismantling, packing and, except as otherwise provided in the proviso to this Section, transporting any inventory, plant, equipment, machinery or other property located at the Pensacola Facility that is a Purchased Asset to a location within the United States nominated by Purchaser; provided, that the Purchaser shall pay for such transportation costs and expenses only to the extent that such transportation costs and expenses exceed the transportation costs and expenses that the Seller would have incurred were such property transported from the Pensacola Facility to Cordell, Georgia using the same means of transport.

ARTICLE III

Purchase Price

3.1 Consideration. (a) In full consideration of the sale, transfer, assignment, conveyance and delivery of the Purchased Assets, and subject to the terms and conditions of this Agreement, the Purchaser shall (i) assume the Assumed Liabilities; (ii) subject to Section 3.1(b) hereof issue to Seller upon the Closing Date such number of Common Shares as is determined by dividing $50,000,000 by the Average Closing Market Price per Common Share provided that such number of Common Shares shall not exceed 1,996,008 and shall not fall below 1,633,453 (the Common Shares to be so issued to the Seller being referred to as the "Consideration Shares"); (iii) issue to the Seller upon the Closing Date warrants to purchase 300,000 Common Shares, such warrants being for a term of 6 1/2 years from the Closing Date and entitling the holder thereof to purchase such Common Shares at an exercise price of $32.50 per Common Share and otherwise subject to the terms and conditions of the Warrant Agreement (the "Warrants") and the parties hereto acknowledge that an amount of $2,750,000 has been deducted from the Cash Closing Amount to reflect the value of the Warrants; and (iv) make payment by wire transfer to such bank account as shall be specified by the Seller in immediately available funds on the Closing Date of an amount equal to $404,050,000 (the "Cash Closing Amount") subject to adjustment and reconciliation as provided in Sections 3.2 and 3.3 hereof.

(b) Fractional shares shall not be issued as part of the Consideration Shares but in lieu thereof the Cash Closing Amount shall be increased by an amount equal to the fraction which the Seller would otherwise be entitled to multiplied by the Average Closing Market Price. Further, in the event that Purchaser shall after the date hereof and prior to the Closing Date declare any dividend payable in Common Shares or shall split or combine the outstanding Common Shares, proportionate adjustments will be made in the number of Common Shares to be issued as Consideration Shares pursuant to the provisions of Section 3.1(a) hereof.

3.2 Adjustments to Cash Closing Amount. (a) The Cash Closing Amount shall be adjusted by the difference, if any, between $482 million and the Net Asset Value, such difference resulting in (A) an upward adjustment to the Cash Closing Amount in the event that Net Asset Value is greater than $482 million and (B) a downward adjustment to the Cash Closing Amount in the event that Net Asset Value is less than

$482 million. In addition, the Cash Closing Amount shall be further adjusted downwards by an amount being the total, as of the Closing Date, of the principal amount outstanding of, and any accrued and unpaid interest on any IRB with respect to which refunding financing has been obtained by the Purchaser as of the Closing Date in the manner provided in Section 7.18 hereof and with respect to which the Seller shall no longer remain liable after the Closing Date in any manner (whether contingently or otherwise).

(b) Notwithstanding any other provision of this Agreement, the Purchaser's or the Acquisition Sub's obligation to purchase the Purchased Assets shall be limited as follows: the Purchaser shall have at its option the right to require the Seller to retain sufficient accounts and notes receivable so that the total Cash Closing Amount as adjusted pursuant to the terms of Section 3.2(a) and 3.3(b) shall not exceed $434,050,000.

(c) The term "Net Asset Value" shall mean the Seller's book value of the Purchased Assets less the Seller's book value of the Assumed Liabilities, as reflected in the Final Closing Financial Statements.

3.3 Reconciliation of Cash Closing Amount. (a) Not less than five business days prior to the Closing Date, the Seller shall deliver to the Purchaser a good faith written estimate, signed by an executive officer, of the Net Asset Value as of the Closing Date. Such estimate shall be accompanied by schedules setting forth in reasonable detail the inventory, accounts payable and accounts receivable included in such estimate. If on the Closing Date the Closing Financial Statements have not been delivered to the Purchaser, the foregoing estimate shall be the basis for a tentative determination of any adjustment to the Cash Closing Amount pursuant to Section 3.2(a) hereof, subject to final reconciliation as provided below.

(b) If the Seller's estimate referred to in the foregoing paragraph shall have been used to make a tentative determination of the Cash Closing Amount or if the Closing Financial Statements shall have been used to determine the Cash Closing Amount, but such financial statements are later revised pursuant to Section 7.13(b), then upon such Closing Financial Statements becoming final as provided in Section 7.13(b), the Cash Closing Amount will be adjusted either downward or upward (subject to Section 3.2(b) hereof) accordingly to reflect the difference between Net Asset Value used to determine the adjustment made to the Cash Closing Amount

in the calculation of the amount actually paid to the Seller on the Closing Date and the Net Asset Value as stated in the Final Closing Financial Statements (the "Reconciliation Difference"). The Reconciliation Difference, together with interest thereon for the period from the Closing Date through the date of payment thereon at a rate per annum equal to the Prime Rate, shall be paid by the relevant party to the other in immediately available funds within two business days of the Closing Financial Statements becoming final as provided in Section 7.13(b).

3.4 Inventory Amount. (a) Notwithstanding any provision contained herein requiring the Closing Financial Statements to be prepared in a manner consistent with the Facilities Financial Statements for the purposes of calculating Net Asset Value, Inventories shall be stated at cost (based on costs, approximating average costs) or market, whichever is lower, and shall otherwise be calculated (i) after eliminating all profits resulting from the transfer of Inventories from Mills which supply the Corrugated Containers Business to any of the Facilities forming part of the Corrugated Containers Business and between third parties and any such Facilities or Mills as part of any swap transactions; (ii) (to the extent consistent with the other provisions of this Section 3.4) in accordance with the accounting principles, practices and methods used in the Facilities Financial Statements and the criteria for inventory measurement set forth in Schedule 3.4. The quantities of Inventories on the Closing Date shall be determined based upon a count made by the Purchaser and the Seller calculated to the Closing Date in accordance with the criteria of Schedule 3.4. If the Purchaser and the Seller are unable to agree upon the exact quantity of any Inventory item at the Closing, the dispute will not postpone the Closing and those items of Inventory for which no dispute exists shall be included in calculating the Inventory Amount.

(b) In the event of a dispute between the parties with respect to the quantity or quality of the Inventory as set forth in Section 3.4(a), the parties shall resolve such dispute in accordance with the provisions of Section 7.13 hereof and the resolution of such dispute shall, be reflected in the Final Closing Financial Statements.

3.5 Accounts and Notes Receivable. (a) Notwithstanding any provision contained herein requiring the Closing Financial Statement to be prepared in a manner consistent with the Facilities Financial Statements, for the purposes of calculating Net Asset Value, the value of the

accounts and notes receivable shall be stated at the value of the outstanding amount of such accounts and notes receivable with no deduction or provision for any reserve for bad or doubtful accounts with respect to such accounts and notes receivable that otherwise appear on the Books and Records of the Seller.

(b) In the event that the Purchaser has not received payment in full for all accounts receivables included in the Purchased Assets within 120 days of the Closing Date, or payment of any instalment of any note receivables included in the Purchased Assets within 120 days of the maturity date of each instalment of such note receivables, the Purchaser may at its option transfer title to such receivables without recourse or representation to the Seller and the Seller will pay to the Purchaser in immediately available funds within two (2) business days of their transfer back to the Seller the full face amount thereof (including without limitation the full amount of such note receivables) less any payments received by the Purchaser in relation thereto as at the date of transfer. The Purchaser shall not have any obligation to make any extraordinary efforts to collect notes receivables or accounts receivable or to commence any litigation in respect thereof. To the extent practicable it is understood that all payments, unless otherwise specifically indicated by the customer, are first applied to the oldest account of each customer purchased by the Purchaser. The Purchaser will, to the extent that the accounting systems of the Facilities and Seller as of the Closing Date and the data-processing and other services to be supplied by the Seller pursuant to the Transition Supply and Services Agreement permit, deliver to the Seller an accounts receivable aged trial balance by customer and a notes receivable trial balance by obligor at least monthly, for a period of 120 days from the Closing Date.

3.6 Accrued Liabilities. Notwithstanding any provision contained herein requiring the Closing Financial Statements to be prepared in a manner consistent with the Facilities Financial Statements, for the purposes of calculating Net Asset Value, the Accrued Liabilities item in the Closing Financial Statements and the Final Closing Financial Statements shall in addition to reflecting any accruals that would otherwise be reflected in the Closing Financial Statements prepared in a manner consistent with the Facilities Financial Statements, reflect an accrual for the following liabilities incurred or accrued in the business of the Facilities as at the Closing Date including but not limited to; (i) accruals for vacation pay and any amounts withheld

for whatever reason by the Seller from employees of the Facilities (except to the extent such withholdings are provided for in Section 7.19 hereof); (ii) rents and other charges payable under the Assigned Contracts, the Intellectual Property, the Real Property Leases and the Assumed Personal Property Leases; (iii) real estate and personal property taxes, sewer rents and charges and other state, county and municipal taxes, charges and assessments affecting the Real Properties or any portion thereof, on the basis of the fiscal year for which the same are levied, imposed or assessed (other than those imposed or assessed as a result of the transactions contemplated by this Agreement); (iv) charges for water, electricity, gas, oil, steam, telephone and all other utilities and (v) accruals for any other current liability incurred or accrued in the business of the Facilities that are expressly assumed by Purchaser hereunder.

ARTICLE IV

Closing

4.1 Closing. (a) The Closing shall take place at the offices of Davis Polk & Wardwell in New York City at 10:00 a.m. on the date being five (5) business days after each of the conditions described in Article XI have been fulfilled, or at such other time and place as the parties hereto may agree (the time and date of the Closing being hereinafter called the "Closing Date") but in no event earlier than January 3, 1986.

(b) At the Closing, the Seller shall deliver to the Purchaser or (in the event that the notice referred to in Section 2.4 hereof is given) the Acquisition Sub, in a form reasonably satisfactory to the Purchaser:

(i) bargain and sale deeds (or the equivalent thereof in use in accordance with local practice), with warranties against grantor's acts, to the Real Property, in proper statutory form for recording, duly acknowledged by the Seller and with all required documentary and transfer tax stamps affixed; and an affidavit of title and such other documents as may be necessary for the transfer of title or required to obtain the policies of title insurance in connection with the purchase of such real property including, without limitation, the original documents referred to in Section 5.3(b) hereof;

(ii) bills of sale and assignment, in a form reasonably satisfactory to the Purchaser;

(iii) appropriate documents satisfactory in form and substance to the Purchaser and its counsel for the assignment (in form suitable for filing or registration) of rights in Intellectual Property, the Assigned Contracts and the Assigned Personal Property Leases, together with the consents and approvals of third parties with respect thereto referred to in Section 11.1(e) hereof which have been obtained by the Seller as at the Closing Date;

(iv) assignment and assumption agreements transferring the Real Property Leases together with all consents and approvals of third parties with respect thereto referred to in Section 11.1(e) hereof which have been obtained by the Seller as at the Closing Date;

(v) original (and, if applicable, executed) copies of all the Assigned Contracts, Assigned Personal Property Leases and the Real Property Leases;

(vi) executed UCC financing statements with respect to the accounts and notes receivable to be assigned pursuant to this Agreement;

(vii) a copy of the Seller's Articles of Incorporation, certified as of a recent date by the Secretary of State of New York;

(viii) certified copies of the resolution or resolutions duly adopted by the Board of Directors of the Seller authorizing the execution, delivery and performance of this Agreement by the Seller;

(ix) a certified copy of the By-Laws of the Seller together with a certificate of the Secretary or an Assistant Secretary of the Seller as to the incumbency and signatures of officers, no amendment of the Articles of Incorporation or By-Laws, and no proceedings for dissolution or liquidation; and

(x) all other previously undelivered agreements, licenses and other documents required to be delivered by the Seller to the Purchaser at or prior to the Closing pursuant to this Agreement.

(c) At the Closing, the Purchaser shall pay to the Seller the Cash Closing Amount in immediately available funds in accordance with Section 3.1 hereof and will deliver, or will cause Acquisition Sub to deliver, to the Seller in a form reasonably satisfactory to the Seller:

(i) a certificate or certificates representing the Consideration Shares and the Warrants registered in the name of the Seller;

(ii) an Assumption Agreement providing for the assumption of the Assumed Liabilities by the Purchaser or the Acquisition Sub in a form reasonably satisfactory to the Seller;

(iii) certified copies of the resolution or resolutions duly adopted by the Board of Directors of the Purchaser authorizing the execution, delivery and performance of this Agreement by the Purchaser;

(iv) a certified copy of the Purchaser's Articles of Incorporation and By-Laws together with a certificate of the Secretary or Assistant Secretary of the Purchaser as to the incumbency and signature of officers, no amendment of the Articles of Incorporation or By-Laws, and no proceeding or dissolutions or liquidation;

(v) all other previously undelivered documents required to be delivered by the Purchaser to the Seller at or prior to the Closing pursuant to this Agreement; and

(d) The Seller and the Purchaser shall share equally the following costs, expenses, charges and taxes: (i) all transfer taxes, conveyance taxes, sales and use taxes, stamp taxes and other taxes incurred or payable in connection with the transactions contemplated hereby, (ii) the cost of obtaining the title insurance obtained by the Purchaser (or on its behalf) with respect to the real property, described in Schedule 2.1(a) and any capitalized leases or Real Property Leases to be assigned pursuant to

this Agreement including, without limitation, any premiums required to be paid in connection therewith, and (iii) the cost of recordation of deeds and other instruments of transfer pursuant to Section 4.1, provided that the Purchaser's share of such costs, expenses, charges and taxes shall not exceed $600,000. Any amount of Purchaser's share in excess of $600,000 shall be the responsibility of the Seller. Such payments shall be made by both parties by or on the Closing Date or in the case of such taxes, fees and charges that may accrue or arise after the Closing Date promptly after such date that the obligation so accrues or arises.

(e) The Seller will prepare and mail such notices to the other party or parties under the Intellectual Property, each of the Real Property Leases, Assigned Personal Property Leases, Assigned Contracts, and other agreements assigned by the Seller and assumed by the Purchaser or the Acquisition Sub as are necessary or desirable or may be reasonably requested by the Purchaser advising such other party or parties that such leases, contracts and other agreements have been assigned and directing such party or parties to send to the Purchaser or the Acquisition Sub all future notices and correspondence relating to such Intellectual Property, agreements, contracts and leases.

ARTICLE V

Representations and Warranties by the Seller

The Seller represents and warrants to the Purchaser as set forth below (and to the extent that such representations and warranties set forth below are expressly qualified by reference to the knowledge of the Seller, then such reference shall be to the knowledge of any officer or director of the Seller, any Person acting in a managerial capacity at any of the Facilities, and any member of the audit or legal staff of the Seller).

5.1 Organization, Existence and Authority of the Seller. The Seller is a corporation duly organized, validly existing and in good standing under the laws of the State of New York, has corporate power to execute, deliver and perform this Agreement and the other documents and agreements contemplated hereby and has corporate power and, except as set forth in Schedule 5.1, all necessary Federal, state and local authorizations to own, lease and operate the Assets and to conduct the business of the Facilities as they are now conducted. The Seller is duly licensed or qualified to do

business and is in good standing in each jurisdiction in which it owns or leases property relating to the Facilities or where the nature of the business of the Facilities requires such qualification. The execution and delivery by the Seller of this Agreement and the other documents and agreements contemplated hereby do not, and the consummation of the transactions herein contemplated by the Seller will not, (at the time of such consummation) violate, or result in any breach of or constitute a default under, or create any Encumbrance on any Purchased Asset pursuant to, any provision of the Articles of Incorporation or By-Laws of the Seller or any indenture, mortgage, deed of trust, agreement, instrument, order, arbitration award, judgment or decree to which the Seller is a party or by which the Seller may be bound or its properties and assets affected. The copies of the Articles of Incorporation and By-Laws of the Seller heretofore delivered to the Purchaser are complete and correct copies of such instruments as presently in effect. The Seller has taken (or will take by the Closing Date) all action required by law, its Articles of Incorporation or By-Laws or otherwise to authorize the execution, delivery and performance of this Agreement other documents and agreements contemplated hereby and the consummation of the transactions contemplated hereby. This Agreement and the other agreements contemplated hereby are valid and binding agreements of the Seller, enforceable in accordance with their respective terms, except as (i) such enforceability may be limited by bankruptcy, insolvency or other limitations on creditors' rights generally and (ii) the availability of equitable remedies may be limited by equitable principles of general applicability.

5.2 Financial Statements. (a) The financial data relating to the Facilities provided to the Purchaser as of June 30, 1985 (the "Facilities Financial Statements") set forth in Schedule 5.2(a) hereto have been extracted from the books and records of the Seller, which books and records are the basis for the preparation of the Seller's financial statements. The Seller's financial statements are prepared in accordance with generally accepted accounting principles, practices and methods, consistently applied, except as otherwise noted therein. The Facilities are an integral part of the Seller and therefore the Facilities Financial Statements do not purport to be complete financial statements, but are the basis for internal management reporting and reporting to the Seller's Board of Directors. The Facilities Financial Statements are accurate in all material respects, and fairly present the information purported to be shown thereon prepared on a basis consistent with the Seller's financial

statements and without limiting the generality of the foregoing the Facilities Financial Statements fairly present the assets and liabilities of the Facilities as of June 30, 1985 and the results of operations of the Facilities for the period ending June 30, 1985. Notwithstanding the foregoing, the Facilities Financial Statements make no provision for any goodwill associated with the business and operations of the Facilities.

(b) The Seller shall deliver to the Purchaser, Schedule 5.2(b) which will set out in reasonable detail and will accurately and fairly reflect the extent to which the Facilities Financial Statements have not been prepared in accordance with generally accepted accounting principles consistently applied by the Seller.

(c) The Closing Financial Statements will fairly present the assets and liabilities of the Facilities to be conveyed in accordance with this Agreement as of the Closing Date and the results of operations of the Facilities for the period ending the Closing Date and such amounts will be determined using accounting principles, practices and methods consistent with those used to prepare the Facilities Financial Statements, except as otherwise expressly provided in this Agreement.

5.3 Property. (a) Schedules 2.1(a) and 2.1(d) describe all the real property (including material improvements) in which interests are to be transferred hereby as a part of the Purchased Assets, which the Seller owns, leases or subleases, has agreed (or has an option) to purchase, sell or lease or sublease, or may be obligated to purchase, sell or lease or sublease, any Encumbrances thereon, specifying, in the case of leases or subleases, the name of the lessor or sublessor, the approximate footage covered thereunder, the lease term and the basic annual rental and other amounts paid or payable with respect thereto. The Real Property and the Leased Real Property includes all real property, and only such real property, as is used or held for use or to be used or held for use primarily in connection with the conduct of the business and operations of the Facilities as heretofore conducted and as presently planned to be conducted by the Seller.

(b) The Seller shall, as promptly as practicable and in any event within thirty days after the date hereof, deliver to the Purchaser true and correct copies of all title opinions, policies of title insurance (whether or not in effect on the date hereof) and other documents in its posses-

sion (or in that of any Affiliate) with respect to title to Real Property, including the most current survey(s), if any thereof. Originals of all the foregoing documents shall be delivered at the Closing.

(c) The Seller has good marketable indefeasible fee simple title to the Purchased Assets consisting of Real Property and good and marketable title to the other Purchased Assets, free and clear of all Encumbrances except the Permitted Encumbrances.

(d) The Purchased Assets include all of the personal property reflected in the Facilities Financial Statements and all personal property acquired after the date of such financial statement other than personal property disposed of in the ordinary course of business.

(e) Except as disclosed in schedules provided pursuant to Section 2.1 hereof all IRBs, Real Property Leases, Assigned Contracts and Assumed Personal Property Leases are in good standing and are valid, binding and enforceable in accordance with their respective terms and there is not under any of such IRBs, leases and agreements any existing material default by the Seller or others or, to the knowledge of the Seller any other existing default by the Seller or others, any event of default or any event which with notice or lapse of time or both would constitute a default.

(f) Except as disclosed in a schedule or schedules to be delivered pursuant to Section 2.1 hereof (i) the plants, buildings, structures and equipment comprising the Purchased Assets are in good operating condition and repair and have been reasonably maintained consistent with standards generally followed in the industry (giving due account to the age and length of use of such plants, structures, buildings and equipment, and ordinary wear and tear which are not such as to affect adversely in a material respect the business and operations of the Purchased Assets excepted), are suitable for their present uses and, in the case of plants buildings and other structures (including without limitation, the roofs thereof) are structurally sound, (ii) the Purchased Assets which are fixed assets are all located on the Real Properties and (iii) the Seller has no knowledge of any defect in any of the Purchased Assets not previously disclosed to the Purchaser which singly or in the aggregate could have a material adverse affect on the operations of any of the Facilities.

(g) Except as disclosed in a schedule or schedules to be delivered pursuant to Section 2.1 hereof, the Seller currently has, and the Purchaser immediately after the Closing will have, access to public roads or valid easements over private streets or private property for such ingress to and egress from the Facilities as is necessary for the conduct of the business of the Facilities.

(h) Except as disclosed in Schedule 5.3(h), (i) there is no violation of any rule of law, regulation or ordinance (including, without limitation, laws, regulations or ordinances relating to zoning, environmental, city planning or similar matters) relating to any of the Purchased Assets other than violations which individually or in the aggregate would not have a material adverse effect on the businesses and operations conducted by the Seller with respect to the Purchased Assets or would not reduce the value (based upon present use) or the use of any such properties, (ii) none of the material structures on the Real Properties or the Leased Real Properties encroaches upon real property of another person, and no structure of any other person substantially encroaches upon any of such properties and (iii) except as permitted by law the Seller has not disposed of or dumped (whether intentionally or not) any waste, toxic or otherwise, (and, to the best knowledge of the Seller, no other person has disposed of or dumped) on the Real Properties or the Leased Real Properties included as part of the Purchased Assets.

(i) The Seller currently has, and the Purchaser or Acquisition Sub immediately after the Closing Date will have, subject to obtaining the consents referred to in Section 11.1(f), the right to purchase fuel, electricity, water, wood fiber, chips and other raw materials pursuant to the Assigned Contracts on terms and conditions no less favorable to the Purchaser than existing terms and conditions and in quantities sufficient to operate the business of the Facilities as presently conducted provided that the parties hereto acknowledge that the Purchaser may not have such rights to so purchase on terms and conditions no less favorable than existing terms and conditions insofar as such rights under Assigned Contracts relate to the business and operations of the Seller other than the Facilities as well as the business and operations of the Facilities.

(j) The Purchased Assets include all assets, rights and properties which are being used primarily in the conduct of the business of the Facilities and the Purchased Assets and the licenses, service and supply agreements

provided for herein include all of the assets and services necessary for the continued conduct of the business of the Facilities as they are now being conducted.

(k) Except as expressly set forth in any schedule or elsewhere in this Agreement, the consummation of the transactions contemplated hereby will effectively convey to the Purchaser all of the Seller's right, title and interest in and to all of the Purchased Assets.

5.4 Customers. Schedule 5.4 sets forth a complete and accurate list of (a) the 10 largest trade customers (by dollar volume) or such greater number of trade customers as account in the aggregate for 50 percent of the total sales revenues of each of the Mills during the year ended December 31, 1983, December 31, 1984 and in 1985 through the date hereof, indicating the existing contractual arrangements, if any, with each such trade customer and (b) the ten largest trade customers (by dollar volume) of the Facilities in aggregate for such period accounted for by each of (i) linerboard, and (ii) corrugating medium. Such Schedule 5.4 will be supplemented with similar information for each of the Facilities as required in sub-paragraph (a) hereof with respect to Mills and similar information as required in sub-paragraph (b) hereof for each of the additional following product lines: (i) corrugated containers, (ii) multiwall bags and sacks, (iii) dunnage bags, (iv) cookie bags, (v) specialty packaging, (vi) packaging machinery and equipment and (vii) other products of the Facilities.

5.5 Intellectual Property. Schedule 5.5 will set forth a complete list and concise description of the following intellectual property used in the business of the Facilities ("Intellectual Property"): all trademarks, service marks, registration thereof and applications for registration therefor and trade names except in each case for those including "Champion", "St. Regis" and "Hoerner Waldorf"; patents; patent applications; inventions; copyright registrations and applications for copyright registration; royalty rights; logos; computer software, computer programs and source codes; know-how and any other similar types of proprietary intellectual property, along with an indication as to whether each such item of Intellectual Property is (i) used solely in and applicable solely to the business of the Facilities or (ii) used in the business of the Facilities and also used in or applicable to other business of the Seller. Schedule 5.5 sets forth any contracts, agreements or understandings pursuant to which the Seller has authorized any person to use any of the Intellectual Property listed above.

Schedule 5.5 also includes any Intellectual Property of the type recited above used in the business of the Facilities but not owned by the Seller and used pursuant to license agreements or otherwise. Except as otherwise indicated in Schedule 5.5, the Seller is the sole and exclusive owner of the Intellectual Property and has the sole and exclusive right, except to the extent indicated therein, to the use thereof.

Except as may be indicated in Schedule 5.5, there are no claims or demands of any Person pertaining to the Intellectual Property listed in Schedule 5.5 or the rights of the Seller thereunder, and no proceedings have been instituted or are pending or, to the knowledge of the Seller, threatened, which challenge the rights of the Seller in respect thereof, and, to the knowledge of the Seller, none of the Intellectual Property listed in Schedule 5.5 infringes on or is being infringed upon by others, and none is subject to any outstanding order, decree, judgment, stipulation, injunction, restriction or agreement restricting the scope of the use by the Seller. Except as disclosed in such schedule, to the best of its knowledge, the Seller is not, in connection with the business of the Facilities, infringing or violating, and during the past five years has not so infringed or violated, and as a result of the transactions contemplated hereby, will not infringe or violate any Intellectual Property rights of others, nor used improperly any confidential information or trade secrets or patentable or unpatentable inventions of any former employer of any employee of the Seller or of any other Person.

5.6 Litigation; Products Liability and Environmental Claims. Except as disclosed in Schedule 5.6:

(a) there are no private or governmental claims, actions, suits, arbitrations, investigations or proceedings against the Seller or any Affiliate by or before any court or governmental or other regulatory or administrative body pending, or, to the knowledge of the Seller, threatened which relate to either (i) the business or operations of any of the Facilities (including, without limitation, in respect of any product safety, liability, warranty, whether express or implied, or similar claims or in respect of any personal injury, occupational safety, health or welfare conditions under any Federal, state or local laws or regulations and in respect of air, water surface or subsurface environmental conditions resulting directly or indirectly from the use, storage or discharge of pollutants in, about or

relating to the Facilities) or (ii) the transactions contemplated by this Agreement. There are no judgments, decrees or orders binding upon the Seller or enjoining the Seller or any director, officer or key employee of the Seller in respect of, any business practice which is material to the business or operations of any of the Facilities or which questions or challenges the validity of this Agreement, the transactions contemplated by this Agreement or any action taken or to be taken by the Seller pursuant to this Agreement;

(b) neither the whole nor any material portion of the Real Property or any other Purchased Asset is subject to any governmental decree or order to be sold or is being condemned, expropriated or otherwise taken by public authority with or without payment or compensation therefor, nor to the best knowledge of the Purchaser has any such condemnation, expropriation or taking been proposed.

5.7 Union Contracts, Labor Relations, Etc. Schedule 5.7 shall be delivered by the Seller setting forth a correct and complete list of all collective bargaining agreements to which the Seller is a party (the "Union Contract") and all employment contracts, written or oral, which are not terminable on thirty (30) days notice or less without penalty with respect to any employees engaged in the business or operations of the Facilities. The Seller is in compliance in all material respects with all applicable domestic (Federal, state and local) laws, rules and regulations respecting employment conditions and practices, has withheld all material amounts required by law or agreement to be withheld from the wages or salaries of its employees and is not liable for any material arrears of wages or any material taxes or penalties for failure to comply with any of the foregoing in connection with the Purchased Assets or the business or operations of the Facilities. Except as shall be set forth on Schedule 5.7, in connection with the Purchased Assets or the business or operations of the Facilities, there are no unfair labor practice or age or sex discrimination charges or complaints or other charges or complaints alleging illegal discriminatory practices pending, or, to the knowledge or information of the Seller, threatened against the Seller before any domestic (Federal, state or local) board, department, commission or agency nor, to the knowledge or information of the Seller, does any basis therefor exist. Except as shall be set forth on Schedule 5.7 there are no existing or, to the knowledge or information of the Seller threatened, labor strikes, disputes, grievances, controversies or other

labor troubles affecting the Seller in connection with the Purchased Assets or the business or operations of the Facilities. Except as shall be set forth on Schedule 5.7 and with exceptions not material either in the aggregate or individually to the business, financial condition or results of operations of the Facilities, there are no pending or, to the knowledge or information of the Seller threatened representation questions respecting the employees of the Seller; or any pending arbitration proceedings arising out of or under the Union Contracts or, to the knowledge or information of the Seller, any such threatened proceeding nor, to the knowledge or information of the Seller, does any basis therefor exist.

5.8 Contracts. Schedule 5.8 will set forth a complete and accurate list of the following outstanding contracts, agreements or understandings, whether written or oral, to which the Seller is a party and which relate to or affect the business of any of the Facilities or by which any of the Purchased Assets thereof may be bound:

(a) all plans, contracts or arrangements, written or oral providing for bonuses, pensions, deferred compensation, retirement payments, profit-sharing, or the like;

(b) all contracts or commitments for capital expenditures or the acquisition of fixed assets providing for payments in excess of $50,000 each;

(c) all permits, arrangements, commitments or agreements with any governmental, administrative or regulatory agency or authority with respect to compliance with environmental protection laws, regulations, orders or requirements;

(d) all contracts relating to the rental or use of real estate, equipment, other personal property or fixtures, each involving payment of fixed or contingent annual rentals or sums in excess of $25,000, to which the Seller is a party, whether as lessor or as lessee, or to which the Seller or any of the Assets may be subject;

(e) all IRBs and all contracts relating in any way to indebtedness of or to Seller by way of lease or installment purchase arrangement, guarantee, undertaking on which others rely in extending credit, or otherwise, and all conditional sales contracts, chattel and pur-

chase money mortgages and other security arrangements with respect to any equipment, other personal property or fixtures;

(f) all contracts limiting the freedom of the Seller or any officer, director, employee or agent of Seller to engage in or to compete in any line of business or with any person or in any area or to use or disclose any information in its possession;

(g) all license agreements, either as licensor or licensee;

(h) all contracts or commitments not made in the ordinary course of the business of any of the Facilities;

(i) all joint venture contracts;

(j) all agreements granting to others the right to manufacture or distribute products of any of the Facilities, including sales agency or sales representation agreements and all agreements with suppliers or customers for discounts or allowances;

(k) all maintenance contracts, contracts or agreements for the purchase of any materials or supplies or services, except individual purchase orders involving less than $50,000 each, having a term of less than 6 months and incurred in the ordinary course of business;

(l) any contract or agreement for the sale of products or furnishing of services, except contracts made in the ordinary course of business having a term of less than 6 months and involving less than $50,000 each;

(m) any contract or agreement giving any party the right to renegotiate or require a reduction in or refund of a price; and

(n) all other contracts, except those which are (i) listed in another schedule to this Agreement, (ii) cancelable on 30 days or less notice without any penalty or other financial obligation or (iii) if not so cancellable, involve annual aggregate payments of $50,000 or less.

Except as shall be disclosed in Schedule 5.8, (i) each such agreement, contract and arrangement (the "Commitment") is now valid, in full force and effect and enforceable in accordance with its terms (except (i) as such enforceability may be limited by bankruptcy, insolvency or other limitations on creditors' rights generally and (ii) the availability of equitable remedies may be limited by equitable principles of general applicability) and the Seller has fulfilled, or taken all action reasonably necessary to enable it to fulfill when due, all of its obligations under the Commitments, (ii) there is not under any such Commitment any existing material default by the Seller or others, or to the knowledge of Seller any other existing default by Seller or others, any event of default or any event which with notice or lapse of time or both would constitute a default, (iii) neither the Seller nor, to the knowledge of the Seller, any other party, is in arrears in respect of the performance or satisfaction of the terms or conditions on its part to be performed or satisfied under any of the Commitments and no waiver or indulgence has been granted by any of the parties thereto, (iv) there are no existing laws, regulations, orders or decrees which materially adversely affect the rights of the Seller under any of the Commitments by reason of the present ownership or operation by the Seller of the Purchased Assets and the Facilities or by reason of the transactions contemplated by this Agreement, (v) each Commitment is assignable by the Seller to the Buyer without the consent of the other parties thereto or, with respect to any of the Commitments which is in writing and may not be so assigned without such consent, the Seller has, or on or prior to the Closing Date will have, obtained such consent to such assignment, and (vi) none of the Commitments contain terms which if complied with have a material adverse affect on the business and operations of the Facilities.

5.9 Compliance with Laws. (a) Except as disclosed in Schedule 5.9 to be delivered by Seller, the Seller is not knowingly, and during the two years ended on the date hereof has not been adjudicated as being, in violation of any applicable Federal, state, local or foreign or other law, regulation or order or any other requirement of any governmental, regulatory or administrative agency or authority or court or other tribunal relating to it (including, but not limited to, any law, regulation, order or requirement relating to securities, properties including the Real Property, business, products, manufacturing processes, advertising, sales or employment practices, terms and conditions of employment, wages and hours, safety, occupational safety, health or welfare conditions relating to premises occupied,

environmental protection, product safety and liability or civil rights), which known or adjudicated violation could have a materially adverse effect on the business of any of the Facilities or on the Purchased Assets. For the purposes of the preceding sentence the term "applicable" shall be deemed to include any law, regulation, order or requirement which has been enacted notwithstanding that by its terms (or pursuant to any waiver, variance or similar acts of any governmental, regulatory or administrative agency or authority or court or other tribunal) compliance therewith is not required until a future date. Except as disclosed in Schedule 5.9 the Seller (i) has not been in the two years ended the date hereof charged with any violations of any Federal or state laws relating to protection of the environment or of any OSHA rules and regulations and (ii) is not now charged with, and, to the knowledge of the Seller, is not now under investigation with respect to, any possible violation of any applicable law, regulation, order or requirement relating to any of the foregoing in connection with the business of any of the Facilities, and the Seller has filed all reports required to be filed with any governmental, regulatory or administrative agency or authority on or before the date hereof if a failure to file such report could result in a materially adverse effect on the business of any of the Facilities or on the Purchased Assets.

(b) Without limiting the foregoing, except as permitted by and in compliance with the act and regulations or state or local law referred to below and except as disclosed in Schedule 5.9 insofar as the Facilities are concerned, neither Seller, nor any Affiliate (1) generates or otherwise owns or possesses, stores, treats, disposes of or transports any "hazardous substances" (as defined in the Comprehensive Environmental Responses, Compensation, and Liability Act of 1980 (Public Law 96-510)) or the regulations promulgated thereunder or any other hazardous substance (as defined in any similar state or local law or the regulations promulgated thereunder) or (2) has at any time generated or otherwise owned or possessed, stored, treated, discharged, disposed of, used or transported any such hazardous substance.

5.10 Certain Interests. To the best knowledge of the Seller, no officer or director of the Seller has any material interest in any property, real or personal, tangible or intangible, including, without limitation, inventions, patents, trademarks or trade names, used in or pertaining to the business and operations of any of the Facilities.

5.11 Employee Benefit Plans and Arrangements. (a) Schedule 5.11(a) to be supplied by the Seller will list each "employee pension benefit plan", as defined in Section 3(2) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), that is a defined benefit "single-employer plan" within the meaning of Sections (3)(35) and 4001(b)(2) of ERISA and which is maintained by the Seller or any Affiliate of Seller for the benefit of any person employed or previously employed by Seller or any of its Affiliates in connection with any of the Facilities, including, without limitation, each such plan maintained pursuant to a collective bargaining agreement to which Seller or any Affiliate of Seller is or has been a party. Such plans are herein collectively referred to as the "Single-Employer Plans". The Seller will furnish to the Purchaser, as soon as practicable after the date hereof, a copy of each Single-Employer Plan, and all amendments thereto, together with the related most recent summary plan description, actuarial valuation report and annual report on Form 5500 (including Schedule B thereto) prepared in connection with such plan. Within 45 days from the date hereof, Seller will provide to the Purchaser complete age, salary, service and related data as of the most recent practicable date for persons covered under such plans who are employed in connection with the Facilities by Seller or any of its Affiliates. Each Single-Employer Plan is qualified under Section 401(a) of the Internal Revenue Code of 1954, as amended (the "Code") and each trust forming a part thereof is exempt from tax under Section 501(a) of the Code. Neither the Purchaser nor any of its Affiliates will incur any liability or obligation in respect of any Single-Employer Plan.

(b) Schedule 5.11(b) to be supplied by Seller will list each "employee pension benefit plan", as defined in Section 3(2) of ERISA, that is a defined benefit "multi-employer plan" within the meaning of Sections 3(35) and 4001(a)(3) of ERISA, and which is contributed to by Seller or any of its Affiliates for the benefit of any person employed or previously employed by Seller or any of its Affiliates in connection with any of the Facilities. Such plans are herein collectively referred to as the "Multiemployer Plans". Seller will furnish to the Purchaser, as soon as practicable after the date hereof, a copy of each Multiemployer Plan, and all amendments thereto, together with the related most recent summary plan description, actuarial valuation report and annual report on Form 5500 (including Schedule B thereto) prepared in connection with each such plan. Within 45 days from the date hereof, Seller will provide to the Purchaser complete age, salary, service and related data as of the most

recent practicable date for persons covered under any such Plan who are employed in connection with the Facilities by Seller or any of its Affiliates. To the best knowledge of Seller and its Affiliates, each Multiemployer Plan is qualified under Section 401(a) of the Code and each trust forming a part thereof is exempt from tax under Section 501(a) of the Code. Seller and its Affiliates have made, in respect of persons employed or previously employed in connection with the Facilities by Seller or any of its Affiliates, all contributions to the Multiemployer Plans required to be made on and as of the Closing Date.

(c) Schedule 5.11(c) to be supplied by Seller will list each "employee pension benefit plan", as defined in Section 3(2) of ERISA, that is a single-employer individual account plan, within the meaning of Sections 3(34) and 4001(b)(2) of ERISA, and which is maintained by Seller or any Affiliate of Seller for the benefit of active employees of Seller or any of its Affiliates in connection with any of the Facilities. Such plans are herein collectively referred to as the "Individual Account Plans". Neither the Purchaser nor any Affiliate of the Purchaser shall have any liability or obligation in respect of any Individual Account Plan.

(d) Schedule 5.11(d) to be supplied by Seller will list each employment contract providing for either annual payments in excess of $100,000 or a term in excess of one year, and each material plan or arrangement providing for insurance coverage (including any self-insured arrangements), workmen's compensation, supplemental unemployment benefits, severance pay, vacation pay (including current employee vacation plans), deferred compensation, bonuses, stock options or other forms of incentive compensation or post-retirement insurance compensation or other benefits which (i) is not a Single-Employer Plan, a Multiemployer Plan or an Individual Account Plan (collectively, the "Employee Plans"), (ii) is entered into, maintained or contributed to, as the case may be, by Seller or any of its Affiliates and (iii) covers any employee of Seller or any of its Affiliates in connection with any Facility. Such contracts (including, without limitation, all collective bargaining agreements), plans and arrangements as are described above, copies or descriptions of all of which Seller will furnish to the Purchaser as soon as practicable after the date hereof, are hereinafter collectively referred to as the "Benefit Arrangements". Each Benefit Arrangement has been maintained in substantial compliance with the requirements prescribed by any and all statutes, orders, rules and regulations which are applicable to such Benefit Arrangement.

(e) Except as set forth in Schedule 5.11(e), there has been no amendment, written interpretation or announcement (whether or not written) relating to, or change in employee participation or coverage under, any Employee Plan or Benefit Arrangement which would increase materially the expense of maintaining such Employee Plan or Benefit Arrangement above the level of the expense incurred in respect of such Employee Plan or Benefit Arrangement for the calendar year ended December 31, 1984 or for the period since December 31, 1984 to the date hereof.

5.12 Governmental Authorizations. Except as set forth in Schedule 5.12 to be delivered by the Seller, to the best of the Seller's knowledge, the Seller has all licenses, permits or other authorizations of governmental, regulatory or administrative agencies or authorities required for the production and sale of the products of each of the Facilities or the conduct of its business, each of which will be in full force and effect on the Closing Date. Schedule 5.12 will also set forth the environmental, business and other material licenses and permits issued to each Facility. A true and complete copy of each item to be listed on Schedule 5.12 has been or will be delivered to the Purchaser prior to the Closing. The Seller agrees to use its best efforts to assist the Purchaser in obtaining any assignments or transfers of, or permissions to use, or replacements for, such licenses, approvals, or permits.

5.13 Powers of Attorney. The Seller has no powers of attorney or comparable delegations of authority outstanding in connection with the business of any of the Facilities which would be binding on the Purchaser.

5.14 Insurance. All physical Purchased Assets material to the business and operations of the Facilities are covered by insurance with responsible companies against casualty and other losses customarily obtained to cover comparable properties and assets by businesses in the region in which such properties are located in amounts and coverage which are reasonable and customary for such comparable properties in light of existing circumstances. The Seller shall deliver Schedule 5.14, setting forth a list of all material insurance policies and fidelity bonds covering the Purchased Assets or the business or employees of the Facilities. Except as will be set forth in Schedule 5.14, (i) all such policies are in full force and effect for all periods up to and including the Closing Date, are underwritten by financially sound and reputable insurers and are

sufficient for all applicable requirements of law, (ii) there are no material disputes with underwriters, and (iii) all premiums due and payable have been paid. Except as will be set forth in Schedule 5.14 and with exceptions not otherwise material either in the aggregate or individually to the business, financial condition or results of operations of any of the Facilities, there are no pending or, to the knowledge of the Seller, threatened terminations or premium increases with respect to any of such policies and bonds, the Facilities are in compliance with all conditions contained therein and there are no outstanding requirements or recommendations by any insurance company, or government agency or board of fire underwriters requiring or recommending any repairs or work to be done on or with respect to any of the Facilities or any of the Purchased Assets or requiring or recommending that any equipment be installed thereon. All such policies and bonds are, and will be at least until 12:01 a.m. on the day following the Closing Date, in full force and effect.

5.15 Books and Records. All the Books and Records of each of the Facilities have been maintained in accordance with good business practice and are in all material respects in accordance with all laws, regulations and other requirements applicable to the business and operations of the Facilities.

5.16 Changes Since June 30, 1985. Since June 30, 1985 there has not been:

(a) any material adverse change in the business, financial condition or results of operations of any of the Facilities;

(b) any change in any of the assets, licenses, permits or franchises used in connection with any of the Facilities which change is material and adverse to the business, financial condition or results of operations of any Facility or any change in the nature of the business, or manner of conducting the business, of any of the Facilities which has had, or may reasonably be expected to have, a material adverse effect on the business, financial condition, results of operations, assets, licenses or permits of such Facility;

(c) any damage, destruction or other casualty loss (whether or not covered by insurance) materially and adversely affecting the Purchased Assets or the

business, financial condition or results of operations of any of the Facilities;

(d) any increase in or any commitment by the Seller to increase the rate of compensation or the benefits payable or to become payable by the Seller to any employee of any of the Facilities over the levels in effect at June 30, 1985, other than (i) normal merit increases for salaried employees of any of the Facilities and (ii) increases required by union contracts or by applicable law;

(e) any amendment or termination by the Seller or any other party of any claim, contract, license, lease, commitment, sales order or purchase order applicable to any of the Facilities which amendment or termination is material to the business, or operations of such Facility;

(f) any material disposition by the Seller of any asset constituting part of any of the Facilities or any other transaction entered into by the Seller other than in the ordinary course of business; or

(g) any event or occurrence which would, if it occurred after the date hereof, be prohibited under Sections 7.1 or 7.2 hereof.

5.17 Inventories. The Inventories, other than items of scrap inventory or other items of below-standard quality (the "Scrap Inventory") will, on the Closing Date, be of a good and standard quality and (i) in the case of raw materials and work in progress usable in the normal manufacturing process of the finished products being currently manufactured by the particular Facility on the Closing Date or (ii) in the case of finished goods and work in progress (A) fit for the purpose for which they were made and saleable, within periods of time consistent with the Seller's past experience in the ordinary course of business, and (B) in the case of goods covered by a customer purchase order, of specifications and in quantities corresponding to the customer orders to which they relate. All of the Scrap Inventory have been written down to fair market value in accordance with generally accepted accounting practices consistently applied by the Seller and are so reflected in the Facilities Financial Statements. The Inventories are not excessive in kind or amount in light of the inventory levels maintained by the Seller in connection with the business of the Facilities in recent prior periods having regard to

seasonal variations and since the date of the Facilities Financial Statements Inventories have been purchased for the Facilities in the ordinary course of business and consistent with the anticipated seasonal requirements of the Facilities, and the volumes of purchases and orders therefor have not been and will not be reduced or increased in anticipation of the transactions contemplated by this Agreement.

5.18 Suppliers. Schedule 5.18 to be supplied by the Seller sets forth with respect to the years ended December 31, 1983 and 1984 and in 1985 through the date hereof a complete and accurate list of (a) the names of the ten largest trade suppliers of all products and services to each of the Mills (indicating the existing contractual arrangements with each such firm); (b) the ten largest trade suppliers to the Facilities in aggregate of (i) linerboard, (ii) corrugating medium and (iii) kraft paper (indicating the existing contractual arrangements with each such firm); and (c) the names of any sole-source suppliers of significant materials or services to each of the Facilities with respect to which practical alternative sources of supply are not available on comparable terms and conditions, indicating the contractual arrangements for continued supply from each such firm. Such Schedule 5.18 shall be supplemented with the following information for the years ended December 31, 1983 and 1984, and in 1985 through the date hereof, (a) the names of the ten largest trade suppliers of all products and services to each of the Converting Facilities (indicating the existing contractual arrangements with each such firm) (b) the ten largest trade suppliers to the Facilities in aggregate of (i) corrugated containers and container-board (ii) timber, shavings, chips, slabs, mill ends and wastepaper, and, (iii) other products and services, indicating the existing contractual arrangements with each such firm.

5.19 Capital Expenditures. Since June 30, 1985 there have been and will be no capital expenditures by the Seller in respect of the Facilities other than those set out in Schedule 5.19 hereof or contemplated by Section 7.1 hereof.

5.20 Product Safety. The Seller has not, at any time during the past 3 years, been required to file any notification or other report with or provide information with respect to the Facilities to the United States Consumer Product Safety Commission concerning actual or potential hazards with respect to any product manufactured or sold by

the Facilities and has no knowledge of any facts or circumstances that may require such filings or the provision of such information.

5.21 Industrial Revenue Bonds. (a) Schedule 5.21 annexed hereto accurately reflects as at the date hereof the principal amount, interest rate, term, maturity schedule, any accrued and unpaid interest, and the name of other parties with respect to each IRB.

(b) The Seller has duly complied with all provisions of all instruments and agreements relating to indebtedness, interest on which was intended to be exempt from Federal income taxation and the proceeds of which have been or are to be used to (i) acquire assets which are, or are to be, owned or leased by the Seller and which are part of the Facilities or (ii) take certain environmental improvement actions including, without limitation, the IRBs, or under which any such IRBs have been or are to be issued. The Seller has taken no action which would or might result in interest on any IRBs becoming taxable to the recipients thereof under the Code nor knows of any existing or past circumstance which could cause any such interest to become so taxable. Neither any IRBs nor any such agreement or instrument will be, or become capable of being, required to be purchased by the Seller or any Affiliate, or be accelerated (or become capable of being accelerated) or otherwise be terminated or impaired (or become capable of being terminated) as a result of the transactions contemplated hereby.

5.22 Approvals, Consents, Etc. Except for filings under the HSR Act and the consents of third parties required with respect to the Assigned Contracts, Assumed Personal Property Leases, Real Property Leases and Intellectual Property which are to be assigned pursuant to this Agreement and which are not assignable without such consent, no consent, authorization, or waiver of or by any third party in respect of the Seller, or filing with any governmental agency or any other person not a party to this Agreement, is required in connection with the execution or performance of this Agreement by the Seller or the consummation by the Seller of the transactions contemplated hereby.

5.23 Material Contracts There are no Intellectual Property, Real Property Leases, Assigned Contracts or Assumed Personal Property Leases which are material to the business and operations of any of the Facilities other than those described and asterisked in Schedule 5.5 and Schedules 2.1(c), 2.1(g) and 2.1(e) hereof respectively.

5.24 Inter-Facility Arrangements. Schedule 5.24 describes the terms and conditions of any arrangements, (whether written or not), that are material to the business and operations of any Facility between any of the Facilities or between a Facility and any other part of the Seller relating to the provision of any services by the Seller or any Facility to any other Facility. Such Schedule 5.24 shall set out the nature of the service provided, the division of the Seller or the Facility providing the service, fees paid for such service and the term, if any of such arrangement.

5.25 Representations and Warranties. The representations and warranties of the Seller contained herein, and the information contained and to be contained in the Schedules hereto and the Ancillary Documents taken as a whole, do not and will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements herein or therein not misleading in light of the circumstances in which made. The information contained in the Ancillary Documents and the Schedules fairly presents and will fairly present the information purported to be shown therein and to the best knowledge of the Seller is and will be accurate in all material respects.

ARTICLE VI

Representations and Warranties by the Purchaser

Purchaser represents and warrants to the Seller as set forth below (and to the extent that such representations and warranties set forth below are expressly qualified by reference to the knowledge of the Purchaser, then such reference shall be to the knowledge of any officer or director of the Purchaser, and any member of the audit or legal staff of the Purchaser).

6.1 Organization, Existence, Authority and Non-Contravention. The Purchaser is a corporation duly organized, validly existing and in good standing under the laws of the State of Illinois, has corporate power to execute, deliver and perform this Agreement and the other documents and agreements contemplated hereby and has corporate power and, except as set forth in Schedule 6.1 to be delivered by the Purchaser, all necessary Federal, state and local authorizations to own, lease and operate its property and assets and to conduct its business as it is now con-

ducted. The Purchaser is duly licensed or qualified to do business and is in good standing in each jurisdiction in which it owns or leases property or where the nature of its business requires such qualification. The execution and delivery by the Purchaser of this Agreement and the other documents and agreements contemplated hereby do not, and the consummation of the transactions herein contemplated will not (at the time of such consummation), violate, or result in any breach of or constitute a default under, or create any encumbrance on the property or assets of the Purchaser pursuant to, any provision of the Articles of Incorporation or By-Laws of the Purchaser or any indenture, mortgage, deed of trust, agreement, instrument, order, arbitration award, judgment or decree to which the Purchaser is a party or by which the Purchaser may be bound or its properties and assets affected. The copies of the Articles of Incorporation and By-Laws of the Purchaser heretofore delivered to the Seller are complete and correct copies of such instruments as presently in effect. The Purchaser has taken (or will take by the Closing Date) all action required by law, its Articles of Incorporation or By-Laws or otherwise to authorize the execution, delivery and performance of this Agreement, other documents and agreements contemplated hereby and the consummation of the transactions contemplated hereby. This Agreement and the other agreements contemplated hereby are valid and binding agreements of the Purchaser, enforceable in accordance with their respective terms, except (i) as such enforceability may be limited by bankruptcy, insolvency or other limitations on creditors' rights generally and (ii) the availability of equitable remedies may be limited by equitable principles of general applicability.

6.2 Consideration Shares; Warrants. (a) The Consideration Shares have been duly authorized and when issued and delivered to the Seller as provided in this Agreement, will have been validly issued and will be fully paid and non-assessable and will convey good title to the Consideration Shares to the Seller free and clear of all liens, claims, charges, security interests, options, proxies and encumbrances of any nature whatsoever other than those contained in the Standstill Agreement.

(b) The Warrants have been duly authorized, and, when the Warrant certificates referred to in Section 4.1(c) hereof has been duly executed and countersigned in accordance with the Warrant Agreement and issued and delivered pursuant to this Agreement, the Warrants will be legal, valid and binding obligations of the Purchaser in accordance with their terms. The Purchaser has reserved for issuance upon exercise

of the Warrants the aggregate number of Common Shares issuable upon exercise thereof, and when issued upon exercise of the Warrant in accordance with the terms of the Warrant certificates and the Warrant Agreement, such Common Shares will be validly issued, fully paid and nonassessable.

6.3 Purchaser's Financials. (a) The Purchaser heretofore has delivered to the Seller true and complete copies of (i) its Annual Reports to Shareholders for the years ended December 31, 1983 and 1984, (ii) its Annual Reports on form 10-K for the years ended December 1983 and 1984 (the "1983 Form 10K" and "1984 Form 10K" respectively) and (iii) its quarterly report for the fiscal quarter ended June 30, 1985 as filed with the Commission on Form 10Q. As of their respective dates, such reports did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein to make the statements therein, in light of the circumstance under which they were made, not misleading.

(b) The consolidated balance sheet of the Purchaser and its consolidated subsidiaries as of December 31, 1984 and the related consolidated statements of earnings and changes in financial position for such fiscal year then ended, reported on by Price Waterhouse and set forth in the Purchaser's 1984 Form 10-K, fairly present, in conformity with generally accepted accounting principles, the consolidated financial position of the Purchaser and its consolidated subsidiaries as of such date and the consolidated results of operations and changes in financial position for such fiscal year.

(c) The unaudited consolidated balance sheet of the Purchaser as at June 30, 1985 (the "June Balance Sheet") and the related unaudited consolidated statements of earnings and changes in financial position for the six months then ended, set forth in the Purchaser's quarterly report for the fiscal quarter ended June 30, 1985 as filed with the Securities and Exchange Commission on Form 10-Q, fairly present, in conformity with generally accepted accounting principles applied on a basis consistent with the financial statements referred to in paragraph (b) of this Section, the consolidated financial position of the Purchaser and its consolidated results of operations and changes in financial position for such six month period (subject to normal year-end adjustments).

(d) Since June 30, 1985 there has been no material adverse change in the business, assets, financial condition or results of operations of Purchaser and its consolidated subsidiaries taken as a whole.

(e) Except as set forth in Schedule 6.3 to be delivered by the Purchaser hereto and except as reflected in the June Balance Sheet, there were as at the date of the June Balance Sheet no liabilities of the Purchaser (absolute, accrued, contingent or otherwise) which are material to the business, properties, financial condition or results of operation of the Purchaser.

6.4 Authorized Capital. The authorized capital stock of the Purchaser consists of 60,000,000 shares of Common Shares, and 10,000,000 shares of Preferred Shares, no par value ("Preferred Shares"). As at the date hereof, (i) 13,862,750 shares of Common Shares were validly issued and outstanding, fully paid and non-assessable (ii) 80,000 shares of Series B Preferred Shares were outstanding; (iii) 698,960 shares of Common Shares were reserved for issuance upon exercise of stock options which have been granted or may be granted under employee stock option plans, or pursuant to any employee stock purchase bonus or incentive plans; (iv) 320,000 shares of Common Shares were reserved for issuance upon conversion of the issued Series B Preferred Shares; and (v) the Purchaser did not hold any shares of Common Shares or Preferred Shares in its treasury.

Except as provided in the immediately preceding sentence or as provided herein, there are not any options, warrants, calls, rights, commitments or agreements of any character (including convertible securities) to which the Purchaser or any subsidiary of the Purchaser is a party or by which it is bound obligating the Purchaser or any subsidiary of the Purchaser to issue, deliver or sell, or cause to be issued, delivered or sold, additional shares of Common Shares or Preferred Shares or obligating the Purchaser or any subsidiary of the Purchaser to grant, extend or enter into any such option, warrant, call, right, commitment or agreement.

6.5 Compliance with Laws. (a) Except as disclosed in Schedule 6.5 to be delivered by the Purchaser, and with exceptions not otherwise material either in the aggregate or individually to the business or financial condition of the Purchaser, the Purchaser is not knowingly, and during the two years ended on the date hereof has not been adjudicated as being, in violation of any applicable Federal, state, local or foreign or other law, regulation or order or

any other requirement of any governmental, regulatory or administrative agency or authority or court or other tribunal relating to it (including, but not limited to, any law, regulation, order or requirement relating to securities, properties, business, products, manufacturing processes, advertising, sales or employment practices, terms and conditions of employment, wages and hours, safety, occupational safety, health or welfare conditions relating to premises occupied, environmental protection, product safety and liability or civil rights), which known or adjudicated violation could have a materially adverse effect on the business property or assets of the Purchaser. For the purposes of the preceding sentence the term "applicable" shall be deemed to include any law, regulation, order or requirement which has been enacted notwithstanding that by its terms (or pursuant to any waiver, variance or similar acts of any governmental, regulatory or administrative agency or authority of court or other tribunal) compliance therewith is not required until a future date. Except as disclosed in Schedule 6.5, and with exceptions not otherwise material either in the aggregate or individually to the business or financial condition of the Purchaser, the Purchaser (i) has not been in the two years ended the date hereof charged with any violations of any Federal or state laws relating to protection of the environment or of any OSHA rules and regulations and (ii) is not now charged with, and, to the knowledge of the Purchaser, is not now under investigation with respect to, any possible violation of any applicable law, regulation, order or requirement relating to any of the foregoing in connection with the business of the Purchaser, and the Purchaser has filed all reports required to be filed with any governmental, regulatory or administrative agency or authority on or before the date hereof if a failure to file such report could result in a materially adverse effect on the property, assets or business of the Purchaser.

(b) Without limiting the foregoing, except as permitted by and in compliance with the act and regulations or state or local law referred to below and except as disclosed in Schedule 6.5, insofar as the business of the Purchaser is concerned, neither the Purchaser, nor any Affiliate (1) generates or otherwise owns or possesses, stores, treats, disposes of or transports any "hazardous substances" (as defined in the Comprehensive Environmental Responses, Compensation, and Liability Act of 1980 (Public Law 96-510)) or the regulations promulgated thereunder or any other hazardous substance (as defined in any similar state or local law or the regulations promulgated thereunder) or (2) has at any time generated or otherwise owned or possessed, stored,

treated, discharged, disposed of, used or transported any such hazardous substance.

6.6 Litigation; Products Liability and Environmental Claims. Except as disclosed in Schedule 6.6 to be delivered by the Purchaser and with exceptions not otherwise material either in the aggregate or individually to the business or financial conditions of the Purchaser, there are no private or governmental claims, actions, suits, arbitrations, investigations or proceedings against the Purchaser or any Affiliate by or before any court or governmental or other regulatory or administrative body pending, or, to the knowledge of the Purchaser, threatened and which relate to (i) the business or operations of the Purchaser (including, without limitation in respect of any product safety, liability, warranty, whether express or implied, or similar claims or in respect of any personal injury, occupational safety, health or welfare conditions under any Federal, state or local laws or regulations and in respect of air, water, surface or subsurface environmental conditions resulting directly or indirectly from the use, storage or discharge of pollutants in, about or relating to the property of the Purchaser) or (ii) the transactions contemplated by this Agreement. There are no judgments, decrees or orders binding upon the Purchaser or enjoining the Purchaser or any director, officer or key employee of the Purchaser in respect of, any business practice which is material to the business or operations of the Purchaser or which questions or challenges the validity of this Agreement, the transactions contemplated by this Agreement or any action taken or to be taken by the Purchaser pursuant to this Agreement.

6.7 Proxy Statement Information. (a) As of the date of mailing, the Proxy Statement will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading except that the foregoing representation shall not apply with respect to the accuracy of facts, statements and information excerpted or derived from reports or other statements filed by the Seller with the Commission or other governmental agency and any information, facts and statements otherwise provided by or on behalf of the Seller to the Purchaser, which accuracy shall be the sole responsibility of the Seller.

(b) The financial statements of the Purchaser and its consolidated subsidiaries included in the Proxy Statement will be prepared in accordance with generally accepted

accounting principles applied consistently and will fairly present the financial position, results of operations and changes in financial position of the Purchaser its consolidated subsidiaries for the periods indicated except that the foregoing representation shall not apply to the extent that (i) it is otherwise stated in such financial statements or related auditors report (ii) such financial statements may be condensed, pro forma or summary statements (iii) such statements are interim unaudited statements with respect to which normal year-end adjustments are made and (iv) such statements have been excerpted or derived from reports or other statements filed by the Seller with the Commission (or other governmental agency) or from financial statements and data otherwise provided by or on behalf of the Seller to the Purchaser.

6.8 Approvals, Consents, Etc. Except for filings under the HSR Act, and the shareholder approval referred to in Section 11.1(e) hereof, no consent, authorization, waiver by or filing with any governmental agency or any other person not a party to this Agreement is required in connection with the execution or performance of this Agreement by the Purchaser or the consummation by the Purchaser or the Acquisition Sub of the transactions contemplated hereby.

6.9 Representations and Warranties. The representations and warranties of the Purchaser contained herein, the information contained and to be contained in the Schedules hereto or in any writing delivered by the Seller in connection with the transactions contemplated hereby which are described in Schedule 6.9 hereof, do not contain and will not contain at the time delivered, any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements herein or therein not misleading in light of the circumstances in which made. The information contained in the schedules and writing described in Schedule 6.9 fairly presents and will present the information purported to be shown therein and to the best knowledge of the Purchaser is and will be accurate in all material respects.

ARTICLE VII

Covenants of the Seller

The Seller covenants and agrees with the Purchaser as set forth below:

7.1 Conduct of Business. (a) Except as may be required or permitted hereby, or as otherwise agreed to in writing by the Purchaser, the Seller will during the period from the date hereof until the Closing Date conduct the business of each of the Facilities in the ordinary course (including, without limitation, using its best efforts to preserve beneficial relationships between each of the Facilities and their employees, lessors, suppliers, customers, the communities in which they are located and each relevant government and regulatory authority) that, will maintain the Purchased Assets in good working order and condition and will continue normal marketing, advertising and promotional expenditures. Without limiting the generality of the foregoing, and except as otherwise expressly provided in this Agreement, prior to the Closing, without the prior written consent of the Purchaser, the Seller will not, with respect to the Facilities or the Purchased Assets:

(i) (A) create, incur or assume any long-term debt (including obligations in respect of capital leases) or any debt for money borrowed (whether long- or short-term); (B) assume, guarantee, endorse or otherwise become liable or responsible (whether directly, contingently or otherwise) for the obligation of any other Person; or (C) make any loans, advances or capital contributions to, or investments in, any other Person;

(ii) (A) increase in any manner the compensation of any of their officers or other employees, except normal increases in accordance with past practices or as required by any collective bargaining agreement; (B) pay or agree to pay any pension, retirement allowance, severance or other employee benefit not required or permitted by any existing plan, agreement or arrangement to any such officer or employee, whether past or present; (C) enter into or modify any collective bargaining agreement except as required by law or to replace expiring agreements, provided such agreement or amendment is negotiated in good faith after consultation with the Purchaser; or (D) commit itself to any additional pension, profit-sharing, bonus, incentive,

deferred compensation, stock purchase, stock option, stock appreciation right, group insurance, severance pay, retirement or other employee benefit plan, agreement or arrangement, or to any employment agreement (other than one terminable at will) or consulting agreement with a Person employed as of the date of this Agreement, or to amend any of such plans or any of such agreements in existence on the date hereof, in each case other than pursuant to collective bargaining agreements permitted to be entered into or modified pursuant to clause (C);

(iii) except in the ordinary course of business, sell, transfer, or otherwise dispose of or agree to sell, transfer, or otherwise dispose of, any properties or assets, real, personal or mixed;

(iv) except in the ordinary course of business, sell, transfer, license or otherwise dispose of, or agree to sell, transfer, license or otherwise dispose of, any Intellectual Property;

(v) change in any material respects the level of inventories (except in the ordinary course of business consistent with past practice) or credit and payment terms generally in respect of the sale of goods; or

(vi) enter into other agreements, commitments (including capital commitments) or contracts, except agreements, commitments or contracts made in the ordinary course of business, consistent with past practice; provided however, that the Seller shall enter into no obligation after the date hereof which exceeds $500,000 for Converting Facility and $10 million each for the Missoula Mill and the Ontanagon Mill and $5 million for any other Mill, up to an aggregate for all Facilities taken together of $45 million, without the prior written approval of the Purchaser.

7.2 No Encumbrances. Prior to the Closing Date, the Seller will not create any Encumbrances, or suffer to exist any Encumbrance created after the date hereof, on any of the Purchased Assets other than Permitted Encumbrances or, otherwise than in the ordinary course of business, enter into any transaction or make any commitment relating to any of the Purchased Assets except with the written consent of the Purchaser.

7.3 Investigation by and Notice to the Purchaser. (a) Subject to the Purchaser's obligations pursuant to Section 8.1 and without limiting the generality of the provisions of Section 7.15 hereof, prior to the Closing Date, the Seller will give the Purchaser and its agents reasonable access at all reasonable times to the Purchased Assets, premises, the personnel, contracts, commitments, tax returns and all the Books and Records that relate to, the Facilities, provided that such access shall be had in such a manner so as not to interfere with the normal conduct of the Facilities' business. Subject to the Purchaser's obligations pursuant to Section 8.1, the Seller shall furnish to the Purchaser and its agents such financial and operating data and other information with respect to the business and properties of each of the Facilities, including without limitation internal audit work papers and reports relating to the Facilities and management letters from the Seller's outside auditors, as the Purchaser or its agents shall from from time to time reasonably request. No investigation by the Purchaser or its agents shall affect the Seller's representations and warranties herein or in any certificate or other writing delivered pursuant hereto or in connection herewith or affect the provisions of Articles X, XI, XII or XIII.

(b) Prior to the Closing Date, the Seller will promptly notify the Purchaser of any circumstance, event or action by the Seller or otherwise, that would have been required to be disclosed pursuant to this Agreement or that could have a material effect on the business of any of the Facilities but which have not already been disclosed.

7.4 Insurance. The Seller shall maintain insurance on all of the Purchased Assets in comparable amounts and scope to that in effect on the date hereof.

7.5 Consents. The Seller will use its best efforts to obtain in writing as promptly as possible all consents and approvals from third parties necessary to the consummation of the transactions contemplated in this Agreement, including, without limitations, the consents and approvals referred to in Section 11.1(e) hereof and such other consents with respect to the Assigned Contracts, Real Property Leases, Assumed Personal Property Leases, Intellectual Property and licenses which are to be assigned pursuant to this Agreement and which are not assignable without such consent.

7.6 Better Assurance; Additional Agreements. (a) The Seller, at the request of the Purchaser, at or after the Closing, will promptly obtain, execute and deliver, or cause to be obtained, executed and delivered, to the Purchaser such assignments, bills of sale, endorsements, consents and other such instruments or documents in addition to those otherwise required by this Agreement, in form and substance satisfactory to the Purchaser, as the Purchaser may reasonably deem necessary or desirable to (i) vest in the Purchaser or the Acquisition Sub (as the case may be) title to and possession of the Purchased Assets, (ii) perfect and record, if necessary the sale, assignment, conveyance transfer and delivery to the Purchaser or Acquisition Sub (as the case may be) of the Purchased Assets and (iii) otherwise carry out or implement any provision of this Agreement.

(b) The Seller will use its best efforts to obtain estoppel certificates, dated no more than thirty days prior to the Closing Date, from the lessor under each material Real Property Lease, and any material Assigned Personal Property Lease or material Assigned Contract that may be reasonably designated by Purchaser, certifying the name of the party possessing all of the right, title and interest of the lessor named in each such lease or agreement, that such lease or agreement is in good standing and in full force and effect, that such lease or agreement has not been amended, modified, supplemented or extended, the date through which all rent and other charges under such lease or agreement have been paid and that no known default or known event which, with the passage of time or notice, or both, would constitute a material default under such lease, has occurred and is continuing;

(c) Subject to Section 7.5 hereof to the extent that any of the claims, contracts, licenses, leases, options, commitments, sales orders or purchase orders for which assignment to the Purchaser or the Acquisition Sub (as the case may be) is provided herein are not assignable without the consent of another party, this Agreement shall not constitute an assignment or an attempted assignment thereof if such assignment or attempted assignment would constitute a breach thereof. If such consent shall not be obtained by the Closing Date, then, unless such consent is a condition to the obligations of the Purchaser pursuant to Section 11 hereof and the Purchaser has not waived such conditions, the Seller and the Purchaser agree to cooperate in any lawful arrangement designed to provide for the the Purchaser or the Acquisition Sub (as the case may be) the benefits under any such claim, contract, license, lease, option, commitment, sales order or purchase order, including purchasing under

outstanding purchase orders and reselling to the Purchaser at invoice price, without any charge for such service provided that the Purchaser and Acquisition Sub shall not be required by this Section 7.6 to enter into, or to accept as a substitute for performance by the Seller hereunder, any arrangement which would impose any additional cost, expense or liability on the Purchaser or the Acquisition Sub or would deprive the Purchaser or the Acquisition Sub of any benefit of this Agreement.

(d) The Seller hereby authorizes the Purchaser from and after the Closing Date to receive and open all mail and other communications relating to the Facilities received by the Purchaser or Acquisition Sub, and to act with respect to such communications in such manner as the Purchaser may elect if such communications relate to the Purchased Assets, the liabilities assumed by the Purchaser or Acquisition Sub hereunder or the on-going business of the Facilities or, if such communications do not so relate, to forward the same promptly to the Seller. The Seller hereby authorizes the Purchaser from and after the Closing Date to endorse without recourse the name of the Seller on any check or other evidence of indebtedness received by the Purchaser on account of any account or notes receivable included in the Purchased Assets. This right to endorse shall apply only to accounts and notes receivable assigned by the Purchaser and shall terminate in respect of any account or note receivable returned to the Seller pursuant to the provisions of Section 3.5. The Seller shall deliver to the Purchaser, at the Closing, confirmation of such authorization in writing.

(e) The Seller shall promptly deliver to the Purchaser the original of any mail or other communication received by it after the Closing Date pertaining to the Purchased Assets or the liabilities assumed by the Purchaser or Acquisition Sub hereunder or the ongoing business of the Facilities, and any moneys, checks or other instruments of payment to which the Purchaser or the Acquisition Sub is entitled.

7.7 Use of Names. Effective immediately after the Closing Date, the Seller gives to the Purchaser and its designees the royalty free right to use the Purchased Assets including, without limitation, Inventories, packaging, invoices and similar printed material and signs, machinery, motor vehicles and other equipment bearing the name "Champion", "St. Regis" and "Hoerner Waldorf" or any logo containing the name "Champion", "St. Regis" and "Hoerner Waldorf" on hand as of the Closing in connection with the Facilities

in such manner as is consistent with the current use of such name and logo by the Facilities. Such limited right shall be conditioned upon the Seller being named as an additional insured under the Purchaser's product liability insurance policies, and, except to the extent that such name or logo shall be stamped on Inventory, such limited right shall expire within six months of the Closing Date; provided that the Purchaser shall use its best efforts from and after the Closing Date to overprint, overstamp, apply an appropriate label or otherwise obliterate the name "Champion", "St. Regis" and "Hoerner Waldorf" or any logo bearing the name "Champion", "St. Regis" and "Hoerner Waldorf" on such items other than Inventories.

7.8 Confidentiality; Inconsistent Activities. Unless and until this Agreement has been terminated by its terms, the Seller will not (a) solicit, directly or indirectly, or cause any other Person to solicit any offer to acquire any of the Purchased Assets except Inventories in the ordinary course of business; (b) afford any third party which may be considering the acquisition of any of the Purchased Assets or any of the Facilities or any part thereof access to its properties, books or records; or (c) enter into any negotiations for, or enter into, any agreement or understanding which provides for the acquisition of any of the Purchased Assets or any of the Facilities or any part thereof to a Person other than in connection with the transactions contemplated herein. The Seller shall give the Purchaser prompt written notice of any offers or inquiries received regarding the acquisition of the Missoula Mill, the Ontanagon Mill, the Corrugated Container Business, the Bag Packaging Business or the Brown Papers Systems Division. After the date of this Agreement, the Seller will not use or disclose directly or indirectly to third parties, and will not allow its Affiliates to use or disclose directly or indirectly to third parties, any information with respect to the business or operations of the Purchaser obtained by the Seller from the Purchaser pursuant to Section 8.8 hereof or otherwise, any trade or business secrets relating to the business or operations of any of the Facilities, and will use all reasonable efforts to have all such information kept confidential and not used in any way detrimental to the Purchaser, provided, that (i) the Seller may use or disclose any such information which has been publicly disclosed (other than by the Seller or any Affiliate thereof after the date hereof) and (ii) to the extent that the Seller or any Affiliate thereof may become legally compelled to disclose any of such information, the Seller or such Affiliate may disclose such information if they have used their best efforts, and shall

have afforded the Purchaser the opportunity, to obtain an appropriate protective order, or other satisfactory assurance of confidential treatment, for the information required to be so disclosed.

7.9 Standstill Agreement; Registration Rights Agreement. (a) On or prior to Closing the Seller shall enter into

(i) the Standstill Agreement and the Registration Rights Agreement substantially in the form of Exhibits I and II hereto respectively; and

(ii) the Transition Supply and Services Agreement, substantially in the form of Exhibit III hereto.

(b) The Seller shall grant the licenses and sublicenses referred to in Sections 2.1(b) and 2.1(h) hereof in a form satisfactory to the Purchaser.

7.10 Supplementary Agreements. (a) On or prior to Closing, the Seller shall enter into four separate agreements providing substantially for the terms and conditions set out under each of the following headings in Exhibit IV hereof:

(i) the Frenchtown Fiber Supply Agreement;

(ii) the Container Supply Agreement;

(iii) the St. Paul Settlement Agreement; and

(iv) the Tacoma Settlement Agreement.

(b) On or prior to the Closing, the Seller shall enter into a Warrant Agreement with the Purchaser, providing substantially for the terms and conditions set out in Exhibit V hereof (the "Warrant Agreement").

7.11 Accountants' Review. (a) The Seller will permit auditors selected by the Purchaser to inspect and copy the financial statements, Books and Records and, insofar as they cover matters relating to the Facilities, the Seller will request its accountants and auditors (the "Seller's Accountant") to permit such auditors to inspect and copy the work papers of the Seller's Accountant which are reasonably available and relate to the Facilities for the period commencing January 1, 1980 to the Closing Date.

(b) On or prior to Closing and without limiting the obligations of the Seller under Section 7.16 hereof, the Seller shall furnish to the Purchaser (i) a statement of operating profit by Facility and on a consolidated basis eliminating transactions between the Facilities for the nine-month period ended September 30, 1985 and (ii) statements updating to September 30, 1985 the Facilities Financial Statements and the other financial data supplied by the Seller to the Purchaser prior to the date hereof as part of the Ancillary Documents. Seller's Accountant shall report separately that the amount of operating profit set forth therein agrees to the Books and Records of the Facilities. Such statements shall be deemed to be Ancillary Documents for the purposes of this Agreement.

7.12 Restrictive Covenant. The Seller agrees that, for a period of five years following the Closing, neither the Seller nor any present or future Affiliate of the Seller will (a) participate, whether as principal or agent or otherwise, or have any equity or other interest in, either directly or through an Affiliate, any business that manufactures or sells in the United States any product presently manufactured by the Facilities including, but not limited to, linerboard, corrugating medium, kraft paper, corrugated containers, multiwall bags, and sacks, dunnage bags, cookie bags, specialty packaging and similar products, (b) directly or indirectly solicit the customers of the Facilities in respect of such products, or (c) license any patent, trademark, trade name or copyright related to the business and operations of the Facilities to any person, firm or corporation for use in the manufacture and sale of products in competition with any such business or operations conducted by the Facilities, provided however that (i) nothing contained herein shall prevent the Seller or an Affiliate of the Seller from conducting the business and operations of the Roanoke Rapids Mill and the Walden Facility and (ii) the Seller or an Affiliate may acquire after the Closing Date any Person that is engaged in the business described in subparagraph (a) of this Section 7.12 (the "Restricted Business") (and the Person so acquired may continue its business as conducted at the date of such acquisition) if (A) the portion of total gross sales in the United States or (in the case of linerboard produced by such Person in the United States) worldwide of such Person to be acquired that is attributable to the Restricted Business is less than 20% of such Person's total gross sales in the United States or (in the case of linerboard produced by such Person in the United States) worldwide as of its most recent audited financial statement prior to such acquisition and if (B) in the event

that the Person to be acquired is engaged in any of the following businesses, then the Seller has not theretofore acquired, pursuant to this proviso or otherwise, during the period of five years following the Closing, any other Person engaged in such business and who as at the date of the proposed acquisition remains in such business:

(I) the business of manufacturing and selling linerboard, containerboard and kraft paper;

(II) the Bag Packaging Business; and

(III) the Corrugated Container Business.

7.13 Closing Financial Statements. (a) As soon as practicable and in no event later than sixty calendar days after the Closing the Seller shall prepare and deliver to the Purchaser a balance sheet with appropriate footnotes as of the Closing Date relating to the Facilities to be acquired by the Purchaser hereunder (the "Closing Financial Statements"). The Closing Financial Statements shall be accompanied by the unqualified opinion of the Seller's Accountant to the effect that such financial statements present fairly the financial position of the Facilities and the Brown Papers System Division as of the Closing Date in conformity with the accounting principles, practices and methods used in preparing the Facilities Financial Statement except as expressly otherwise provided in this Agreement. The Closing Financial Statements shall state Net Asset Value as of the Closing Date. The Closing Financial Statements shall also be accompanied by supplementary schedules, reported on as supplementary schedules by the Seller's Accountant, setting forth (i) the Inventories, accounts receivable and accounts payable and accrued liabilities included in the Closing Financial Statements as of the Closing Date, setting forth separately, in the case of accounts receivable, accounts receivable arising from inventory not shipped until after the Closing Date as well as an identification of the goods to which they relate.

(b) Within 45 calendar days of the delivery of the Closing Financial Statements and opinion of the Seller's Accountant to the Purchaser, the Purchaser shall register any objections by giving notice thereof to the Seller. All objections so registered shall be promptly resolved by the parties hereto. If the Purchaser and the Seller are unable to agree upon the Net Asset Value included in the Closing Financial Statements within 30 calendar days after any notification of such objection has been given, the Purchaser

and the Seller shall select another internationally recognized "big eight" independent accounting firm which shall be selected within ten calendar days of any such written objection and shall resolve the disputed items. Any such resolution shall be made within 30 calendar days after the selection of such expert referred to above and shall be binding upon the parties. The fees, costs and expenses of the accounting firm so selected shall be shared equally by the Seller and the Purchaser. If no objections are so registered such financial statements shall become final upon the forty-sixth calendar day following their delivery. Otherwise, such financial statements shall become final upon resolution of such objections. Such financial statements once they have become final are referred to herein as the "Final Closing Financial Statements". The Purchaser and its agents shall have the right to review all work papers and to review all procedures used to prepare the Closing Financial Statements.

(c) The fees and expenses of the Seller's Accountant in connection with their audit and the reports referred to in this Section 7.13 shall be paid for by the Seller.

7.14 Books and Records, Etc. (a) Complete and correct copies of all Real Property Leases, Assumed Personal Property Leases, Assigned Contracts and Commitments shall be delivered (at Seller's expense) to the Purchaser by the Seller after the date hereof within thirty business days of the Purchaser requesting the same and shall in any event be delivered to the Purchaser on or prior to Closing.

(b) At the Purchaser's request, all Books and Records required for the operation of the Facilities, to the extent not then on the premises of the Facilities, will be delivered by the Seller, at its expense, to the Purchaser (or otherwise in accordance with the Purchaser's instructions) not later than the Closing Date (or such later date as may be specified in such request), provided that (x) with respect to Books and Records which constitute a part of or are intermingled with books and records of the Seller, the Seller shall, at its expense, copy the portions of such books and records relating to the Facilities and deliver such copies to the Purchaser or, at the Purchaser's option, afford access to its books and records to the Purchaser, and (y) with respect to information as to the Facilities or the employees of the Facilities generated by software the Seller shall, at its expense, make available hard copy or (at the Purchaser's option) computer processable media of such information incorporated therein as may be requested by the Purchaser. Until

the tenth anniversary of the Closing Date, the Seller will, and will cause its Affiliates to, in connection with any matter relating to the Facilities for any period ending at or prior to the Closing Date, and without charge (i) retain and, as the Purchaser may reasonably request, permit the Purchaser and its agents to inspect and copy, all books and records of the Seller and Affiliates which relate to the Facilities or Purchased Assets and (ii) assist in arranging discussions with (and the calling as witnesses of) officers, directors, employees and agents of the Seller and Affiliates on matters which directly relate to the Facilities or Purchased Assets.

7.15 Payment for Shipment and for Certain Claims. (a) The Seller agrees, upon receipt of appropriate invoices therefor, to reimburse the Purchaser or the Acquisition Sub promptly for any costs (excluding any associated amounts included in Assumed Liabilities) incurred by the Purchaser or the Acquisition Sub in shipping finished goods in respect of accounts receivable included in the Purchased Assets.

(b) The Seller agrees, upon receipt of satisfactory evidence as to such payment or credit and as to the defective condition which gave rise thereto, to reimburse the Purchaser for payments to, or for credit to the account of, any customer of the Purchaser after the Closing with respect to a claim by such customer that (i) finished goods sold to such customer by the Seller and paid for prior to the Closing, or (ii) finished goods sold to such customer that were evidenced by a receivable transferred to the Purchaser on the Closing, which receivable was timely paid by such customer, in each case failed to meet standards equivalent to the criteria for inventory set forth in Section 5.17 provided that the Seller shall be under no obligation with respect to such payments or credits that exceed $2,500 for each such claim by a customer unless the Seller has, prior to such payment or credit, consented to such payment or credit and provided further that nothing herein contained shall affect the Seller's representations and warranties in Section 5.17 or the Purchaser's rights hereunder in the event of breach thereof by the Seller. The Purchaser agrees to use reasonable efforts to minimize the amount of payment or credit to any customer resulting from any such claim within the limits of sound commercial practice.

7.16 Best Efforts; Cooperation. (a) The Seller agrees to use its best efforts to obtain in a timely fashion all required governmental and other consents and to take or cause to be taken in a timely fashion all other action necessary to be taken by it or any of its Affiliates or desirable

in connection with the consummation of the transactions contemplated hereby and to cooperate with the Purchaser and its Affiliates in all such matters and without limiting the generality of the foregoing the Seller shall provide the Purchaser with such financial statements, data and other information as the Purchaser shall reasonably determine is required for the preparation and filing of the Proxy Statement provided that the Purchaser shall promptly reimburse the Seller for any fees and expenses of the Seller's Accountants incurred by the Seller in order to prepare and provide such statements, data and other information required for the preparation and filing of the Proxy Statement but not such fees or expenses that would have nevertheless been incurred by Seller for the purposes of generating financial statements, data and other information used by the Seller in the course of its operations.

(b) The Seller agrees to use its best efforts to obtain for the Purchaser or the Acquisition Sub (as the case may be) licenses from third parties and sublicenses on terms reasonably satisfactory to the Purchaser with respect to such of the Intellectual Property or the Computer System as the Seller is not obliged to license, sublicense or assign to the Purchaser pursuant to the provisions of Sections 2.1(b) and (h) respectively.

7.17 Production of Schedules; Information. (a) As soon as practicable after the signing of this Agreement but in any event no later than thirty days after the date hereof, the Seller will deliver all the schedules and the underlying documents contemplated by this Agreement other than such schedules which this Agreement expressly provides are to be supplied by the Purchaser (to the extent not previously so provided) in final form to the Purchaser. Upon delivery of the last schedule, such schedules shall be deemed to be attached to and to form part of this Agreement as of the date of execution of this Agreement. Information may be supplied in any Schedule by cross-reference to any other Schedule.

(b) Between the date of this Agreement and the Closing Date, the Seller will promptly advise the Purchaser in writing of any fact which, if existing or known at the date of this Agreement, would have been required to be disclosed pursuant to this Agreement and such information shall be deemed to be part of the Ancillary Documents for the purpose of this Agreement.

7.18 IRBs. The Seller shall, prior to or on the Closing Date, use its best efforts to facilitate the issue by Purchaser, of Industrial Revenue Bonds, Environmental Improvement Revenue Bonds and other debt instruments relating to any of the Facilities and issued for the purpose of obtaining refunding financing for any IRB including, without limitation taking any action to call any such IRB or otherwise pay out any such IRB from the proceeds of any such refunding financing.

7.19 Payroll Tax. A clean cut-off of payroll and payroll tax reporting with respect to the Employees will be made at the Closing Date with the Seller paying over to the federal, state and city governments those amounts respectively withheld before the Closing Date. The Seller also agrees to issue, by the date prescribed by IRS Regulations, Forms W-2 for wages paid through the Closing Date. Except as set forth in this Agreement, the Purchaser shall be responsible for all payroll and payroll tax obligations after the Closing Date for those active employees listed on Schedule 9.1 whose employment is continued by the Purchaser.

7.20 Filings. (a) The Seller shall prepare and file as promptly as practical any reports, documents or other information required to be filed by the Seller with respect to the execution of this Agreement and the consummation of the transactions contemplated hereby, under any federal, state or local statute or regulation.

(b) Without limiting the generality of the foregoing, the Seller will timely and promptly make all filings which are required under the HSR Act. The Seller will furnish to the Purchaser such necessary information and reasonable assistance as it may request in connection with its preparation of necessary filings or submission to any governmental agency, including, without limitation, any filings necessary under the provisions of the HSR Act. The Seller will supply the Purchaser with copies of all correspondence, filings or communications (or memoranda setting forth the substance thereof) between the Seller or its representatives, the Federal Trade Commission, the Antitrust Division of the United States Department of Justice or any other governmental agency or authority or members of their respective staffs with respect to this Agreement or the transactions contemplated hereby.

ARTICLE VIII

Covenants of the Purchaser

The Purchaser covenants and agrees with the Seller as set forth below:

8.1 Confidentiality. (a) In the event of termination of this Agreement, the Purchaser will use all reasonable efforts to cause to be delivered to the Seller, and will retain no copies of, all documents, workpapers and other material obtained by the Purchaser or any of its Affiliates or on their behalf from the Seller, whether so obtained before or after the execution hereof, and neither the Purchaser nor any Affiliate thereof will use or intentionally disclose, directly or indirectly, any information so obtained, or otherwise obtained from the Seller hereunder or in connection herewith, and will use all reasonable efforts to have all such information kept confidential and not used in any way detrimental to the Seller; provided, that (i) the Purchaser or any of its Affiliates may use and disclose any such information which has been publicly disclosed (other than by the Purchaser or any Affiliate thereof in breach of their obligations under this Section 8.1) or has rightfully come into the possession of the Purchaser or any Affiliate thereof (other than from the Seller) and (ii) to the extent that the Purchaser or any Affiliate thereof may become legally compelled to disclose any of such information, the Purchaser or such Affiliate may disclose such information if they shall have used all reasonable efforts, and shall have afforded the Seller the opportunity, to obtain an appropriate protective order, or other satisfactory assurance of confidential treatment, for the information required to be so disclosed.

(b) Whether or not this Agreement is terminated, the Purchaser and its Affiliates shall in any event maintain such confidentiality during the period from the date hereof to the Closing Date; provided that the Purchaser and the Acquisition Sub may release or disclose such information to their auditors, attorneys, financial advisors and other consultants, agents and advisors in connection with the consummation of the transactions contemplated by this Agreement.

8.2 Books and Records. (a) The Purchaser covenants and agrees that, for a period of ten years from the Closing Date, it will use its best efforts to, and to cause Acquisition Sub to, neither dispose of nor destroy the Books

and Records which are transferred to the Purchaser or Acquisition Sub in connection herewith without first offering to turn over possession thereof to the Seller by written notice to the Seller at least thirty (30) days prior to the proposed date of such disposition or destruction.

(b) The Purchaser further covenants that it shall allow and shall cause Acquisition Sub to allow the Seller, its representatives, attorneys, and accountants, at the Sellers's own expense, access to such books and records upon reasonable request and during normal business hours for the purpose of examining and copying to the extent reasonably required in connection with litigation, the preparation of any required tax returns or in connection with any tax procedure, any obligation or duty hereunder, or compliance with any legal duty or obligation.

8.3 Licenses. Immediately after the Closing, the Purchaser shall make and diligently prosecute in its own name or in the name of the Acquisition Sub (as the case may be) an application with respect to each of the governmental licenses and permits of the Seller listed on Schedule 2.1(l) which were transferable and transferred to it at the Closing and with respect to which the Seller continues by operation of law or otherwise to have any liability (the "Licenses"), and upon the Purchaser or Acquisition Sub obtaining its own license or permit it shall, without cost or liability to the Seller, surrender or otherwise terminate or cause the termination of the Licenses. Effective upon the Closing, the Purchaser hereby agrees to indemnify the Seller against and hold it harmless from all damages, claims, liabilities, losses, costs, and expenses (including, without limitation, reasonable attorneys' fees and disbursements) arising out of or resulting from any obligation or liability which the Seller may incur by reason of the misuse by the Purchaser or Acquisition Sub of any of the Licenses.

8.4 Best Efforts; Cooperation. The Purchaser agrees to use its best efforts to obtain, and to cause Acquisition Sub to obtain, in a timely fashion all required governmental and other consents, the funds, commitments, or other credit arrangements referred to in Section 11.1(i), and the opinion referred to in Section 10.1(e) and to take or cause to be taken in a timely fashion all other action necessary to be taken by it or any of its Affiliates or desirable in connection with the consummation of the transactions contemplated hereby and to cooperate with the Seller and its Affiliates in all such matters.

8.5 Shareholders Meeting; Proxy Statement. (a) The Purchaser shall take all action necessary in accordance with the Exchange Act, rules and regulations promulgated thereunder, Illinois law, the requirements of the New York Stock Exchange and its Articles of Incorporation and By-Laws to convene the shareholders meeting referred to in Section 11.1(d) hereof as soon as practicable after the date hereof. The Purchaser shall recommend that its shareholders approve this Agreement and the transactions contemplated hereby and such recommendation shall be contained in the Proxy Statement.

(b) Subject to the obligations of the Seller pursuant to Section 7.18 hereto the Purchaser shall prepare, shall file with the Commission under the Exchange Act as promptly as practicable after the date hereof and shall use all reasonable efforts to have cleared by the Commission, a proxy statement with respect to the shareholders meeting referred to in Section 11.1(d) hereof (the proxy statement at the time it is initially mailed to the Purchaser's shareholders and all amendments or supplements thereto similarly mailed being the "Proxy Statement").

8.6 Listing on the New York Stock Exchange. The Purchaser shall use its best efforts to obtain approval for the listing on the New York Stock Exchange of (i) the Consideration Shares upon the issue of the Consideration Shares to the Seller pursuant to the terms of this Agreement; and (ii) the Common Shares into which the Warrants are to be converted pursuant to the terms of the Warrant Agreement, upon exercise of such Warrants.

8.7 Ancillary Agreements. The Purchaser shall enter into the agreements with the Seller referred to in Sections 7.9 and 7.10 hereof.

8.8 Investigation by and Notice to the Seller. Subject to the Seller's obligations pursuant to Section 7.8, the Purchaser shall, prior to the Closing, furnish to the Seller and its agents such financial and operating data and other information with respect to the business and properties of the Purchaser, as the Seller reasonably determines is required for a fair and accurate representation of the financial position and condition of the Purchaser. No investigation by the Seller or its agents shall affect the Purchaser's representations and warranties herein or in any certificate or other writing delivered pursuant hereto or in connection herewith or affect the provisions of Articles X, XI, XII or XIII.

8.9 Filings. (a) The Purchaser shall prepare and file as promptly as practical any reports, documents or other information required to be filed by the Purchaser or the Acquisition Sub in connection with the execution of this Agreement and the consummation of the transactions contemplated hereby under any federal, state or local statute or regulation.

(b) Without limiting the generality of the foregoing, the Purchaser will, and will cause Acquisition Sub to, timely and promptly make all filings which are required under the HSR Act. The Purchaser will furnish to the Seller such necessary information and reasonable assistance as it may request in connection with its preparation of necessary filings or submission to any governmental agency, including, without limitation, any filings necessary under the provisions of the HSR Act. Purchaser will supply the Seller with copies of all correspondence, filings or communications (or memoranda setting forth the substance thereof) between the Purchaser, Acquisition Sub or their representatives, the Federal Trade Commission, the Antitrust Division of the United States Department of Justice or any other governmental agency or authority or members of their respective staffs with respect to this Agreement or the transactions contemplated hereby.

8.10 Production of Schedules; Information. (a) As soon as practicable after the signing of this Agreement but in any event no later than thirty days after the date hereof, the Purchaser will deliver all the schedules and the underlying documents expressly contemplated by this Agreement to be delivered by the Purchaser (to the extent not previously so provided) in final form to the Seller. Upon delivery of the last schedule, such schedules shall be deemed to be attached to and to form part of this Agreement as of the date of execution of this Agreement. Information may be supplied in any Schedule by cross-reference to any other Schedule.

(b) Between the date of this Agreement and the Closing Date, the Purchaser will promptly advise the Seller in writing of any fact which, if existing or known at the date of this Agreement, would have been required to be disclosed pursuant to this Agreement.

ARTICLE IX

EMPLOYEES AND EMPLOYEE BENEFITS

9.1 Retained and Transferred Employees. (a) With respect to the employees of Seller (including its Affiliates) to be listed in Schedule 9.1 (the "Special Employees"), Seller shall specify to the Purchaser in writing, within 30 days from the date hereof, the names of all Special Employees to whom Seller has extended, or intends to extend, offers of continued employment after the Closing Date with Seller or any of its Affiliates. On or prior to November 15, 1985, Seller shall specify to the Purchaser in writing the names of all employees specified pursuant to the preceding sentence that have accepted offers of continuing employment with Seller or any of its Affiliates. The Special Employees who continue employment with Seller or any of its Affiliates on and after the Closing Date are herein collectively referred to as the "Retained Special Employees".

(b) The Purchaser shall have the right in its discretion to extend offers of continued employment after the Closing Date, with Purchaser or any of its Affiliates, to any Special Employees, other than the Retained Special Employees. The Purchaser may offer employment to any Retained Special Employee following the time in the future that such Retained Special Employee terminates employment with Seller and its Affiliates. Notwithstanding the foregoing, the Purchaser shall be under no obligation to offer employment to any Special Employee and any offer shall be on such terms and conditions (including, without limitation, place of employment) as the Purchaser shall determine in its sole discretion. The Special Employees that are offered employment with Purchaser or an Affiliate of Purchaser, accept such employment and commence such employment are herein collectively referred to as the "Transferred Special Employees".

(c) With respect to all persons, other than Special Employees, that are employed by Seller or any of its Affiliates (including employees on authorized leave of absence, military service or lay-off with recall rights) at the Facilities (the "Regular Employees"), the Purchaser agrees to extend offers of continued employment after the Closing Date, with the Purchaser or any of its Affiliates, to such Regular Employees. Each such offer shall be on such terms and conditions (including, without limitation, place of employment) as the Purchaser shall determine, except that in the case of each Regular Employee covered under a collective

bargaining agreement that the Purchaser has agreed or elected to assume as of the Closing Date, such offer shall be on terms and conditions consistent with the terms of such collective bargaining agreement. The Regular Employees that are offered employment with Purchaser or an Affiliate of Purchaser, accept such employment and commence such employment are hereinafter collectively referred to as the "Transferred Regular Employees". The Transferred Special Employees and the Transferred Regular Employees are herein collectively referred to as the "Transferred Employees".

9.2 Special Severance Benefits. (a) With respect to each Transferred Special Employee whose employment by the Purchaser (including its Affiliates) is terminated (other than for cause) within 90 days following the Closing Date or, in the case of a Transferred Special Employee who as of the Closing Date was eligible for reduced early retirement from a plan maintained or contributed to by Seller or Affiliate of Seller, within 180 days following the Closing Date, Seller agrees to provide, or cause to be provided, severance benefits to such terminated employee in accordance with the special severance policy of Seller described in Schedule 9.2, subject to the terms and conditions under such severance policy, and the Purchaser shall have no obligation to provide any severance benefits to any such employees. Seller further agrees that those provisions of its special severance policy described in Schedule 9.2 which operate to provide severance benefits only upon employment termination within 90 days following the Closing Date shall operate instead to provide severance benefits upon employment termination within 180 days following the Closing Date insofar as such provisions relate to Transferred Special Employees (not exceeding 35 in number) whose names have been provided by the Purchaser to Seller on or prior to the Closing Date.

(b) With respect to each Transferred Special Employee whose employment is terminated by the Purchaser and its Affiliates (other than for cause) and who at the time of termination is not eligible for severance under the special severance policy of Seller described in Schedule 9.2, the Purchaser agrees to provide, or cause to be provided, severance benefits to such terminated employee in accordance with the severance policy of Purchaser then in effect as applicable to such employee, and Seller shall have no obligation to provide any severance benefits to such employee. Seller acknowledges that the Purchaser shall have complete discretion regarding the establishment and maintenance of any severance policy by the Purchaser and its Affiliates.

(c) With respect to each Transferred Regular Employee whose employment by the Purchaser (including its Affiliates) is terminated (other than for cause) within 90 days following the Closing Date or, in the case of a Transferred Special Employee who as of the Closing Date was eligible for reduced early retirement from a plan maintained or contributed to by Seller or Affiliate of Seller, within 180 days following the Closing Date, and such Transferred Regular Employee is a salaried employee at the time of such termination, Seller agrees to provide, or cause to be provided, severance benefits to such terminated Regular Employee in accordance with the special severance policies of Seller described in Schedule 9.2, subject to the eligibility requirements and other terms and conditions under such severance policies. The Purchaser agrees to reimburse Seller for amounts paid or caused to be paid by Seller pursuant to the preceding sentence, including the present value (as agreed by the parties) of the difference between any reduced and unreduced early retirement benefits. With respect to each Transferred Regular Employee terminated by the Purchaser and its Affiliates (other than for cause) who at the time of termination is not eligible for severance under the policies described in Schedule 9.2, the Purchaser shall provide such severance benefits, if any, as it deems appropriate.

9.3 Collective Bargaining Agreements. The Purchaser shall assume the rights and obligations of Seller under the collective bargaining agreements which are listed in Schedule 9.3. The Purchaser shall assume the rights and obligations of Seller under such other collective bargaining agreements to be set forth in Schedule 5.11(d) as the Purchaser in its discretion shall select, and the Purchaser shall provide, within 15 days prior to the Closing, written notice to Seller specifying which collective bargaining agreements it has so selected for assumption as aforesaid. The collective bargaining agreements that the Purchaser assumes pursuant to this Section are herein collectively referred to as the "Designated Collective Bargaining Agreements". Except as otherwise provided in the first sentence of this Section 9.3, nothing herein shall obligate the Purchaser to assume rights and obligations under any collective bargaining agreement.

9.4 Single-Employer Plans. (a) Seller shall retain all liability and obligations under the Single-Employer Plans (as heretofore defined) in respect of benefits accrued under such plans on or prior to the Closing Date by employees or prior employees of Seller or any of its

Affiliates in connection with the Facilities. No Single-Employer Plan assets shall be transferred to any plan maintained by the Purchaser or any of its Affiliates. Seller shall provide contingent vesting under the Single-Employer Plans for active employees of Seller or any of its Affiliates in connection with the Facilities who become Transferred Employees so as to make service with the Purchaser or any of its Affiliates qualify as service under the Single-Employer Plans for purposes of determining vesting credit in respect of pension benefits accrued as of the Closing Date under the Single-Employer Plans and for purposes of determining eligibility in the future for, and commencement of payment in the future of, early retirement benefits under the Single-Employer Plans. Notwithstanding the foregoing, Seller shall provide to all salaried employees of Seller or any of its Affiliates who were previously employed by St. Regis Corporation fully vested rights in benefits accrued under the Single-Employer Plan covering such employees. To the extent that post-Closing Date information regarding the continuation or termination of service by Transferred Employees with the Purchaser or any of its Affiliates is determined by Seller to be necessary for the proper administration of the Single-Employer Plans, the Purchaser shall, upon reasonable notice, provide such information to Seller.

(b) With respect to any defined benefit pension plan established or maintained by the Purchaser for the benefit of any class of Transferred Employees, service recognized under the Single-Employer Plans for the period prior to the Closing Date shall constitute service under such plan for purposes of eligibility, vesting and for such other purposes as the Purchaser shall deem appropriate. Any Transferred Employee that is not employed by the Purchaser or an Affiliate of the Purchaser on the 90th day following the Closing Date shall be deemed, for purposes of any and all defined benefit pension plans established or maintained by the Purchaser, to not have been an employee of the Purchaser or any Affiliate of the Purchaser at any time whatsoever. To the extent that information regarding accrued benefits, distributions or other matters arising under the Single-Employer Plans in respect of Transferred Employees is determined by the Purchaser to be necessary for the proper administration of one or more of the Purchaser's defined benefit pension plans, Seller shall, upon reasonable notice, provide such information to the Purchaser.

9.5 Multiemployer Plans. With respect to each of the Multiemployer Plans (as heretofore defined) to which the Purchaser or any of its Affiliates will become obligated to

contribute pursuant to the Designated Collective Bargaining Agreements (collectively, the "Continuing Multiemployer Plans"), the Purchaser agrees to provide to each Continuing Multiemployer Plan on or as soon as practicable after the Closing Date, for the period of the first five consecutive plan years commencing after the Closing Date, a bond issued by a surety company that is an acceptable surety for purposes of Section 412 of ERISA unless providing such a bond is not required by applicable law under the circumstances. Each such bond shall be in the amount required pursuant to Section 4204(a)(1)(B) of ERISA. Seller shall make all arrangements to secure each of the bonds and shall pay all premiums and other costs related to such bonds. If the Purchaser completely or partially withdraws from any Continuing Multiemployer Plan prior to the end of the fifth plan year commencing after the Closing Date, Seller agrees (i) that it shall remain secondarily liable for any withdrawal liability it would have had to such plan but for Section 4204 of ERISA and this Section 9.5 and (ii) to indemnify the Purchaser for any withdrawal liability paid by the Purchaser; provided, that such indemnity in respect of any Continuing Multiemployer Plan shall not exceed the sum of (aa) the amount of withdrawal liability Seller and its Affiliates would have incurred in respect of persons employed or formerly employed in connection with the Facilities had Seller and its Affiliates withdrawn from such Continuing Multiemployer Plan on the Closing Date plus (bb) the amount of withdrawal liability arising in respect of benefits accrued under such Continuing Multiemployer Plan subsequent to the Closing Date which relate to any period of service with Seller or any of its Affiliates in connection with the Facilities prior to the Closing Date, excluding, for purposes of this clause (bb), accrued benefits which would not have accrued but for changes to the provisions of such Plan subsequent to the Closing Date. Neither Purchaser nor any of its Affiliates shall incur any liability or obligation in respect of any Multiemployer Plan which is not a Continuing Multiemployer Plan.

9.6 Individual Account Plans. (a) Seller shall retain all liabilities and obligations under each of the Individual Account Plans (as heretofore defined) in respect of all benefits accrued on or prior to the Closing Date by employees and former employees of Seller and its Affiliates in connection with the Facilities. No Individual Account Plan assets shall be transferred to any plan maintained by the Purchaser of any of its Affiliates. Neither the Purchaser nor any of its Affiliates shall assume or otherwise have any responsibility for any liability or obligation in respect of any of the Individual Account Plans.

(b) Notwithstanding the foregoing subsection (a), the Purchaser agrees to effectuate payroll withholding in respect of any Transferred Employee having outstanding loans made by such person from Seller's savings plan (the "401(k) Plan"), withheld amounts in each case not to exceed the aggregate of amounts due and payable by such person (as determined under the 401(k) Plan), and the Purchaser will pay the amounts so withheld to Seller. No payroll amount shall be withheld in respect of any person who has not previously delivered to or on behalf of the Purchaser an executed consent which expressly authorizes withholding as described above and which expressly states that if is revocable at any time by such person. Seller shall perform all actions necessary to obtain such consents. Seller shall monitor the status of any and all loans to Transferred Employees under the 401(k) Plan, keep the Purchaser apprised of any and all loan balances in respect of Transferred Employees continuing on the payroll of the Purchaser and to perform all such other administrative functions relating to the procedures described in this section as are necessary or as the Purchaser otherwise may request from time to time. Seller agrees to reimburse the Purchaser for the Purchaser's direct costs reasonably incurred in connection with the procedures described herein. Seller shall indemnify and hold harmless the Purchaser, its Affiliates, and any agent or employee of the Purchaser for any damage, loss, claim, judgment or other harm incurred by any of them (including, without limitation, costs of investigations and attorneys fees and expenses) in connection with any suit or preceding based on action by any of them under this Section.

9.7 Other Benefit Arrangements. (a) Except as otherwise provided in this Article IX, Seller shall retain all obligations and liabilities under the Employee Plans and the Benefit Arrangements (as heretofore defined) in respect of each employee or former employee (including any beneficiary or dependent thereof) who is not a Transferred Employee. With respect to the Transferred Employees (including any beneficiary or dependent thereof), Seller shall retain (i) all liabilities and obligations arising under any group life, accident, medical, dental or disability plan or similar arrangement (whether or not insured) to the extent that such liability or obligation relates to contributions or premiums accrued (whether or not payable), or to claims incurred (whether or not reported), on or prior to the Closing Date, (ii) all liabilities and obligations arising under any workman's compensation arrangement to the extent such liability or obligation relates to the period prior to the

Closing Date, including liability for any retroactive workman's compensation premiums attributable to such period and (iii) all other liabilities and obligations arising under the Employee Plans and the Benefit Arrangements to the extent any such liability or obligation relates to the period prior to the Closing Date, including proportional accruals from January 1, 1986 through the Closing Date and including, without limitation, liabilities and obligations in respect of accruals through the Closing Date under any bonus plan or arrangement, any vacation plans, arrangements and policies, and any benefits accrued under any Single-Employer Plan or Multiemployer Plan subsequent to the Closing Date which relate to any period of service with Seller or any of its Affiliates prior to the Closing Date, except for such benefits which arise under the terms of any such Employee Plan and the related collective bargaining agreement (if any) which were not a part of such Employee Plan or the related collective bargaining agreement (if any) on the Closing Date.

(b) With respect to any Transferred Employee who on the Closing Date shall have been eligible for early retirement under any of the Single-Employer Plans and whose aggregate service with Seller and its Affiliates prior to the Closing Date shall exceed such Transferred Employee's aggregate service with the Purchaser and its Affiliates from the Closing Date to the date of his actual termination from employment with the Purchaser and its Affiliates, Seller shall be primarily liable for, and shall pay to plan beneficiaries directly, all obligations relating to post-retirement medical benefits provided to such Transferred Employees under the employee benefit plans of the Purchaser and its Affiliates; provided, however, that Seller shall not be liable for any such obligations relating to post-retirement medical benefits to the extent such benefits are in excess of those provided to Seller's employees under Seller's medical benefit plans as in effect on the date of the Transferred Employee's termination from the Purchaser and its Affiliates.

(c) With respect to any Transferred Employee (including any beneficiary or dependent thereof) who enters a hospital or is on long-term or short-term disability under any Benefit Arrangement on or prior to the Closing Date and continues in a hospital or on long-term or short-term disability after the Closing Date, Seller shall be responsible for claims and expenses incurred both before and after the Closing Date in connection with such person, to the extent that such claims and expenses are covered by a Benefit Arrangement, until such time, (if any) that, in the case of a

Transferred Employee, such person resumes full-time employment with the Purchaser and, in the case of any beneficiary or dependant of a Transferred Employee, such person's hospitalization has terminated. With respect to any Benefit Arrangements covering medical expenses and other costs relating to pregnancies and maternity leave, Seller shall be responsible for all claims (whether or not reported) and expenses incurred during the period prior to and ending on the Closing Date, and the Purchaser shall be responsible for such Benefit Arrangements covering such pregnancies and maternity leave for the period subsequent to the Closing Date.

9.8 Continuation of Insurance and Administrative Services. To the extent requested by the Purchaser in writing prior to the Closing Date, Seller agrees to (i) continue to cover the Transferred Employees under the Employee Plans and Benefit Arrangements which provide for insurance coverage, for the period ending six months after the Closing Date or until such earlier time as Purchaser or its designated Affiliate has secured appropriate successor insurance coverage and (ii) continue to provide certain administrative services in respect of the Transferred Employees as reasonably requested by Purchaser, including but not limited to payroll services, record-keeping services and claims processing services, for the period ending six months after the Closing Date or until such earlier time as Purchaser or its designated Affiliate can assume responsibility for such services in an orderly manner. Purchaser agrees to reimburse Seller for Seller's direct costs reasonably incurred in continuing to provide such insurance coverage and such administrative services. Such continuation of insurance coverage and administrative services shall not affect the allocation of liabilities and obligations as set forth in this Article IX.

9.9 Indemnification. Seller hereby agrees to indemnify the Purchaser and its Affiliates against and agrees to hold them harmless from any and all damage, loss, liability and expense (including, without limitation, reasonable expenses of investigation and attorneys' fees and expenses in connection with any suit or proceeding brought against the Purchaser or any such Affiliate) in respect of any failure by Seller to satisfy and discharge its obligations under this Article IX. The Purchaser hereby agrees to indemnify Seller and its Affiliates against and agrees to hold them harmless from any and all damage, loss, liability and expense (including, without limitation, reasonable expenses of investigation and attorneys' fees and expenses in connec-

tion with any suit or proceeding brought against Seller or any such Affiliate) in respect of any failure by the Purchaser to satisfy and discharge its obligations under this Article IX.

ARTICLE X

Termination of Agreement

10.1 Termination by the Purchaser or the Seller. This Agreement and the transactions contemplated hereby may be terminated at any time prior to the Closing:

(a) Mutual Consent. By mutual written consent of the Seller and the Purchaser;

(b) Cut-Off Date. By the Seller or the Purchaser if the Closing shall not have occurred on or before May 15, 1986, or such other date, if any, as the Seller and the Purchaser shall agree in writing;

(c) Misrepresentation or Breach. By the Purchaser if the Purchaser shall give written notice to the Seller of its determination that there has been a material misrepresentation or breach of warranty or covenant or agreement made or to be performed by the Seller pursuant to this Agreement, or by the Seller if the Seller shall give written notice to the Purchaser of its determination that there has been a material misrepresentation or breach of warranty or covenant on the part of the Purchaser herein provided that for the purposes of this Section a misrepresentation or breach of warranty by the Seller shall not be material unless such misrepresentation or breach or the subject of such misrepresentation or breach is, in the reasonable business judgment of the Purchaser, likely to materially adversely affect the business, properties, financial condition or results of operation, or ownership or operation by the Purchaser or the Acquisition Sub of any of the following: (i) the Missoula Mill; (ii) the Ontanagon Mill; (iii) the Corrugated Container Business; (iv) the Bag Packaging Business; or (v) the Brown Papers System Division and provided further that the Purchaser shall not be entitled to terminate this Agreement pursuant to this Section 10.1(c) if the fact or facts upon which the material misrepresentation or breach is based were disclosed in the Purchaser's review, investigation and examination referred to in Section 10.1(d) hereof, and if the Purchaser would otherwise have been entitled to give the notice of termination

referred to in Section 10.1(d) within the Review Period (as defined in Section 10.1(d) hereof) but has failed to do so. The said written notice to be given by the Purchaser or the Seller pursuant to this Section 10.1(c) shall specify the misrepresentation or breach that is the basis of the termination and in the event that the party receiving such notice is not able to resolve or cure satisfactorily in the reasonable judgement of the party giving such notice, the cause of such notice of termination within 15 business days following receipt of such notice (the "Representation and Warranty Cure Period") the Agreement shall thereupon be terminated. In the event the Closing Date falls prior to the expiration of the Representation and Warranty Cure Period the Closing shall be deferred for ten business days after the expiration of the Representation and Warranty Cure Period.

(d) Purchaser's Review. By the Purchaser if, within 30 business days following its receipt of all of the schedules in final form and the underlying documents provided for herein, (the "Review Period") the Purchaser shall give written notice to the Seller of its determination that its review, investigations and examination of the schedules hereto, the underlying documents referred to therein, the Purchased Assets, the Facilities and title thereto, together with the Books and Records of the Facilities have disclosed a fact or facts which, in its reasonable business judgment (a) are materially adverse to the business, properties, financial condition or results of operations, or the ownership or operation by the Purchaser or the Acquisition Sub, of (i) the Missoula Mill; (ii) the Ontanagon Mill; (iii) the Corrugated Container Business; (iv) the Bag Packaging Business; or (v) the Brown Papers System Division or (b) which otherwise indicates that the condition, business, operations or the value of each of the said five segments is materially and adversely different from such condition, business, operations and values as described or represented to the Purchaser by the Seller in this Agreement, the schedules attached to this Agreement at the date of execution, the Facilities Financial Statements and, any Ancillary Document provided that only to the extent that such fact or facts were disclosed in schedules that were attached to this Agreement at the date of execution, the Facilities Financial Statements, or in such of the Ancillary Documents as have been delivered to the Purchaser prior to the date hereof, the Purchaser shall have no right of termination pursuant to this Section 10.1(d). The said written notice shall specify the basis of termination and in the event the Seller is not able to resolve or cure satisfactorily in the Purchaser's reasonable business judgment the cause of such notice of termination within 15

business days following receipt of the notice of termination (the "Cure Period") the Agreement shall thereupon be terminated. In the event the Closing Date falls prior to the later of the expiration of the Review Period referred to above or the Cure Period, the Closing shall be deferred for ten business days after the expiration of the later of such periods.

(e) Fairness Opinion. By the Purchaser if the Purchaser shall give the Seller written notice within the Review Period referred to in Section 10.1(d) that it has not received an opinion of a nationally recognized investment banking firm as to the fairness of the transactions contemplated by this Agreement to the shareholders of the Purchaser in a form reasonably satisfactory to the Purchaser.

(f) Finance. By the Seller, if the Purchaser has not given written notice to the Seller by January 1, 1986 that the Purchaser has obtained sufficient funds, commitments or other credit arrangements to provide for the payment of the Cash Closing Amount. Such notice shall be accompanied by written evidence of such funds, commitments or arrangements.

(g) Proceedings, etc. By the Seller after the expiry of 90 days from the date of the proceedings or threatened initiation thereof or the orders, decrees and judgements referred to in Section 11.1(j) if such proceedings, threatened initiations, orders, decrees or judgments have not, at such date been settled, reversed, removed or otherwise disposed of;

(h) Seller's Review. By the Seller, if within 30 business days following its receipt of all of the schedules in final form and the underlying documents provided for herein (the "Seller's Review Period"), the Seller shall give written notice to the Purchaser of its determination that its review, investigation and examination of the schedules hereto and the underlying documents referred to therein have disclosed a fact or facts which, in its reasonable business judgment are materially adverse to the business, properties, financial condition or results of operation of the Purchaser. The said written notice shall specify the basis of termination and in the event the Purchaser is not able to resolve or cure satisfactorily, in the Seller's reasonable business judgment, the cause of such notice of termination within 15 days following receipt of the notice of termination (the "Purchaser's Cure Period") the Agreement shall thereupon be terminated. In the event the Closing Date falls prior to the later of the expiration of

the Seller's Review Period and the Purchaser's Cure Period, the Closing shall be deferred for ten business days after the expiration of the later of such periods.

ARTICLE XI

Conditions to the Closing

11.1 Conditions to Obligations of the Purchaser. Unless waived in writing by the Purchaser, the obligations of the Purchaser to consummate the transactions contemplated by this Agreement are subject to the satisfaction at or prior to the Closing of the following conditions:

(a) Opinion of Counsel to the Seller. The Purchaser shall have received opinions satisfactory in form and scope to counsel for the Purchaser, of General Counsel for the Seller, and Skadden Arps, Slate, Meagher & Flom, special counsel for the Seller dated the Closing Date, in a form reasonably satisfactory to the Purchaser's counsel.

(b) Title Insurance. The Purchaser shall have obtained an ALTA form of owner's title insurance policies, or binders to issue the same, in amounts satisfactory to the Purchaser insuring or committing to insure, at ordinary premium rates without any requirement for additional premiums, good and marketable title to the Real Property, and any capitalized leases and the Real Property Leases being transferred pursuant to the terms of this Agreement free and clear of any Encumbrances (other than Permitted Encumbrances) and the Purchaser's title companies must be willing at the Closing to delete all exceptions in their title reports relating to matters affecting title arising between the time of the Closing and the recordation of the deed.

(c) Representations and Warranties True. The Purchaser shall have received at the Closing a certificate from an executive officer of the Seller dated the Closing Date to the effect that there is no material misrepresentation or breach of warranty by the Seller pursuant to this Agreement as of the Closing Date, provided that, for the purposes of this Section 11.1(c), a misrepreentation or breach of warranty by the Seller shall not be material if such misrepresentation or breach is not material for purposes of Section 10.1(c).

(d) Shareholder Approval. A majority of votes cast at a duly convened special meeting of shareholders of

the Purchaser who are entitled to so vote shall have approved the terms and conditions of this Agreement including issuance to the Seller of the Consideration Shares and the Warrants, provided that the total vote cast on these matters represent over 50% in interest of all securities of the Purchaser entitled to so vote on such matters.

(e) Licenses, Consents, Etc. The Purchaser shall have received, or the Purchaser shall have satisfied itself that it will receive,

(i) all consents of other parties to the Real Property Leases, Assigned Contracts, Assumed Personal Property Leases and Intellectual Property which are to be assigned hereunder, which are not assignable without such consent and which have been identified as material by agreement between the parties hereto after the date hereof and have been marked in Schedules 2.1(c), 2.1(g), 2.1(e) and 5.5 respectively with an asterisk, provided that notwithstanding the above, Real Property Leases, Assigned Contracts, Assumed Personal Property Leases and Intellectual Property which are to be assigned hereunder shall be deemed material for the purposes of this Section 11.1(e) if such leases, contracts and property are material to the business, properties, financial condition or results of operations, or the ownership or operation by the Purchaser or the Acquisition Sub, of (x) the Missoula Mill; (y) the Ontanagon Mill; (z) the Corrugated Container Business; (xx) the Bag Packaging Business; or (yy) the Brown Papers System Division; and

(ii) in the case of licenses or permits set out in Schedule 2.1(l), new licenses and permits in their respective names:

in each case in form and substance reasonably satisfactory to the Purchaser, and no such consent or license or permit shall have been withdrawn or suspended.

(f) Recordation of Deeds. The deeds with respect to the Real Property delivered pursuant to Article IV hereof shall have been delivered to the title insurance companies in due form for recordation.

(g) Hart-Scott-Rodino Act. The filing and waiting period requirements of the "HSR Act" relating to the purchase of the Assets hereunder shall have been complied with.

(h) Purchaser's Review. The Purchaser shall not have given the Seller the written notice referred to in Section 10.1(d) hereof within the time period therein specified.

(i) Finance. The Purchaser shall have obtained sufficient funds, commitments or other credit arrangements to provide for the payment of the Cash Closing Amount.

(j) Violation of Statutes, Orders, etc.; Litigation. There shall be no statute, rule or regulation which makes it illegal for the Purchaser or Acquisition Sub to consummate the transactions contemplated hereby; the Purchaser shall not have determined in its judgment, which shall be reasonably exercised after consultation with the Purchaser's counsel, that the acquisition of the Purchased Assets has become inadvisable or impractical by reason of either the actual initiation by any Person or the threatened initiation by the Federal government or any federal agency, instrumentality or regulatory body (but no other Person) of any proceeding, before any court or governmental body having competent jurisdiction, or the issuance of any order, decree or judgment, restraining, prohibiting or otherwise interfering with, or the effect of which is to restrain, prohibit or otherwise interfere with, the effective control or operation of the Brown Papers System Division by the Purchaser or Acquisition Sub or the ownership, effective control or operation by the Purchaser or Acquisition Sub of the Missoula Mill, the Ontanagon Mill, the Corrugated Container Business or the Bag Packaging Business, it being understood that for the purposes of this paragraph (i) the term "threatened" shall not include any request for information by a governmental agency or instrumentality, but shall be limited to written or oral communications to the Purchaser, or an attorney or other appropriate representative thereof by a responsible representative of a governmental agency or instrumentality which the Purchaser has reasonable grounds to believe indicates that there is a present intention on the part of the agency or instrumentality which the Purchaser has reasonable grounds to believe is likely to be adopted, that an action or proceeding of the type described above be instituted.

11.2 Conditions to Obligations of the Seller. Unless waived in writing by the Seller, the obligations of the Seller to consummate the transactions contemplated by

this Agreement are subject to the satisfaction at or prior to the Closing of the following conditions:

(a) Performance. Each of the acts and undertakings of the Purchaser to be performed at or before the Closing pursuant hereto shall have been duly performed in all material respects.

(b) Opinions of Counsel for the Purchaser. The Seller shall have received an opinion satisfactory in form and scope to counsel for the Seller, of counsel for the Purchaser, dated the Closing Date, in a form reasonably satisfactory to the Seller's counsel.

(c) Representations and Warranties True. The representations and warranties of the Purchaser contained in this Agreement shall be true in all material respects on and as of the Closing Date with the same effect as though made on and as of such date, and the Seller shall have received at the Closing certificates of the Purchaser to such effect dated the Closing Date.

(d) No Violation of Statutes, Orders, Etc. There shall not be any statute, rule or regulation which makes it illegal for the Seller to consummate the transactions contemplated hereby or any order, decree or judgement which enjoins the Seller from consummation of the transactions contemplated hereby.

(e) Hart-Scott-Rodino Act. The filing and waiting period requirements of the HSR Act relating to the purchase of the Purchased Assets hereunder shall have been complied with.

(f) Seller's Review. The Seller shall not have given the Purchaser the written notice referred to in Section 10.1(h) hereof within the time period therein specified.

(g) New York Stock Exchange Listing. The approval for the listings on the New York Stock Exchange referred to in Section 8.6 hereof shall have been obtained.

ARTICLE XII

Effect of Termination; Right to Proceed

In the event that this Agreement shall be terminated pursuant to Section 10, all further obligations of the Seller to the Purchaser, and of the Purchaser to the Seller, under this Agreement shall terminate without further liability of the Seller or the Purchaser except for the obligations of the Purchaser under Sections 8.1 and 15.1 and the obligations of the Seller under Section 15.1. Nevertheless, anything in this Agreement to the contrary notwithstanding, (a) if any of the conditions to the obligations of the Seller or the Purchaser specified in Section 11 have not been satisfied, the Seller or the Purchaser, as the case may be, in addition to any other rights which may be available to it or them, shall have the right to waive such conditions and to proceed with, and to require the Purchaser or Seller, as the case may be (subject to the satisfaction of the respective conditions to their or its obligations under Section 11), to proceed with the Closing and the consummation of the other transactions contemplated hereby, and (b) if the Purchaser or the Seller fail to perform its obligations under this Agreement or shall otherwise breach this Agreement, the other party or parties shall have the right to require that the non-performing or breaching other party or parties specifically perform this Agreement.

ARTICLE XIII

Survival; Indemnification

13.1 Survival. The covenants and agreements of the parties hereto contained herein shall survive the Closing, without limitation as to time. The representations and warranties of the parties contained herein, in any document described in Schedule 6.9 hereof or in any Ancillary Document, except to the extent that they may be covered by the indemnities provided in sections 13.2(b) and (c) hereof, shall survive only for two years following the Closing. To the extent that any representation and warranty of Seller is covered by the indemnities provided in Section 13.2(b) and (c) hereof such representations and warranties shall survive for seven years following the Closing. Notwithstanding the preceding sentence, any representation or warranty in respect of which indemnity may be sought under Section 13.2 or 13.3 shall survive the time at which it would otherwise terminate

pursuant to such sentence, if notice of a claim to such indemnity shall have been given to the party against whom the indemnity is sought, prior to such time.

13.2 Indemnification by the Seller. (a) Subject to Sections 13.1 and 13.4 hereof from and after the Closing and without limiting the generality of any other indemnity provided for in this Agreement, the Seller hereby agrees to indemnify the Purchaser, its Affiliates (including the Acquisition Sub) and their respective officers and directors, agents and representatives and persons claiming by or through any of them (an "Indemnified Purchaser Party") against and agree to hold it harmless from any and all claims, damages, loss, liability, cost and expense (including, without limitation, reasonable expenses of investigation and attorneys' fees and expenses in connection with any action, suit or proceeding brought against an Indemnified Purchaser Party but excluding any such claims, damage, loss, liability, cost and expense to the extent that the Indemnified Purchaser Party recovers or may recover with respect thereto pursuant to any insurance policy) incurred or suffered by the Indemnified Purchaser Party (collectively, the "Indemnified Purchaser Amounts") arising out of or resulting from:

(i) any misrepresentation or breach of warranty, covenant or agreement made or to be performed by the Seller pursuant to this Agreement;

(ii) any liability of the Seller of any nature whether or not existing as of the Closing Date other than the Assumed Liabilities;

(iii) any act done or omitted or alleged to have been done or omitted by the Seller or any Affiliate thereof or any state of facts existing prior to the date of the Closing, in respect of the business of the Facilities, whether or not known to the Seller, other than the Assumed Liabilities; or

(iv) any action, proceeding, suit, settlement, assessment, or judgment directly or indirectly arising out of or incident to any of the matters indemnified against in this Section 13.2.

(b) Without limiting the generality of paragraph (a) of this Section the Seller agrees to indemnify each Indemnified Purchaser Party against and hold it harmless from any and all Indemnified Purchaser Amounts incurred or suffered by the Indemnified Purchaser Party at any time after

the Closing Date arising from or attributable to air, water, surface or subsurface environmental conditions resulting directly or indirectly from the use, storage or discharge of pollutants in, about or relating to the Facilities arising from acts or omissions or conditions in existence prior to the Closing Date. Without limiting the generality of the foregoing, the indemnity provided in this paragraph shall cover all Indemnified Purchaser Amounts incurred or suffered by the Indemnified Purchaser Party within the scope of the foregoing indemnity under the Comprehensive Environmental Responses, Compensation, and Liability Act of 1980 (42 U.S.C. §§ 9601 et seq.) (the "Superfund Act") and any other Federal, state or local law, rule or regulation relating to or affecting the operation of the Facilities or under statutory or common law granting to persons, firms or corporations the right to sue for damages for the use, storage or disposal of pollutants.

(c) Without limiting the generality of paragraph (a) of this Section the Seller agrees to indemnify each Indemnified Purchaser Party against and hold it harmless from any and all Indemnified Purchaser Amounts incurred or suffered by the Indemnified Purchaser Party at any time after the Closing Date arising from or attributable to product safety, liability, warranty (whether express or implied) or similar claims or in respect of any personal injury, occupational safety, health or welfare conditions arising from or in any way relating to any of the Facilities or with respect to the business of the Facilities under any Federal, state or local laws or regulations in each case arising from acts or omissions or conditions in existence prior to the Closing Date.

(d) The Seller shall not be liable under this Section 13.2 for any settlement effected without its consent, which consent shall not unreasonably be withheld, of any claim, litigation or proceeding in respect of which indemnity may be sought hereunder.

(e) The Seller shall not be liable to indemnify Indemnified Purchaser Parties with respect to any Indemnified Purchaser Amounts to the extent and in the amount that any such Indemnified Purchaser Amounts have been taken into account in the calculation of the Reconciliation Difference pursuant to the terms of this Agreement.

(f) No investigation by the Purchaser or any Indemnified Purchaser Party at or prior to the Closing shall relieve the Seller of any liability hereunder.

(g) If, by reason of the claim of any third party relating to any of the matters subject to such indemnification, a lien, attachment, garnishment, or execution is placed or made upon any of the Purchased Assets or other properties or assets of any Indemnified Purchaser Party, the Seller shall, within five days from receipt of notice relating thereto, furnish a bond sufficient to obtain the prompt release thereof, which shall be in addition to any other indemnity which the Seller may be obligated to provide under this Section 13.

13.3 Indemnification by the Purchaser. (a) Subject to Section 13.1 and 13.4 hereof and without limiting the generality of any other indemnity provided for in this Agreement from and after the Closing, the Purchaser hereby agrees to indemnify the Seller, its Affiliates, and their respective officers and directors, agents and representative and persons claiming by or through any of them (an "Indemnified Seller Party") against and agree to hold it harmless from any and all claims, damages, loss, liability, cost and expense (including without limitation, reasonable expenses of investigation and attorney's fees and expenses in connection with any action, suit or proceeding brought against an Indemnified Seller Party but excluding any such claim, damage, loss, liability, cost and expenses to the extent that the Indemnified Seller Party recovers or may recover with respect thereto pursuant to any insurance policy) incurred or suffered by the Indemnified Seller Party (collectively the "Indemnified Seller Amounts") arising out or resulting from:

(i) any misrepresentation or breach of warranty, covenant or agreement made or to be performed by the Purchaser pursuant to this Agreement;

(ii) any Assumed Liabilities;

(iii) any act done or omitted or alleged to have been done or omitted by the Purchaser or any Affiliate thereof or any state of facts arising subsequent to the date of this Agreement (except where such act, omission, or the existence of such state of facts is contemplated by this Agreement or is otherwise the subject of an indemnity of the Seller), in respect of the business and operation of the Facilities;

(iv) any action, proceeding, suit settlement, assessment, or judgement directly or indirectly arising out of or incident to any of the matters indemnified against in this Section 13.3.

(b) The Purchaser shall not be liable under this Section 13.3 for any settlement effected without its consent, which consent shall not be unreasonably withheld, of any claim, litigation or proceeding in respect of which indemnity may be sought hereunder.

(c) No investigation by the Seller at or prior to the Closing shall relieve the Purchaser of any liability hereunder.

13.4 Cushion. The indemnity provisions set forth in Sections 13.2 and 13.3 hereof (but not in any other Section of this Agreement) shall be effective only after and to the extent that the aggregate amount of the Indemnified Purchaser Amounts or the Indemnified Seller Amount (as the case may be) incurred or suffered respectively by the Indemnified Purchaser Parties or the Indemnified Seller Parties from the date hereof exceed $2.5 million, it being the intention of the parties that the Seller and the Purchaser have a "cushion" in such amount.

13.5 Notice and Defense. Promptly after receipt by either party under this Article of notice of the commencement of any action, that party will, if a claim in respect thereof is to be made against an indemnifying party under this Section, notify the indemnifying party of the commencement thereof; but the omission so to notify the indemnifying party will not relieve it from any liability which it may have to the indemnified party otherwise than under this Article. In case any such action is brought against the indemnified party, and it notifies the indemnifying party of the commencement thereof, the indemnifying party will be entitled to participate in, and, to the extent that it may wish, to assume and control the defense thereof, with counsel reasonably satisfactory to the indemnified party; provided, however, if the defendants in any such actions include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be legal defenses or rights available to it which are different from, in actual or potential conflict with, or additional to those available to the indemnifying party, the indemnified party shall have the right to select one law firm to act as separate counsel, on behalf of such indemnified party. Upon receipt of notice from the indemnifying party to

the indemnified party of its election so to assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to the indemnified party under this Section for any legal expenses subsequently incurred by the indemnified party in connection with the assumption of legal defense thereof unless (i) the indemnified party shall have employed such counsel in connection with the assumption of legal defenses or assertion of rights in accordance with the proviso to the next preceding sentence, (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized the employment of counsel for the indemnified party at the expense of the indemnifying party.

13.6 No Right to Set-Off. The Purchaser's and the Seller's rights to indemnification under Sections 13.2 and 13.3, respectively, shall not be subject to set-off for any claim by the other party against such indemnified party, whether or not arising from the same event giving rise to such indemnified party's claim for indemnification.

13.7 Brokers. The Purchaser will indemnify the Seller and hold it harmless against any and all liabilities, expenses, costs, losses and claims, including reasonable fees and disbursements of counsel, arising from any employment by the Purchaser of, or services rendered to the Purchaser by, any finder, broker, agency or other intermediary in such connection (or any allegation of any such employment or services). The Seller will indemnify the Purchaser and hold it harmless against any and all liabilities, expenses, costs, losses and claims, including reasonable fees and disbursements of counsel, arising from any employment by the Seller of, or services rendered to the Seller by, any finder, broker, agency or other intermediary in such connection (or any allegation of any such employment or services).

ARTICLE XIV

Notices

Any notices or other communications required or permitted hereunder shall be sufficiently given if sent by telex or by registered or certified airmail, postage prepaid, addressed as follows:

To the Purchaser:

Stone Container Corporation
360 North Michigan Avenue
Chicago, Illinois 60601
Attention: Chief Financial Officer

With copies to:

Lois I. Gordon, Esq.
Gottlieb & Schwartz
69 West Washington
Chicago, Illinois 60602

Dennis S. Hersch, Esq.
Davis Polk & Wardwell
One Chase Manhattan Plaza
New York, New York 10005

To the Seller:

Champion International Corporation
One Champion Plaza
Stamford, Connecticut 06921
Attention: Chief Executive Officer (copy to General Counsel)

With a copy to:

Blaine V. Fogg, Esq.
Skadden, Arps, Slate, Meagher & Flom
919 Third Avenue
New York, New York 10022

or such other addresses as shall be furnished by like notice by such party. Any such notice or communication given by mail shall be deemed to have been given when received, and any such notice or communication given by telex shall be deemed to have been given when sent by telex and the appropriate answerback received.

ARTICLE XV

Miscellaneous

15.1 Expenses. Except as provided in this Agreement, all legal and other costs and expenses incurred in connection with this Agreement and the transactions contemplated hereby shall be paid by the party incurring such expenses; provided that in no event shall the Facilities bear any portion of the expenses of the Seller in connection herewith.

15.2 Successors and Assigns. This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and assigns; provided, that subject to section 2.4 hereof this Agreement may not be assigned without the consent of the other party nor is this Agreement intended to confer upon any person other than the parties or their Affiliates any rights hereunder.

15.3 Bulk Sales Laws. The Purchaser hereby waives compliance by the Seller with the provisions of the "bulk sales" or similar laws of any state. The Seller agrees to indemnify the Purchaser and hold it harmless against any and all claims, losses, damages, liabilities, costs and expenses incurred by the Purchaser or any Affiliate as a result of any failure to comply with any "bulk sales" or similar laws.

15.4 Entire Agreement; Amendment. This Agreement embodies the entire agreement of the parties hereto with respect to the subject matter hereof and supersedes all prior agreements with respect thereto. This Agreement may be amended, and any provision hereof waived, but only in writing signed by the party or parties against whom such amendment or waiver is sought to be enforced.

15.5 Counterparts. This Agreement may be executed in one or more counterparts all of which shall together constitute one and the same instrument and shall become effective when one or more counterparts have been signed by the Purchaser and delivered to the Seller and one or more counterparts have been signed by the Seller and delivered to the Purchaser.

15.6 Agreement to Take Necessary and Desirable Actions. The Seller and the Purchaser agree to execute and deliver such other documents, certificates, agreements and other writings and to take such other actions as may be necessary or desirable in order to consummate or implement expeditiously the transactions contemplated by this Agreement.

15.7 Headings. The Table of Contents and Headings of Articles and Sections herein are inserted for convenience of reference only and shall be ignored in the construction or interpretation hereof.

15.8 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York without regard to its conflict of laws

principles except (i) with respect to matters regarding the transfer of title to real property owned in fee, the law of the jurisdiction in which the real property is located shall govern, without giving effect to the principles of conflicts of law, and (ii) with respect to matters regarding the transfer of right, title to and interest in leases of real property, the law of the jurisdiction specified in such leases shall govern or, if no jurisdiction is specified therein, the law of the jurisdiction in which the real property subject to such leases is located shall govern, without giving effect to the principles of conflicts of law thereof.

15.9 Agreement to Cooperate on Public Announcements. The Seller and the Purchaser each agree to consult with and cooperate with one another on the content and timing of all press releases and other public announcements relating to the transactions contemplated by this Agreement.

IN WITNESS WHEREOF, this Agreement has been executed on behalf of each of the parties hereto as of the day and year first above written.

CHAMPION INTERNATIONAL CORPORATION

By: _____
Name: Aubrey L. Cole
Title: Senior Vice President

STONE CONTAINER CORPORATION

By: _____
Name: Arnold F. Brookstone
Title: Senior Vice President

February 26, 1986

Champion International Corporation
1 Champion Plaza
Stamford, Connecticut 06921

Attention: Mr. Aubrey Cole
Vice Chairman

Dear Sirs:

We refer to the Asset Purchase Agreement between Stone Container Corporation (the "Purchaser") and Champion International Corporation (the "Seller") dated as of October 1, 1985 (the "Asset Purchase Agreement"). All terms not otherwise defined in this letter shall have the respective meanings assigned thereto in the Asset Purchase Agreement.

The Purchaser and Seller hereby agree as follows:

(a) The parties hereto acknowledge that Purchaser has as of the date hereof notified Seller of its election, pursuant to Section 2.4 of the Asset Purchase Agreement, to cause Stone Brown Paper, Inc., a Delaware corporation and wholly-owned subsidiary of the Purchaser ("Acquisition Sub"), to purchase the Purchased Assets and assume the Assumed Liabilities in lieu of the Purchaser.

(b) Seller and Purchaser agree and acknowledge that the locations of the Facilities as described in Schedule A-2 of the Asset Purchase Agreement shall be superceded by the descriptions contained on Exhibit I to this Agreement.

(c) Seller and Purchaser hereby acknowledge that the Real Property or Real Property Leases that are or were primarily utilized in the business and operations of the Facility at Middletown, Ohio and the Facility at Tacoma, Washington shall not be sold to the Purchaser pursuant to the Asset Purchase Agreement and shall be "Excluded Assets" for the purposes of the Asset Purchase Agreement.

(d) The Purchased Assets to be purchased by Acquisition Sub on the Closing Date shall include all property, plant, machinery and equipment, vehicles, spare parts, inventories, goodwill and other assets wherever located that are owned or leased by Seller and that are presently, or were at any time on and from the date of the Asset Purchase Agreement used or held for use primarily in connection with the conduct of the business and operations of the Seller's Facilities at Tacoma, Washington and Middleton, Ohio.

(e) At the Closing the Seller shall convey, sell and assign to the Acquisition Sub and the Acquisition Sub shall purchase, on the terms and conditions set out in the Asset Purchase Agreement all real property and interest therein owned by the Seller forming part of the property at Nisswa, Minnesota which is more particularly described in Exhibit II hereof, (the "Nisswa Site") together with all buildings, fixtures, improvements and all other appurtenances thereto and such aforementioned property shall be part of the Real Property for the purposes of the Asset Purchase Agreement. The parties hereto further acknowledge that the consideration to be paid by Acquisition Sub pursuant to Section 3.1 of the Asset Purchase Agreement includes full and sufficient consideration for the conveyance, sale and assignment of the Nisswa Site.

(f) The Seller shall promptly pay upon Acquisition Sub's request to do so, and shall indemnify and hold the Purchaser and Acquisition Sub harmless from, all costs and expenses related to or associated with (i) the closing of Seller's Facilities at Tacoma, Washington (the "Tacoma Facility") and Middletown, Ohio, (the "Middletown Facility") including, without limitation, the costs and expenses of dismantling, packing, reconditioning and transporting (such functions being more particularly described in Seller's "ARA"s Nos S222 and M001) any plant and equipment, machinery or other property located at either the Tacoma Facility or at the Middletown Facility to any one of the Facilities at Salt Lake City, Utah nominated by Acquisition Sub (in the case of such property located at the Tacoma Facility) and to one or more of the Purchasers or Acquisition Sub's plants (including any of the Facilities) within the United States nominated by Acquisition Sub (in case of such property located at the Middletown Facility) (the "Chosen Locations"); and (ii) the installation of such plant and equipment, machinery or other property into the said Facility at Salt Lake City, Utah or the Chosen Locations, as the case may be; <u>provided however</u>

that Seller's obligations, with respect to said costs and expenses of dismantling, packing, reconditioning, transporting and installation under this paragraph shall not in any event exceed an amount of $510,000 with respect to the property located at the Middletown Facility, and an amount of $481,000 with respect to the property located at the Tacoma Facility. Nothing herein contained shall limit the provisions of Section 2.6 of the Asset Purchase Agreement.

(g) The parties hereto agree that:

(1) such of the Indemnified Seller Amounts as arise out of, or result from, any of the Assumed Liabilities (other than those Assumed Liabilities that pursuant to the terms of the Asset Purchase Agreement are required to be reflected in the Final Closing Financial Statements but are not) shall not be subject to the provisions of Section 13.4 of the Asset Purchase Agreement, it being the intention of the parties that (i) the provisions of Section 13.3 of the Asset Purchase Agreement relating to such Assumed Liabilities (other than those Assumed Liabilities that pursuant to the terms of the Asset Purchase Agreement are required to be reflected in the Final Closing Financial Statements but are not) shall be effective notwithstanding that the aggregate amount of Indemnified Seller Amounts incurred or suffered by the Indemnified Seller Parties from the date of the Asset Purchase Agreement does not exceed $2.5 million and (ii) such of the Indemnified Seller Amounts as arise out of, or result from, Assumed Liabilities (other than Assumed Liabilities that, pursuant to the terms of the Asset Purchase Agreement are required to be reflected in the Final Closing Financial Statements, but are not) shall be excluded in determining whether the Indemnified Seller Amounts have exceeded $2.5 million; and

(2) such of the Indemnified Purchaser Amounts as arise out of or result from any liability of the Seller of any nature whether or not existing as of the Closing Date other than Assumed Liabilities (the "Non-Assumed Liabilities") shall not be subject to the provision of Section 13.4 of the Asset Purchase Agreement, it being the intention of the parties that (i) the provisions of Section 13.2 of the Asset Purchase Agreement relating to such Non-Assumed Liabilities shall be effective notwithstanding that the aggregate amount of Indemnified Purchaser Amounts incurred or suffered by the Indemnified Purchaser Parties from the date of the Asset Purchase Agreement does not exceed $2.5 million and (ii) such of the Indemnified Purchaser

Amounts as arise out of or relate to the Non Assumed Liabilities shall be excluded in determining whether the Indemnified Purchaser Amounts have exceeded $2.5 million.

The parties hereto confirm the provisions of Section 13.4 of the Asset Purchase Agreement in all other respects and, in particular confirm that the provisions of Section 13.4 shall continue to have full force and effect with respect to all Indemnified Seller Amounts and Indemnified Purchaser Amounts other than those specifically identified respectively in sub-paragraphs (1) and (2) of this paragraph (g).

(h) Without limiting any rights that Purchaser or Acquisition Sub may have under Section 13.2 or any other provision of the Asset Purchase Agreement as amended hereby, the parties hereto agree that:

(1) Seller shall remain fully responsible for, pay promptly upon Acquisition Sub's request, and indemnify and hold the Indemnified Purchaser Parties harmless against, all claims, damages, loss liability, cost and expense of the Indemnified Purchaser Parties arising out of or resulting from air, water, surface or subsurface environmental conditions now existing (the "Environmental Conditions") that result from the use, storage or discharge of pollutants in, about or relating to the two Facilities at Sand Springs, Oklahoma and Salinas, California (the "Affected Facilities"). Without limiting the generality of the foregoing, the Seller shall continue to be responsible for and shall perform all acts and bear all expenses and costs required in order to comply with any Federal, state or local laws, rules, regulations or orders of any relevant public authority (whether or not presently in effect, promulgated or made) relating directly or indirectly to the Environmental Conditions existing in, about or relating to the Affected Facilities; and

(2) Seller shall indemnify and hold the Indemnified Purchaser Parties harmless against, all claims, damages, loss, liability cost and expense of the Indemnified Purchaser Parties arising out of or resulting from any state or municipal tax imposed, levied upon, or payable by the Seller in the State of Tennessee at the present time (the "Tax Amount"), whether or not such Tax Amounts are contested in good faith.

(3) Seller shall indemnify and hold the Indemnifed Purchase Parties harmless against all claims, damages, loss, liability, cost and expenses of the Indemnified Purchase Parties arising in connection with the fact that all necessary consents, approvals or authorizations required from any public authority with respect to the lot split made in connection with Tracts D and E of the Facility at Sand Springs, Oklahoma, have not been so obtained as of the date hereof (the "Split Lot Amount").

(i) Such of the Indemnified Purchaser Amounts as arise out of, or result from any of the Environmental Conditions, the Tax Amount or the Split Lot Expenses shall not be subject to the provisions of Section 13.4 of the Asset Purchase Agreement, it being the intention of the parties that (x) the provisions of Section 13.2 of the Asset Purchase Agreement relating to such Environmental Conditions, the Tax Amount and the Split Lot Expenses shall be effective notwithstanding that the aggregate amount of Indemnified Purchaser Amounts incurred or suffered by the Indemnified Purchaser Parties from the date of the Asset Purchase Agreement does not exceed $2.5 million and (y) such of the Indemnified Purchaser Amounts as arise out of, or result from, the Environmental Conditions, the Tax Amount and the Split Lot Expense shall be excluded in determining whether the Indemnified Purchaser Amounts have exceeded $2.5 million for the purposes of Section 13.4. The parties hereto confirm the provisions of Section 13.4 of the Asset Purchase Agreement in all other respects and, in particular confirm that the provisions of Section 13.4 shall continue to have full force and effect with respect to all Indemnified Purchaser Amounts referred to in Section 13.2 of the Asset Purchase Agreement other than those related to the Environmental Conditions.

(j) Notwithstanding anything to the contrary in the Asset Purchase Agreement, Purchaser shall not assume (x) that certain agreement by and between Edward Sider & Company ("Sider") and St. Regis Paper Company (the "Sider Contract", a copy of which is attached to this letter as Exhibit III), listed as Item No. 223 on Schedule 2.1(g) of the Asset Purchase Agreement and the Sider Contract is hereby deemed to be deleted from Schedule 2.1(g) and (y) the Belli Packaging Company Agreement listed as item 96 on Schedule 2.1(g) of the Asset Purchase Agreement and the same is hereby deleted from Schedule 2.1(g).

(k) (1) Purchaser shall sell to Seller from time to time sufficient quantities of shingle-wrap to permit

Seller to meet its commitments under and in accordance with the Sider Contract for the period from the Closing Date to and including December 31, 1986 (the "Sider Contract Indemnity Period"). Purchaser shall sell said shingle-wrap to Seller at Purchaser's then-current market prices and payment terms, less commissions that would otherwise be paid to Sider in accordance with the terms of the Sider Contract;

(2) Purchaser agrees to indemnify Seller against, and hold Seller harmless from, any and all claims, damages, loss, liability, cost and expense (including reasonable attorneys' fees and expenses in connection with any action, suit or proceeding) incurred or suffered by Champion as a result of any claim by Sider against Seller which both (a) arises out of or relates to the Sider Contract during the Sider Contract Indemnity Period and (b) relate to events and circumstance arising during the Sider Contract Indemnity Period, provided, however, that such indemnification shall not apply to the extent that any of the abovementioned claims, losses, damages, loss, liability, cost and expense are caused by the negligence, willful misconduct or other fault of Seller. Seller agrees to indemnify Purchaser and Acquisition Sub against, and hold Purchaser and Acquisition Sub harmless with respect to any and all claims, damages, loss and liability, cost and expense arising in connection with the Sider Contract prior to the Seller Contract Indemnity Period or relating to events and circumstances arising prior to the Sider Contract Indemnity Period.

(1) The parties hereto agree that the Agreement dated as of June 12, 1981 by and between the Seller and Escanaba and Lake Superior Railroad ("Railroad") and the Agreement dated September 30, 1982, as amended July 12, 1983, between the Seller, the Railroad and the Michigan Department of Transportation, (together the "Escanaba Agreements") a copy of the Escanaba Agreements being attached hereto as Exhibit IV, shall be an Assigned Contract for the purposes of the Asset Purchase Agreement and assigned to Acquisition Sub on the Closing Date, such assignment to include any such rights to cure default or rights to purchase, if any, as provided in the Escanaba Agreements; provided that in the event that the Escanaba Agreements are not assignable pursuant to the terms of the Asset Purchase Agreement without constituting a breach of the Escanaba Agreements, then the Escanaba Agreements are not assigned to either the Acquisition Sub or Purchaser pursuant to the Asset Purchase Agreement ("Nonassignability"). In the event of Nonassignability, Seller shall make all good faith efforts to seek

assignment, transfer or other such delivery of its rights under the Escanaba Agreements by obtaining the consent of the other parties to the Escanaba Agreements if such consent is required for there to be a valid assignment, transfer or other such delivery. If such consent cannot be obtained after Seller's good faith efforts, then Seller and Purchaser or Acquisition Sub, as the case may be, agree to cooperate in any lawful arrangement including agreements satisfactory to both parties, designed to provide to the Purchaser or the Acquisition Sub the benefits Seller may hold or holds as specified under the Escanaba Agreements.

(m) The parties hereto agree that the lease between Seller as Tenant and Norman Petska Construction, Inc as Landlord with respect to the Wood and Pulp Wood Chipping site, Section 36, Township 52N Range 30W (the "Petska Lease") shall be an Assigned Lease for the purposes of the Asset Purchase Agreement and assigned to Acquisition Sub on the Closing Date provided that in the event that the Petska Lease is not assignable pursuant to the terms of the Asset Purchase Agreement without constituting a breach of the Petska Lease, then the Petska Lease shall not be so assigned. In the event that the Petska Lease shall not be so assignable the parties shall agree to cooperate, pursuant to the terms of Section 7.6(c) of the Asset Purchase Agreement to provide Acquisition Sub with the benefits of the Petska Lease.

(n) In all other respects the terms of the Asset Purchase Agreement are hereby confirmed. The agreements and acknowledgements contained in this letter shall be limited precisely as written and shall not be deemed to prejudice any right or rights which either the Purchaser or Seller may now have or may have in the future under or in connection with the Asset Purchase Agreement as amended hereby.

If you are in agreement with the foregoing, please sign and return the enclosed copy of this letter as soon as possible. This letter may be executed in counterparts which, taken together, shall constitute an original.

Very truly yours,

STONE CONTAINER CORPORATION

By: _____

STONE BROWN PAPERS INC

By: _____

Agreed to and Accepted this
26th day of February, 1986

CHAMPION INTERNATIONAL CORPORATION

By: _____
VICE CHAIRMAN

cc: Lois J. Gordon, Esq.
Gottlieb & Schwartz
200 East Randolph Drive
Suite 6900
Chicago, Illinois 60601

Dennis S. Hersch, Esq.
Davis Polk & Wardwell
1 Chase Manhattan Plaza
New York, New York 10005

Blaine V. Fogg, Esq.
Skadden, Arps, Slate,
Meagher & Flom
919 Third Avenue
New York, New York 10022

Exhibit I

Schedule A-2
Converting Facilities

1. Birmingham, AL
2. Columbus, IN
3. Denver, CO
4. Fort Smith, AR
5. Fullerton, CA
6. Grand Prairie, TX
7. Gurnee, IL
8. Jefferson, OH
9. Joliet, IL
10. Keokuk, LA
11. Lexington, NC
12. Little Rock, AR
13. Mansfield, MA
14. Milwaukee, WI
15. Minneapolis, MN
16. Richmond, VA
17. Salinas, CA
18. San Jose, CA
19. Sand Springs, OK
20. Sioux City, IA
21. Sioux Falls, SD
22. Springfield, MO
23. St. Cloud, MN
24. St. Joseph, MO
25. St. Louis, MO
26. Atlanta, GA
27. Beloit, WI
28. Collierville, TN
29. Danville, IL
30. Des Moines, IA
31. Fargo, ND
32. Houston, TX
33. Fridley, MN
34. Naperville, IL
35. Neenah, WI
36. Oklahoma City, OK
37. San Leandro, CA
38. Temple, TX
39. Tupelo, MS
40. [This space left intentionally blank]
41. Kansas City, MO
42. Salt Lake City, UT (2 fees)
43. Los Angeles, CA
44. Pensacola, FL
45. Franklin, VA
46. Toledo, OH
47. Tacoma, WA
48. Louisville, KY
49. Fowler, IN
50. Sheridan, AR
51. Quincy, IL (#2)
52. Middletown, OH

REGISTRATION RIGHTS AGREEMENT

AGREEMENT dated as of February 26, 1986 between CHAMPION INTERNATIONAL CORPORATION, a New York corporation (the "Shareholder"), and STONE CONTAINER CORPORATION, an Illinois corporation (the "Company").

W I T N E S S E T H:

WHEREAS, the Company and the Shareholder have entered into an Asset Purchase Agreement dated as of October 1, 1985, as amended (the "Asset Purchase Agreement"), providing for the purchase by the Company of certain assets of the Shareholder in exchange for consideration including, among other things, common shares, no par value, of the Company (the "Common Shares", such Common Shares, together with such other Common Shares as the Shareholder may acquire in accordance with the terms of the Standstill Agreement of even date herewith (the "Standstill Agreement"), are hereinafter collectively referred to as the "Shares") and a warrant (the "Warrant") to purchase Common Shares; and

WHEREAS, it is a condition to the closing (the "Closing") of the transactions provided for in the Asset Purchase Agreement that the Company and the Shareholder enter into this Agreement;

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the Shareholder and the Company agree as follows:

1. REGISTRATION COVENANT.

(a) In the event that the Company shall receive, on or after the first anniversary of the Closing, a written request from the Shareholder that the Company register under the Securities Act of 1933 (the "Act") at least 500,000 Shares (such number of shares shall be appropriately adjusted upwards or downwards to reflect any stock dividend, stock split, recapitalization or other comparable event after the date hereof) held by the Shareholder for the purpose of making a firm commitment underwritten public offering, the Company agrees that it will use its best efforts to effect the registration of all Shares and the Common Shares issuable upon the exercise of the Warrants as to which such request is made and in connection therewith prepare and file, on an appropriate form selected by the Company, a registration statement under the Act. The managing underwriter or underwriters shall be selected by the Shareholder, subject to approval by the Company which approval will not be unreasonably withheld, and the Company and the Shareholder agree to enter into an underwriting agreement in customary form for secondary public offerings with such underwriters.

The Company will use its best efforts to cause any such registration to remain effective (with a prospectus at all times meeting the requirements of the Act) for 90 days from the effective date of the registration statement and will use its best efforts to effect such qualifications under applicable Blue Sky or other state securities laws as may be reasonably requested by the Shareholder (provided that the Company shall not be obligated to file a general consent to service of process or to qualify to do business as a foreign corporation or to otherwise subject itself to taxation solely for the purpose of any such qualification) to permit or facilitate such public offering. Notwithstanding the foregoing, (x) the Company shall not be obligated to cause any special audit to be undertaken in connection with any such registration, (y) the Company shall be entitled to postpone for a reasonable period of time, but not in excess of 60 calendar days, the filing of any registration statement otherwise required to be filed by it pursuant to Section 1(a) if, at the time the Company receives a request for registration, the Company (i) determines that such registration and sale would materially interfere with any pending financing, acquisition, corporate reorganization or other material transaction involving the Company, and (ii) discloses to the Shareholder in writing such determination

and (z) the Company shall not be obligated to file a registration statement pursuant to this Section 1 during the 90-day period following the effectiveness of any registration statement filed by the Company in connection with an underwritten public offering by the Company of its securities. The Company shall not be required to file (x) more than three registration statements pursuant to this paragraph (a), and (y) more than one registration statement pursuant to this paragraph (a) during any 12-month period.

(b) If the Company files a registration statement pursuant to paragraph (a) of this Section, the Company shall be entitled to include with respect to the first two such registration statements, as a part of the offering covered thereby, additional Common Shares to be sold for the account of the Company on the same terms and conditions as the Shares being sold by the Shareholder; provided, however, that if the managing underwriter or underwriters of such offering advise that the inclusion in such registration statement of all Common Shares proposed to be included by the Company would interfere with the successful marketing of the Shares proposed to be sold by the Shareholder, then the number of Common Shares to be included in such registration statement for the account of the Company shall be reduced to such number that such managing underwriter or underwriters advise

could be included in such underwriting without interfering with the successful marketing of the Shares proposed to be sold by the Shareholder. The Company will not include with respect to the third registration statement pursuant to paragraph (a) of this Section 1 any other securities of the Company without the consent of the Shareholder.

(c) If the Company shall propose the registration under the Act of an offering by the Company of Common Shares, the Company shall give written notice as promptly as possible of such proposed registration to the Shareholder and will use its best efforts to cause the offering of such amount of Shares owned by the Shareholder as the Shareholder shall request in writing, within ten days after the giving of such notice, to be included, upon the same terms (including the method of distribution) of any such offering and will use its best efforts to cause any such registration to remain effective (with a prospectus at all times meeting the requirements of the Act) for 90 days from the effective date of the registration statement and will use its best efforts to effect such qualification under applicable Blue Sky or other state securities laws as may be reasonably requested by the Shareholder to permit or facilitate such offering; provided, however, that (x) the Company shall not be required to give notice or include such Shares in any such registration if the

proposed registration is not to be made on Forms S-1, S-2 or S-3 (or the successors to such forms) or is primarily (i) a registration of securities other than Common Shares or (ii) a registration of a stock option, incentive, compensation, profit sharing or other employee benefit plan or of securities issued or issuable pursuant to any such plan or (iii) a registration of securities proposed to be issued in exchange for securities or assets of, or in connection with a merger or consolidation involving another corporation; (y) the Company shall not be required to include all such Shares in any such registration if the Company is advised by its investment banking firm that the inclusion of all such Shares proposed to be included by the Shareholder would interfere with the successful marketing of the Common Shares being offered by the Company but shall reduce the number of Shares to such number that such investment banking firm advises could be included in such underwriting without interfering with the successful marketing of the Common Shares being offered by the Company; and (z) the Company may, at its sole discretion and without the consent of the Shareholder, withdraw such registration statement and abandon the proposed offering in which the Shareholder had requested to participate.

(d) Any offering of Shares by the Shareholder pursuant

to this Section 1 shall comply in all respects with the applicable terms, provisions and requirements of the Standstill Agreement.

2. INFORMATION, DOCUMENTS, ETC.

Upon making a request pursuant to Section 1 hereof, the Shareholder shall furnish to the Company such information regarding the holdings of the Shareholder (and, if applicable, the proposed manner of distribution thereof) as the Company may reasonably request and as shall be required in connection with any registration, qualification or compliance referred to in such Section. The Company agrees that it will furnish to the Shareholder the number of prospectuses or other documents, or any amendments or supplements thereto, incident to any registration, qualification or compliance referred to in Section 1 hereof as the Shareholder from time to time may reasonably request.

3. HOLDBACK AGREEMENT. The Company agrees (i) not to effect any public sale or distribution of its equity securities, or any securities convertible into or exchangeable or exercisable for such securities, during the seven days prior to, and during the 90-day period beginning on, the effective date of any registration statement pursuant to Section 1(a) or (b) unless the underwriters managing the registered public offering otherwise agree, and (ii) not to

agree to permit any holder of its equity securities, or any securities convertible into or exchangeable or exercisable for such securities, in each case purchased from the Company at any time after the date of this Agreement, to effect any public sale or distribution of any such securities in connection with any registration statement filed by the Company pursuant to Section 1(a) or 1(b), unless the underwriters managing the registered public offering otherwise agree.

4. EXPENSES.

(a) The Company will bear all out-of-pocket expenses of the first two registrations, and the Shareholder will bear all out-of-pocket expenses of the third registration pursuant to Section 1(a) or (b) hereof, including, without limitation, printing expenses, Securities and Exchange Commission ("SEC") filing fees, expenses of compliance with Blue Sky or other state securities laws, and legal fees incurred by the Company in connection with such registration and amendments or supplements in connection therewith; except that the Shareholder shall pay all underwriting discounts, commissions and expenses attributable to Shares sold by the Shareholder under such registration and the fees and disbursements of the Shareholder's counsel, accountants and any other person or entity providing services or rendering advice to the Shareholder in connection with such registration.

(b) In connection with any registration pursuant to Section 1(c), the Shareholder shall reimburse the Company for all out-of-pocket expenses, including, without limitation, printing expenses, SEC filing fees, expenses of compliance with Blue Sky or other state securities laws, and legal fees incurred by the Company in connection with such registration and amendments or supplements in connection therewith, expenses of any special audits of the Company incidental to or required by such registration, and underwriting discounts, commissions and expenses in the proportion that the Shares of the Shareholder then being registered bears to all Common Shares then being registered. In addition, the Shareholder will pay all other expenses attributable to the Shares sold by the Shareholder under such registration including, without limitation, the fees and disbursements of the Shareholder's counsel, accountants and any other person or entity providing services or rendering advice to the Shareholder in connection with such registration. Notwithstanding the foregoing, if the Company withdraws its registration statement and abandons the proposed offering in which the Shareholder had requested to participate, the Company will pay all expenses in connection with such registration statement and amendments or supplements in connection therewith.

5. INDEMNIFICATION RELATING TO A REGISTRATION STATEMENT.

(a) In the case of any offering registered pursuant to this Agreement, the Company agrees to indemnify, to the extent permitted by law, the Shareholder, each underwriter of Shares and/or Common Shares, and each person who controls any of the foregoing, against any losses, claims, damages or liabilities, joint or several, to which the Shareholder, any such underwriter or any such controlling person may become subject under the Act or otherwise, including any amount paid in settlement of any litigation, commenced or threatened, if such settlement is effected with the written consent of the Company, and to reimburse them for all legal or other expenses reasonably incurred by them in connection with investigating or defending against such loss, claim, damage or liability (or actions in respect thereof), insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of any material fact contained in such registration statement, or preliminary, final or summary prospectus contained therein, or any amendment or supplement thereto, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or

necessary to make the statements therein not misleading; provided, however, that (i) the Company shall not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in said registration statement, said preliminary, final or summary prospectus, or said amendment or supplement, in reliance upon and in conformity with written information furnished to the Company by the Shareholder, such underwriter or such controlling person specifically for use in the preparation thereof and (ii) the Company shall not be obligated to indemnify any underwriter for an untrue statement or alleged untrue statement or omission or alleged omission made in any preliminary prospectus, and the prospectus contained in the registration statement in the form filed by the Company with the SEC pursuant to Rule 424(b) under the Act shall have corrected such statement or omission and a copy of such prospectus shall not have been sent or given to such person at or prior to the confirmation of such sale to him.

(b) In the case of any offering registered pursuant to this Agreement, the Shareholder, each underwriter of Shares and/or Common Shares and each person who controls any of the foregoing (each such party referred to severally in

this subsection (b) as the "indemnifying party"), will indemnify and hold harmless the Company, each of its directors, each of its officers who have signed such registration statement and each other person, if any, who controls the Company, in the same manner and to the same extent as set forth in subsection (a) of this Section 5, with respect to any untrue statement or alleged untrue statement of any material fact contained in such registration statement, or preliminary, final or summary prospectus contained therein, or any amendment or supplement thereto, or with respect to any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, but only if, and to the extent that, such statement or alleged statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company by such indemnifying party specifically for use in the preparation thereof.

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) of this Section 5 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against the indemnifying party under such clause, notify the indemnifying party in writing of the commencement thereof; but the omis-

sion so to notify the indemnifying party will not relieve the indemnifying party from any liability which it may have to any indemnified party otherwise than under such subsections. In case any such action is brought against any indemnified party, and it notifies the indemnifying party of the commencement thereof, the indemnifying party will be entitled to participate in, and, to the extent that it may wish, to assume and control the defense thereof, with counsel reasonably satisfactory to the indemnified party; provided, however, if the defendants in any such actions include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be legal defenses or rights available to it which are different from, in actual or potential conflict with, or additional to those available to the indemnifying party, the indemnified party shall have the right to select one law firm to act as separate counsel, on behalf of such indemnified party. Upon receipt of notice from the indemnifying party to the indemnified party of its election so to assume the defense of such action, the indemnifying party will not be liable to the indemnified party under this Section 5 for any legal expenses subsequently incurred by the indemnified party in connection with the assumption of legal defense thereof unless (i) the indemnified party shall have employed such

counsel in connection with the assumption of legal defenses or assertion of rights in accordance with the proviso to the next preceding sentence, or (ii) the indemnifying party has authorized the employment of counsel for the indemnified party at the expense of the indemnifying party.

(d) If for any reason the foregoing indemnity is unavailable, or is insufficient to hold harmless, an indemnified party, then the indemnifying party shall contribute to the amount paid or payable by the indemnified party as a result of such losses, claims, damages, liabilities or expenses (i) in such proportion as is appropriate to reflect the relative benefits received by the indemnifying party on the one hand and the indemnified party on the other or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, or provides a lesser sum to the indemnified party than the amount hereinafter calculated, in such proportion as is appropriate to reflect not only the relative benefits received by the indemnifying party on the one hand and the indemnified party on the other but also the relative fault of the indemnifying party and the indemnified party as well as any other relevant equitable considerations. Notwithstanding the foregoing, no underwriter, if any, shall be required to contribute any amount in excess of the amount by which the total price at which the Common Shares and/or

Shares underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The obligation of any underwriters to contribute pursuant to this paragraph (d) shall be several in proportion to their respective underwriting commitments and not joint.

(e) For purposes of this Section 5 the terms "control", "controlling person" and "underwriter" have the meanings which they have in and under the Act.

6. MISCELLANEOUS.

(a) The Shareholder, on the one hand, and the Company on the other, acknowledge and agree that irreparable damage would occur in the event any of the provision of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent breaches of the provisions of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any

State thereof having jurisdiction, in addition to any other remedy to which any of them may be entitled by law or equity.

(b) The covenants of the parties set forth herein shall be of no further force or effect and the parties shall be under no further obligation with respect thereto from and after the first anniversary of the termination of the Standstill Agreement in accordance with its terms.

(c) All notices, consents, requests, instructions, approvals and other communications provided for herein and all legal process in regard hereto shall be validly given, made or served, if in writing and delivered or mailed as provided in the Asset Purchase Agreement.

(d) This Agreement may be amended only by an agreement in writing executed by the parties hereto.

(e) For the convenience of the parties, any number of counterparts of this Agreement may be executed by the parties hereto and each such executed counterpart shall be, and shall be deemed to be, an original instrument.

(f) Descriptive headings are for convenience only and shall not control or affect the meaning or construction of any provision of this Agreement.

(g) This Agreement shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed therein.

(h) As used herein the term "person" shall mean any individual, partnership, corporation, trust or other entity.

IN WITNESS WHEREOF, the Shareholder and the Company have caused this Agreement to be duly executed by their respective officers, each of whom is duly authorized, all as of the day and year first above written.

CHAMPION INTERNATIONAL CORPORATION

By _____
Name: Aubrey L. Cole
Title: Vice Chairman

STONE CONTAINER CORPORATION

By _____
Name: Arnold F. Brookstone
Title: Senior Vice President

EXHIBIT I

STANDSTILL AGREEMENT

AGREEMENT dated as of October 1, 1985 between CHAMPION INTERNATIONAL CORPORATION, a New York corporation (the "Shareholder"), and STONE CONTAINER CORPORATION, an Illinois corporation (the "Company"),

W I T N E S S E T H :

WHEREAS, the Company and the Shareholder have entered into an Asset Purchase Agreement dated as of October 1, 1985 (the "Asset Purchase Agreement"), providing for the purchase by the Company of certain assets of the Shareholder in exchange for consideration including, among other things, common shares, no par value, of the Company (the "Common Shares", such Common Shares, together with such other Common Shares as the Shareholder may acquire in accordance with the terms of this Agreement, are hereinafter collectively referred to as the "Shares") and a warrant (the "Warrant") to purchase Common Shares; and

WHEREAS, it is a condition to the closing (the "Closing") of the transactions provided for in the Asset Purchase Agreement that the Company and the Shareholder enter into this Agreement;

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the Shareholder and the Company agree as follows:

SECTION 1. REPRESENTATIONS AND WARRANTIES OF THE SHAREHOLDER

The Shareholder hereby represents and warrants to the Company that the Shareholder is acquiring the Shares and the Warrant being issued to it at the Closing and any additional Shares issued upon the exercise of the Warrant for its own account for the purpose of investment and not with a view to or for sale in connection with any distribution thereof. The Shareholder will not offer to sell, or otherwise dispose of any Shares or the Warrant in violation of the Securities Act of 1933 (the "Securities Act") or any applicable state securities law. The Shareholder has had a reasonable opportunity to discuss the Company's business, management and financial affairs with the Company's management.

SECTION 2. COVENANTS OF THE COMPANY

Until the termination of this Agreement or the particular covenant, as the case may be:

(a) If the percentage interest of the Shareholder in the Total Voting Power of the Company is reduced as a result of an issuance or sale by the Company of Voting Stock of the Company (including any issuance or sale following

conversion of any security convertible into or exchangeable for Voting Stock or upon exercise of any option, warrant (other than the Warrant) or other right to acquire any Voting Stock or any other voting security of the Company), the Company shall, reasonably promptly so notify the Shareholder, specifying the details thereof, provided, however, that the Company shall be under no obligation to so notify unless the Voting Stock so issued or sold by the Company exceeds 1% of the total Voting Stock or 1% of the Total Voting Power of the Company then issued and outstanding.

As used in this Agreement, the term (i) "Total Voting Power of the Company" means the total number of votes which may be cast in the election of directors of the Company at any meeting of shareholders of the Company if all securities entitled to vote in the election of directors of the Company were present and voted at such meeting, other than votes that may be cast only upon the happening of a contingency, (ii) the term "Voting Stock" means the Common Shares and any other securities issued by the Company having the ordinary power to vote in the election of directors of the Company (other than securities having such power only upon the happening of a contingency) and (iii) the term "Voting Power" of any Voting Stock means the number of votes such Voting Stock is entitled to cast for the election of

directors of the Company at any meeting of shareholders of the Company. As used herein, the term "beneficial ownership" shall have the meaning set forth in Rule 13d-3 under the Securities Exchange Act of 1934 (the "Exchange Act"), provided, however, that for purposes of this Agreement a person shall have beneficial ownership of a security which it has a right to acquire without respect to the time period during which such person has the right to acquire such security. For purposes of this Agreement, the Shareholder shall be deemed to have beneficial ownership of any Voting Stock held by any of its pension plans or other employee benefit programs.

(b) The Company shall not take any action to interfere with any acquisition by the Shareholder of Voting Stock or other securities of the Company after the date hereof if and to the extent permitted by this Agreement.

(c) The Company shall give the Shareholder reasonably prompt notice of the receipt by the Company of (i) any written notice from any person or group that such person or group has acquired or is proposing to acquire any Voting Stock which acquisition results in, or, if successful, would result in, such person or group having beneficial ownership of more than 5% of the Voting Stock or 5% of the Total Voting Power of the Company then issued and outstanding, (ii) any

notice under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (the "HSR Act"), and (iii) any Statement on Schedule 13D or 14D-1 under the Exchange Act, other than a Statement filed by the Shareholder. If so requested by the Shareholder, the Company will furnish reasonably promptly to the Shareholder a copy of any of the notices or statements referred to in this paragraph (c).

SECTION 3. COVENANTS OF THE SHAREHOLDER

Until the termination of this Agreement or the particular covenant, as the case may be:

(a) The Shareholder will not, directly or indirectly, acquire beneficial ownership of any Voting Stock, any securities convertible into or exchangeable for Voting Stock, or any other right to acquire Voting Stock (except, in any case, by way of stock dividends or other distributions or offerings made available to holders of any Voting Stock generally), if the effect of such acquisition would be to increase the Voting Power of all Voting Stock then beneficially owned by the Shareholder to more than 15% of the Total Voting Power of the Company at the time in effect; provided, however, that the Shareholder will not be obliged to dispose of any securities solely because the aggregate percentage of the Total Voting Power of the Company represented by Voting Stock beneficially owned by the Shareholder is increased as a

result of a recapitalization of the Company or a repurchase of securities by the Company or any other action taken by the Company.

(b) If permitted pursuant to the terms of this Agreement, the Shareholder shall advise the Company (i) as to the plans of the Shareholder to acquire additional shares of Voting Stock, or rights thereto, reasonably in advance of any such acquisition and (ii) of any acquisition of Voting Stock, or right thereto, reasonably promptly after such acquisition.

(c) The Shareholder shall cause all shares of Voting Stock which it has the right to vote to be voted (i) for management's nominees to the Board of Directors of the Company (in such manner as management may designate) and (ii) on all other matters to be voted on by holders of Common Shares, as recommended by a majority of the Board of Directors of the Company; provided, that Voting Stock which the Shareholder has the right to vote may be voted as the Shareholder determines in its sole discretion on any Significant Event presented to the holders of Common Stock for a vote or for action by written consent. As used herein, the term "Significant Event" means any amendment to the Company's Articles of Incorporation or By-Laws, any issuance of securities by the Company, any acquisition of or by the Company (by way of merger, consolidation or sale, lease or

exchange of all or substantially all of the Company's assets, or otherwise), or any merger or consolidation to which the Company is a party, recapitalization, liquidation, dissolution or similar transaction involving the Company or any Voting Stock. The Shareholder, as a holder of shares of Voting Stock, shall be present, in person or by proxy, at all meetings of shareholders of the Company so that all shares of Voting Stock which it has the right to vote may be counted for the purposes of determining the presence of a quorum at such meetings.

(d) The Shareholder shall not deposit any shares of Voting Stock in a voting trust or subject any Voting Stock to any arrangement or agreement with respect to the voting of such Voting Stock.

(e) The Shareholder shall not solicit proxies with respect to any Voting Stock, nor shall it become a "participant" in any "solicitation" (as such terms are defined in Regulation 14(A) under the Exchange Act) in opposition to the recommendation of the majority of the directors of the Company with respect to any matter.

(f) The Shareholder shall not join a partnership, limited partnership, syndicate or other group, or otherwise act in concert with any third person, for the purpose of acquiring, holding, voting or disposing of Voting Stock, or

otherwise become a "person" within the meaning of Section 13(d)(3) of the Exchange Act.

(g) The Shareholder shall not, directly or indirectly, sell or transfer any Voting Stock or rights to acquire Voting Stock (including the Warrant) except (i) to the Company or any person or group approved by the Company; (ii) to a corporation of which the Shareholder has beneficial ownership of not less than 80% of the voting power entitled to be cast in the election of directors (a "Controlled Corporation"), so long as such Controlled Corporation agrees, pursuant to an instrument in form and substance satisfactory to the Company, to be bound by all of the terms and provisions of this Agreement to the same extent as the Shareholder is bound, and agrees to transfer such Voting Stock to the Shareholder or another Controlled Corporation of the Shareholder if it ceases to be a Controlled Corporation; (iii) pursuant to a firm commitment underwritten public offering registered under the Securities Act of either Voting Stock or securities exchangeable or exercisable for Voting Stock or pursuant to a rights offering or a dividend or other distribution to shareholders of the Shareholder; provided in each case that no purchaser or other transferee would immediately thereafter, to the knowledge of the Shareholder, beneficially own Voting Stock representing more than 3% of

the Total Voting Power of the Company; (iv) pursuant to Rule 144 under the Securities Act; (v) subject to the Company's right of first refusal as set forth in Section 4(b), in other transactions so long as such transactions do not, directly or indirectly, result in any single person or group having beneficial ownership of Voting Stock with aggregate Voting Power of 3% or more of the Total Voting Power of the Company and so long as prior to the consummation of such transactions the proposed transferees deliver to the Company a certificate, in form and substance satisfactory to the Company, to the effect that immediately after the consummation of such transactions, such person or group will not have beneficial ownership of 3% or more of the Total Voting Power of the Company; (vi) in response to (1) an offer to purchase or exchange for cash or other consideration any Voting Stock (a) which is made by or on behalf of the Company, or (b) which is made by another person or group and is not opposed by the Board of Directors of the Company within the time such Board is required, pursuant to regulations under the Exchange Act, to advise Company shareholders of such Board's position on such offer, or (2) subject to the Company's right of first refusal as set forth in Section 4(b), any other offer made by another person or group to purchase or exchange for cash or other consideration any

Voting Stock which, if successful, would result in such person or group having beneficial ownership of Voting Stock with aggregate Voting Power of more than 50% of the Total Voting Power of the Company then in effect and (vii) pursuant to a pledge of or the granting of a security interest in Voting Stock, provided that the party or parties receiving such pledge or security interest therein (the "Pledgee") shall, prior thereto, have delivered a written agreement to the Company, in form and substance satisfactory to the Company wherein the Pledgee shall agree (x) to conduct any foreclosure sale of the Voting Stock in accordance with the method described in clause (iii) above and (y) to dispose of all Voting Stock then held by the Pledgee pursuant to the method described in clause (iii) above within one year of the first to occur of: (a) the exercise by the Pledgee of voting rights, if any, the Pledgee may have been granted in such Voting Stock, (b) the filing of suit by the Pledgee against the Shareholder for the collection of any indebtedness secured in whole or in part by such Voting Stock or (c) the initiation of any action in the nature of foreclosure relating to any other assets which secure the indebtedness secured by such Voting Stock.

SECTION 4. RIGHTS OF FIRST REFUSAL

(a) Prior to making any sale or transfer of Voting Stock or rights to acquire Voting Stock (including the Warrant) pursuant to Section 3(g)(v), the Shareholder shall give the Company the opportunity to purchase such Voting Stock or rights to acquire Voting Stock in the following manner:

(i) The Shareholder shall give notice (the "Transfer Notice") to the Company in writing of such intention, the amount of Voting Stock or rights to acquire Voting Stock proposed to be sold or transferred, any specific offer to purchase such Voting Stock or rights to acquire Voting Stock theretofore received and then remaining open, identifying the offeror and setting forth all the terms and conditions of such offer (including price).

(ii) The Company shall have the right, exercisable by written notice given by the Company to the Shareholder within 30 days after receipt of such Transfer Notice, to purchase all, but not a part of, the Voting Stock or rights to acquire Voting Stock specified in such Notice for cash at the price offered by the purchaser or transferee specified in the Transfer Notice.

(iii) If the Company exercises its right of first refusal hereunder, the closing of the purchase of the Voting Stock or rights to acquire Voting Stock with respect to which such right has been exercised shall take place at such time and place as the Company shall specify within 30 days after the Company gives notice of such exercise, which period of time shall be extended in order to comply with applicable laws and regulations.

(iv) If the Company does not exercise its right of first refusal hereunder within the time specified for such exercise, the Shareholder shall be free, during the period of 60 days following the expiration of such time for exercise, to sell the Voting Stock or rights to acquire Voting Stock specified in such Transfer Notice on terms and conditions (including price) no less favorable to the Shareholder than the terms and conditions (including price) specified in such Transfer Notice. After the expiration of the abovementioned 60 day period, the Shareholder shall not sell such Voting Stock or rights to acquire Voting Stock specified in such Transfer Notice unless a new Transfer Notice is given by the Shareholder and the

procedures set forth in sub-paragraphs (i) through (iv) of this Section 4(a) are followed.

(b) Prior to making any sale or exchange of Voting Stock pursuant to Section 3(g)(vi)(2) in response to a tender or exchange offer, the Shareholder shall give the Company the opportunity to purchase such Voting Stock in the following manner:

(i) The Shareholder shall give notice (the "Tender Notice") to the Company in writing of such intention no later than 12 days prior to the latest time by which Voting Stock must be tendered in order to be accepted pursuant to such offer or to qualify for any proration applicable to such offer (the "Tender Date"), specifying the amount of Voting Stock proposed to be tendered. For purposes hereof, a tender or exchange offer to purchase Voting Stock shall be deemed to be an offer at the price specified therein, without regard to any provisions thereof with respect to proration or conditions to the offeror's obligation to purchase (assuming such conditions are not impossible of performance when the offering is made, without giving effect to the Company's right of first refusal).

(ii) If the Tender Notice is given, the Company shall have the right, exercisable by notice to the Shareholder at least three days prior to the Tender Date, to purchase all, but not less than all, the Voting Stock specified in the Tender Notice for cash. If the Company exercises such right by giving such notice, the closing of the purchase of such Voting Stock shall take place at such time and place as the Company shall specify within 30 days after the Company gives notice of the exercise of its right of first refusal hereunder. The purchase price to be paid by the Company pursuant to this subsection (b) shall be (x) if such tender or exchange offer is consummated, the purchase price that the Shareholder would have received if it had tendered the Voting Stock purchased by the Company and all such Voting Stock had been purchased in such tender or exchange offer, including any increases in the price paid by the tender or exchange offeror after exercise by the Company of its right of first refusal hereunder, or (y) if such tender or exchange offer is not consummated, the highest price offered pursuant thereto, in each case with property, if

any, to be valued as provided in subsection (d) below.

(iii) If the Company does not exercise such right by giving such notice, then the Shareholder shall be free to accept the tender or exchange offer for all its Voting Stock with respect to which the Tender Notice was given.

(c) Upon exercise of its right of first refusal under 4(a) or (b) the Company and the Shareholder shall be legally obligated to consummate the purchase contemplated thereby within the time periods herein specified.

(d) For purposes of this Section 4, if the purchase price specified in any Transfer Notice or Tender Notice includes any property other than cash, the value of such property for purposes of calculating the total purchase price shall be jointly determined by a nationally recognized investment banking firm selected by each party or, in the event such firms are unable to agree, a third nationally recognized investment banking firm to be selected by such two firms. For this purpose:

(x) The parties shall use their best efforts to cause any determination of the value of any securities included in the purchase price to be made within three business days after the date of

delivery of the Tender Notice or Transfer Notice, as the case may be. If the firms selected by the Shareholder and the Company are unable to agree upon the value of any such securities within such three-day period, the firms shall promptly select a third firm whose determination shall be conclusive.

(y) The parties shall use their best efforts to cause any determination of the value of property other than securities to be made within seven business days after the date of delivery of the Tender Notice or Transfer Notice, as the case may be. If the firms selected by the Shareholder and the Company are unable to agree upon a value within such seven-day period, the firms shall promptly select a third firm whose determination shall be conclusive.

(e) In the event that the Company elects to exercise a right of first refusal under this Section 4, the Company may specify in its notice of intention to exercise such right another person as its designee to purchase the Voting Stock to which such notice relates. If the Company shall designate another person as the purchaser pursuant to this Section 4, the giving of notice of acceptance of the right of first refusal by the Company shall constitute a

legally binding obligation of the Company to complete such purchase; provided that, the Company's obligation shall be to complete such purchase if and only if such other person shall fail to do so on a timely basis.

SECTION 5. PURCHASE RIGHT OF THE COMPANY

(a) The Shareholder hereby grants to the Company an option (the "Option") to purchase for cash all (but not less than all) of the Shares issued to the Shareholder at the Closing and held by the Shareholder at the time of exercise of the Option. The Option may only be exercised by the Company during the period (the "Option Period") commencing on the first calendar day of the month which is 66 months after the Closing and ending on the last calendar day of the month which is 78 months after the Closing. The purchase price per Share to be paid by the Company shall be equal to the amount which is obtained by (i) adding to the Average Closing Market Price (which price shall be calculated on the basis of the average of the per share closing sales prices of the Common Shares as reported in the New York Stock Exchange Composite Transactions during the ten consecutive trading days ending on the second trading prior to the Closing but which price shall in no event be more than $30.61 nor less than $25.05) an amount equal to 15% per annum, compounded annually, for the period after the Closing and prior to

commencement of the Option Period, (ii) deducting from such aggregate amount the aggregate cash dividends per Share paid or declared (and thereafter actually paid) on such Shares after the Closing and prior to commencement of the Option Period and (iii) adding to the amount derived by deducting (ii) from (i) (the "Option Amount") an amount equal to one percent of the Option Amount for each month subsequent to the first month of the Option Period that has elapsed prior to the exercise of the Option. The Option Amount referred to in this paragraph shall be appropriately adjusted to reflect any stock dividend, stock split, recapitalization or other comparable event after the date hereof.

(b) The Company may exercise the Option by delivering a notice of exercise to the Shareholder. Upon receipt by the Shareholder of such notice, the Shareholder shall not offer, sell or transfer any Shares to which the Option relates.

(c) The closing of the purchase under the Option shall take place at such time and place as the Company may specify (i) within 30 days of the date when notice of the exercise of the Option is received by the Shareholder, or (ii) if all required governmental and regulatory approvals and consents have not been obtained within such period, then promptly after they are obtained. At such closing, the

Company shall make payment by wire transfer to such bank account as shall be specified by the Shareholder in an amount equal to the purchase price under the Option, and the Shareholder shall deliver to the Company certificates for the Shares covered thereby duly endorsed to the Company or to such other person as the Company shall specify. Such shares shall be transferred to the Company free and clear of any lien, pledge, security interest, encumbrance, power of attorney, option or equity of any other person and shall not be subject to any proxy granted to any person.

SECTION 6. MISCELLANEOUS

(a) Notwithstanding any other provision of this Agreement, this Agreement shall terminate if, subsequent to the Closing, the Shareholder shall have beneficial ownership of Voting Stock with aggregate Voting Power of less than five percent of the Total Voting Power of the Company then in effect. In addition, subsequent to the Closing, the Company may terminate its obligation to perform or observe any of its covenants and agreements hereunder if the Shareholder violates any of its covenants or agreements hereunder and the Shareholder may terminate its obligations to perform or observe any of its covenants and agreements hereunder if the Company violates or fails to perform any of the covenants or agreements of the Company hereunder; provided, however, that

with respect to any default by the Company under Section 2 of this Agreement or by the Shareholder under Section 3 of this Agreement, the Company or the Shareholder, as the case may be, may not terminate any of its obligations under this Agreement pursuant to this sentence unless it shall have delivered written notice of such default to the other party and such default shall not have been cured within 15 days after delivery of such notice. In any event, this Agreement shall terminate on the date which is 78 months after the Closing.

(b) The share certificates evidencing the Shares (and the certificate representing the Warrant) shall bear the following legend (with appropriate modifications in the case of the Warrant) until such time as the Shareholder delivers an opinion of counsel reasonably satisfactory to the Company to the effect that such legend is no longer required under the Securities Act or otherwise under this Agreement:

"THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO THE PROVISIONS OF AN AGREEMENT DATED AS OF OCTOBER 1, 1985 BETWEEN CHAMPION INTERNATIONAL CORPORATION AND STONE CONTAINER CORPORATION, AND MAY NOT BE SOLD OR TRANSFERRED EXCEPT IN ACCORDANCE THEREWITH. A COPY OF SAID AGREEMENT IS ON FILE AT THE OFFICE OF THE CORPORATE SECRETARY OF STONE

CONTAINER CORPORATION."

The Shareholder shall present or cause to be presented to the Company all certificates representing shares of Voting Stock or any rights to acquire shares of Voting Stock hereafter acquired by it for the placement thereon of such legend. The Company may enter a stop transfer order with its Transfer Agent of its securities against transfer of such securities except in compliance with this Agreement. All legends and stop transfer orders will be removed with respect to shares of Voting Stock and rights to acquire shares of Voting Stock which are sold or otherwise disposed of in accordance with Sections 3(g)(i), (iii), (iv) and (vi), and all legends shall be replaced by an appropriate legend pursuant to the Securities Act if sold or otherwise disposed of in accordance with Section 3(g)(v).

(c) If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

(d) The Shareholder, on the one hand, and the Company, on the other, acknowledge and agree that irreparable damage would occur in the event that any of the provisions of

this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent or cure breaches of the provisions of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state thereof having jurisdiction, this being in addition to any other remedy to which they may be entitled at law or equity.

(e) As used herein, the term "affiliate" shall have the meaning set forth in Rule 12b-2 under the Exchange Act and the term "person" shall mean any individual, partnership, corporation, trust or other entity. References to the masculine gender shall be deemed to also include references to the feminine gender.

(f) This Agreement contains the entire understanding of the parties with respect to the matters covered hereby and this Agreement may be amended only by an agreement in writing executed by the parties hereto. This Agreement may not be assigned, in whole or in part, by the Shareholder.

(g) This Agreement may be executed by the parties hereto in counterparts and each such executed counterpart shall be an original instrument. This Agreement shall be deemed to have been executed and delivered by the parties so

long as each of the Company and the Shareholder have duly executed and delivered a counterpart of this Agreement even if no single counterpart has been executed by both parties.

(h) All notices, consents, requests, instructions, approvals and other communications provided for herein and all legal process in regard hereto shall be validly given, made or served, if in writing and delivered personally by telex (except for legal process) or sent by registered mail, postage prepaid, if to:

The Company:	Stone Container Corporation 360 North Michigan Avenue Chicago, Illinois 60601 Att: Chief Executive Officer with a copy to the: Chief Financial Officer
The Shareholder:	Champion International Corporation One Champion Plaza Stamford, Connecticut 06921 Att: Chief Executive Officer with a copy to the: General Counsel

or to such other address or telex number as any party may, from time to time, designate in a written notice given in a like manner.

(i) From and after the termination of this Agreement the covenants of the parties set forth herein shall be of no further force or effect and the parties shall be under no further obligation with respect thereto, except as expressly provided herein.

(j) This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York.

IN WITNESS WHEREOF, the Shareholder and the Company have caused this Agreement to be duly executed by their respective officers, each of whom is duly authorized, all as of the day and year first above written.

CHAMPION INTERNATIONAL CORPORATION

By: _____
Name: Aubrey L. Cole
Title: Senior Vice President

STONE CONTAINER CORPORATION

By: _____
Name: Arnold F. Brookstone
Title: Senior Vice President

/d9/1c/19355/003/CLOSMEMO/cov
DRAFT: 2/25/86

MEMORANDUM OF CLOSING

February 26, 1986

ACQUISITION OF ASSETS

OF

The Brown Papers System Division of
Champion International Corporation

Pursuant to an

ASSET PURCHASE AGREEMENT

Between

STONE CONTAINER CORPORATION

and

CHAMPION INTERNATIONAL CORPORATION

Dated as of October 1, 1985

DEFINITIONS

Asset Locations	Those locations where Seller operates its Brown Papers System as set forth in Schedules A-1 and A-2 to the Asset Purchase Agreement, as amended
Asset Purchase Agreement	Asset Purchase Agreement dated as of October 1, 1985 between Stone and Seller
Closing	The Closing on the Closing Date at which the purchased Assets were sold by Seller to Purchaser
Closing Date	February 26, 1986
DOJ	Department of Justice
DPW	Davis Polk & Wardwell, special counsel to the Purchaser
FTC	Federal Trade Commission
General Counsel for the Seller	Marvin Ginsky
GS	Gottlieb and Schwartz, Counsel to Purchaser
HSR Act	The Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended
Purchased Assets	The Purchased Assets as defined in Section 2.1 of the Asset Purchase Agreement

Purchaser	Stone Brown Papers, Inc., a Delaware corporation
SASMF	Skadden, Arps, Slate, Meagher & Flom, counsel to the Seller
Seller	Champion International Corporation, a New York Corporation
Stone Container	Stone Container Corporation, an Illinois Corporation
Title Company	Lawyers Title Insurance Corporation

All terms used herein that are not otherwise defined are used herein as they are defined in the Asset Purchase Agreement.

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Draft: 2/23/86

I

ACTION TAKEN PRIOR TO THE CLOSING

1. On September 15, the Board of Directors of the Seller adopted resolutions approving the sale of the Purchased Assets to the Purchaser and authorizing the execution, delivery and performance of the Asset Purchase Agreement; on October 1, 1985 the Board unanimously confirmed their approval of the transaction.

2. On September 23, 1985, the Board of Directors of Stone Container adopted resolutions approving the purchase of the Purchased Assets from the Seller and the Asset Purchase Agreement, authorizing the execution, delivery and performance of the Asset Purchase Agreement.

3. As of October 1, 1985, the Purchaser and Seller entered into the Asset Purchase Agreement. Schedules A-1, A-2, 5.2(a), 6.9 and 9.3 were attached to the Asset Purchase Agreement.

4. On October 9, 1985, the Purchaser filed an HSR Notification and Report Form, pursuant to the HSR Act.

5. On October 9, 1985, the Seller filed an HSR Act Notification and Report Form pursuant to the HSR Act.

6. On November 4, 1985, the Seller furnished the Purchaser with Schedules 2.1(a), 2.1(c), 2.1(d), 2.1(e), 2.1(f), 2.1(g), 2.1(h), 2.1(l), 5.1, 5.2(b), 5.3(h), 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.11(a), 5.11(b), 5.11(c), 5.11(d), 5.11(e), 5.12, 5.14, 5.18, 5.19, 5.21, 5.24, [5.25], [9.1] and 9.2 as required by the corresponding Sections of the Asset Purchase Agreement.

7. On October 30, 1985, the Purchaser furnished the Seller with Schedules 6.1, 6.3, 6.5 and 6.6 as required by the corresponding Sections of the Asset Purchase Agreement.

8. Prior to the Closing Date, the Purchaser obtained an ALTA form of owner's title insurance policies insuring or committing to insure the Real Property, any capitalized leases and Real Property Leases pursuant to Section 11.1(b) of the Asset Purchase Agreement.

9. On December 25, 1985 all waiting periods pursuant to the HSR Act expired.

10. On December 31, 1985, Stone Container gave notice to Champion pursuant to Section 10.1(f) of the Asset Purchase Agreement that it had obtained commitments to finance the Acquisition.

11. Prior to the Closing Date, the deeds with respect to the Real Property were delivered in escrow to the title insurance companies in due form for recordation.

12. On _____, Stone Container gave notice to Seller pursuant to Section 2.4 of the Asset Purchase Agreement that its wholly-owned subsidiary, Stone Brown Papers, Inc., a Delaware corporation, would purchase the assets and assume the liabilities pursuant to the Asset Purchase Agreement.

13. On February 12, 1986, a majority of votes entitled to so vote were cast at a duly convened special meeting of Stone Container in favor of the issuance of the Consideration Shares and Warrants and the total vote cast represented over a 50% in interest of all securities of Stone Container entitled to so vote pursuant to Section 11.1(d) of the Asset Purchase Agreement.

14. On February 17, 1986, Seller delivered to Purchaser a good faith written estimate of the Net Asset Value as of the Closing Date.

15. On February 20, 1986, Seller designated an account 204-82-543 at Morgan Guaranty Trust Company for payment of the Cash Closing Amount.

16. On February 14, 1986, authorization was obtained for listing on the New York Stock Exchange of the Consideration Shares and the Common Shares purchasable upon exercise of the Warrant.

II

CLOSING

1. The Closing was held at 10:00 a.m. on February 26, 1986 in the offices of Davis Polk & Wardwell, 1 Chase Manhattan Plaza, New York, New York.

2. All actions taken at the Closing were considered to have taken place simultaneously and no such actions were considered to have been completed until all actions incident to the Closing had been completed. Moreover, the Closing was considered to have taken place simultaneously with the Closing as prescribed in the Term Loan Agreement and the Revolving Credit Agreement, each of which being between Stone, Purchaser and the Bank signatories thereto.

3. Documents delivered on or before the Closing are listed in Schedule A.

4. Persons attending the Closing are listed in Schedule B.

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DRAFT: 2/25/86

SCHEDULE A*

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
A. Basic Agreements							
1. Asset Purchase Agreement dated as of October 1, 1985	/1	/1	/1	/1	/1	/1	/6
2. Amendment to Asset Purchase Agreement dated as of February __, 1986	1/	1/	1/	1/	1/	1/	6/
2a. Side letter concerning Employee Benefits by Stone and Seller							
3. Registration Rights Agreement pursuant to Section 7.9(a)(i)	1/	1/	1/	1/	1/	1/	6/
4. Standstill Agreement pursuant to Section 7.9(a)(i)	1/	1/	1/	1/	1/	1/	6/
5. Escrow Agreement dated as of February 12, 1986 between Stone, Seller and Lawyers Title Insurance Company	-	-	-	-	-	-	-
B. Ancillary Agreements							
6. Tacoma Settlement Agreement between Purchaser and Seller pursuant to Section 7.10(a)(iv)	1/	1/	1/	1/	1/	1/	6/
7. St. Paul Settlement Agreement between Purchaser and Seller pursuant to Section 7.10(a)(iii)	1/	1/	1/	1/	1/	1/	6/

* Unless otherwise indicated, documents are dated the date of Closing.

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
8. Container Supply Agreement between Purchaser and Seller pursuant to Section 7.10(a)(ii)	1/	1/	1/	1/	1/	1/	6/
9. Frenchtows Fibre Supplement Agreements between Purchaser and Seller pursuant to Section 7.10(a)(i)	1/	1/	1/	1/	1/	1/	6/
a) Chip Purchase Agreement b) Sawdust Purchase Agreement c) Hogfuel Agreement							
10. Transition Supply and Services Agreement between Purchaser and Seller pursuant to Section 7.9(a)(ii)	1/	1/	1/	1/	1/	1/	6/
10a. Side letter with respect to transition supply as services							
11. Lease from Champion to Purchaser of a portion of the Pensacola facility	-	-	-	-	-	-	-
12. International License Agreement between Seller and Purchaser	1/	1/	1/	1/	1/	1/	6/
C. To Be Delivered by Purchaser							
Certificates and Opinions							
13. Articles of Incorporation of Purchaser certified as of a recent date by the Secretary of State of the State of Delaware	/1	/1	1/	/1	1/	1/	1/5
14. Long form good standing certificate for Purchaser dated as of a recent date by the Secretary of State of the State of Delaware	/1	/1	1/	/1	/1	/1	1/5

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
15. Bring down telegram from the Secretary of State of the State of Delaware as to Purchaser's good standing and tax status as of the close of business on the business day immediately preceding the Closing Date	/1	/1	1/	/1	/1	/1	1/5
16. Good standing certificate for Purchaser dated as of a recent date of the Secretary of State of the following states:	/1	/1	1/	/1	/1	/1	1/5
1) Alabama 2) Arkansas 3) California 4) Colorado 5) Connecticut 6) Georgia 7) Illinois 8) Indiana 9) Iowa 10) Kentucky 11) Massachusetts 12) Michigan 13) Minnesota 14) Mississippi 15) Missouri 16) Montana 17) New York 18) North Carolina 19) North Dakota 20) Ohio 21) Oklahoma 22) Pennsylvania 23) South Dakota 24) Tennessee 25) Texas 26) Utah 27) Virginia 28) Wisconsin							
17. Certificate of the Secretary of Purchaser pursuant to Section 4.1(c)(iv) (form attached as Exhibit 16)	1/	1/	1/	1/	1/	1/	6/

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
18. Confirmation of wire transfer of Cash Closing Amount to account nominated by Seller	/1	/1	1/	/1	/1	/1	1/5
19. Liabilities Assumption Agreement pursuant to Section 4.1(c)(ii) (form attached as Exhibit 19)	1/	1/	1/	1/	1/	1/	6/
I. To be Delivered by Stone							
20. The Warrant Certificate pursuant to Sections 3.1 and 4.1(c)(i)	/1	/1	1/	/1	/1	/1	1/5
21. Certificate for 1,633,453 common shares in name of Seller	/1	/1	1/	/1	/1	/1	1/5
22. Articles of Incorporation of Stone certified as of a recent date by the Secretary of State of the State of Illinois	/1	/1	1/	/1	/1	/1	1/5
23. Long form good standing certificate for Stone dated as of a recent date by the Secretary of State of the State of Illinois	1/	/1	1/	/1	/1	/1	1/5
24. Evidence of expiration of HSR waiting period pursuant to Section 8.9(b)	1/	/1	1/	/1	/1	/1	1/5
25. Certificate of Secretary of Stone (form attached as Exhibit 25)	1/	1/	1/	1/	/1	1/	6/
26. Certificate of a Officer of Stone (form attached as Exhibit 26)	1/	1/	1/	1/	1/	1/	6/
27. NYSE approval of the listing application pursuant to Section 11.2(g)	/1	/1	/1	/1	/1	/1	/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
E. To Be Delivered by Seller							
28. Articles of Incorporation of the Seller certified as of a recent date by the Secretary of State of the State of New York	1/	/1	/1	/1	/1	/1	1/5
29. Long form good standing certificate dated as of a recent date by the Secretary of State of the State of New York as to Seller's good standing and tax status	1/	/1	/1	/1	/1	/1	1/5
30. Good standing certificate for Seller dated as of a recent date of the Secretary of State of the following states:	1/	/1	/1	/1	/1	/1	1/5

1) Alabama
2) Arkansas
3) California
4) Colorado
5) Connecticut
6) Georgia
7) Illinois
8) Indiana
9) Iowa
10) Kentucky
11) Massachusetts
12) Michigan
13) Minnesota
14) Mississippi
15) Missouri
16) Montana
17) New York
18) North Carolina
19) North Dakota
20) Ohio
21) Oklahoma
22) Pennsylvania
23) South Dakota
24) Tennessee
25) Texas
26) Utah
27) Virginia
28) Wisconsin

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
31. Opinion of General Counsel for the Seller pursuant to Section 11.1(a)	1/	1/	1/	1/	1/	1/	6/
32. Certificate of the Secretary of the Seller (i) pursuant to Section 4.1(b)(vii), (ix) (form attached as Exhibit 32)	1/	1/	1/	1/	1/	1/	6/
33. Certificate of an Officer of the Seller pursuant to Section 11.1(c) (form attached as Exhibit 33)	1/	1/	1/	1/	1/	1/	6/
34. Board of Directors' resolutions authorizing the Asset Purchase Agreement pursuant to Section 4.1(b)(viii)	1/	1/	1/	1/	1/	1/	6/
35. Evidence that IRBs have been properly discharged							
a. Missoula (2) b. Ontonagon (1) c. Springfield d. Mansfield e. Birmingham f. Sioux City	1/	/1	/1	/1	/1	/1	1/5
36. Evidence of expiration of HSR Act waiting period	1/	/1	/1	/1	/1	/1	1/5
37. Receipt by Seller of Cash Closing Amount pursuant to Section 3.1	/1	/1	1/	/1	/1	/1	1/5
38. Statement of operating profit by Seller for 9-month period ending 9/30/85 and update of Facilities Financing Statements pursuant to Section 7.11(b)	1/	/1	/1	/1	/1	/1	1/5
39. Consents from Third Parties for all material Assigned Contracts, Assumed Personal Property Leases and Intellectual Property pursuant to Section 11.1(e)	1/	/1	/1	/1	/1	/1	1/5

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interests [3]							
i. Sand Springs Home (Facility) (lease #1)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
c) Lessee's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
ii. Sand Springs Home (Facility) (lease #2)	1	copy	1	1	copy	copy	3/3
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
c) Lessee's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iii. Kerr Glass Manufacturing (Warehouse)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
71. Transfer Location No. 20 (Sioux City, Iowa)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Spot Warehouse Agreements [6]:							
i. I-Go Van & Storage							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
ii. Nebraska Warehouses							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
iii. Consumers Supply Corp.							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
iv. Pierce Moving							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
v. Nordica Food Service							

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
vi. Piepho Moving							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
72. Transfer Location No. 21 (Sioux Falls, South Dakota)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
73. Transfer Location No. 22 (Springfield, Missouri)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
74. Transfer Location No. 23 (St. Cloud, Minnesota)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	copy	copy	copy	-	1/3
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
v. Certificate of Real Estate Value	copy	copy	copy	copy	copy	copy	0/6
b. Lease interest							
i. Rick and Kathleen Jordahl (Warehouse - Sublease)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
c. Spot Warehouse Agreements [8]:							
i. Stemm Transfer							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
ii. Consumers Supply							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iii. St. Croix							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
iv. Titan Services							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
v. St. Croix							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
vi. Piepho Moving							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
vii. Northern Wire							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
viii. Monmouth Warehouse							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
75. Transfer Location No. 24 (St. Joseph, Missouri)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
b. Spot Warehouse Agreements [3]:							
i. H.D.W. Enterprises							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
ii. Carnation							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
iii. Banks Moving							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
76. Transfer Location No. 25 (St. Louis, Missouri)							
a. Lease interests [2]							
i. General Investment Funds R.E. (Facility)							
a) Transfer document: Assignment and Assumption of Lease from Seller to Purchaser	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
c) Lessee's Commitment for Title Insurance	1	-	copy	copy	-	-	1/2
ii. Fortune Bel Aire Co. (Warehouse)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
77. Transfer Location No. 26 (Atlanta, Georgia)							
a. Lease interests [2]							
i. Boatrock Enterprises (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
ii. James S. Owens (Warehouse)							

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	copy	copy	copy	copy	copy	1/5
78. Transfer Location No. 27 (Beloit, Wisconsin)							
a. Lease interest							
i. Fred T. Kampo (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
79. Transfer Location No. 28 (Collierville, Tennessee)							
a. Fee interest (2 parcels)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
80. Transfer Location No. 29 (Danville, Illinois)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Declaration	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interest							
i. Mervis Industries Inc. (Warehouse)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
81. Transfer Location No. 30 (Des Moines, Iowa)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
v. Declaration of Value including federal identification number and addresses of Purchaser and Seller	copy	copy	copy	copy	copy	copy	0/6
82. Transfer Location No. 31 (Fargo, North Dakota)							
a. Lease interest							
i. Olson and Peterson (Facility)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	copy	1	1	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
83. Transfer Location No. 32 (Houston, Texas)							
a. Lease interests (2)							
i. Weingarten Realty Inc. (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	copy	copy	copy	copy	copy	1/5
ii. Central Park Joint Venture (Facility)							
a) [Action re Landlord: Consent]	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/5

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
84. Transfer Location No. 33 (Fridley, Minnesota)							
a. Lease interests [2]							
i. John Hancock Mutual Life Ins. Co. (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
85. Transfer Location No. 34 (Naperville, Illinois)							
a. Lease interest							
i. LaSalle National Bank (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
86. Transfer Location No. 35 (Neenah, Wisconsin)							
a. Lease interest							
i. Fred T. Kampo (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/5
b. Spot Warehouse Agreements [2]:							
i. Up Warehouse							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
ii. Iron Mountain							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
87. Transfer Location No. 36 (Oklahoma City, Oklahoma)							
a. Lease interest							
i. Investors Development Corp. (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	copy	copy	copy	copy	copy	1/5

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
88. Transfer Location No. 37 (San Leandro, California)							
a. Lease interest [1]							
i. Jean D. Birdsey (Facility - Stone to be Sublessor)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/5
89. Transfer Location No. 38 (Temple, Texas)							
a. Lease interest							
i. Stanley Fogelman (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
90. Transfer Location No. 39 (Tupelo, Mississippi)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
91. Transfer Location No. 40 (Quincy, Illinois)							
a. Lease interest							
i. Schumacher Electric Corp. (Warehouse)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
92. Transfer Location No. 41 (Kansas City, Missouri)							
a. Fee interest [for land only]							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility							
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Filing	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
93. Transfer Location No. 42a (Salt Lake City, Utah)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
94. Transfer Location No. 42b (Salt Lake City, Utah)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	-	-	1/2
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interest							
i. St. Regis Corp./Paul W. Buehner (Warehouse)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
c. Spot Warehouse Agreements [3]:							
i. Lile Moving							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
ii. Wagner Packaging							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iii. National Warehouse							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
95. Transfer Location No. 43 (Los Angeles, California)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
v. Preliminary Change of Ownership Report	copy	copy	copy	copy	copy	copy	0/6
b. Lease interest							
i. Burlington Industries (Warehouse)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
96. Transfer Location No. 44 (Pensacola, Florida)							
[to be closed]							

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
97. Transfer Location No. 45 (Franklin, Virginia)							
a. Lease interest							
i. Kelly-Hatfield Land Co. (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
b. Spot Warehouse Agreement:							
i. T&D Enterprises							
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
98. Transfer Location No. 46 (Toledo, Ohio)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
b. Spot Warehouse Agreements [2]:							
i. Ohio Distribution Warehouse Corp.							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
ii. Product Forwarding Corp.							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
99. Transfer Location No. 47 (Tacoma, Washington)							
[not to be conveyed]							
100. Transfer Location No. 48 (Louisville, Kentucky)							
a. Fee interest (4 tracks)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
101. Transfer Location No. 49 (Fowler, Indiana)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Spot Warehouse Agreement:							
i. George W. Bates							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
c. Parking Lot Agreement							
i. Motor Leasing Corp.							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
102. Transfer Location No. 50 (Sheridan, Arkansas)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
103. Transfer Location No. 51 (Quincy, Illinois)							
a. Lease interest							
i. Heidbreder and Peters (Facility)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
104. Transfer Location No. 52 (Middletown, Ohio)							
[not to be conveyed]							
105. Transfer Location No. 53 (Nisswa, Minnesota)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iii. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
iv. Certificate of Real Estate Value	copy	copy	copy	copy	copy	copy	0/6
106. Transfer Location No. 54 (Hayward, California)							
a. Lease interest							
i. Atherton Properties (Warehouse)							

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
40. Licenses and permits pursuant to Section 11.1(e)	1/	/1	/1	/1	/1	/1	1/5
41. Bill of Sale and General Assignment to the Purchaser of all of Seller's right, title and interest in the Purchased Assets pursuant to Section 4.1(b)(ii) (form attached as Exhibit 41)	1/	1/	1/	1/	1/	1/	6/
42. Lease of Personal Property							
Assignment and Assumption Agreement (Assigned Personal Property Leases) listed in Schedule 2.1(e) from Seller to Purchaser pursuant to Sections 2.1(e) and 4.1(b)(iii) (form attached as Exhibit 42a)	1/	1/	1/	1/	1/	1/	6/
43. Assigned Contracts							
Bill of Sale and Assignment to Purchaser of all of Seller's right, title and interest in certain contracts listed in Schedule 2.1(g) pursuant to Sections 2.1(g) and 4.1(b)(iii) (including contracts requiring consent of third parties)* (form attached as Exhibit 43)	1/	1/	1/	1/	1/	1/	6/

* Note: (1) Corrugated broker agreement excepted (Lou Belli);
(2) Sider agreement excepted.

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
44. Accounts Receivable							
Bill of Sale and Assignment of Notes and Accounts Receivable to Purchaser of all Seller's right, title and interest in accounts receivable pursuant to Sections 2.1(k) and 4.1(b)(vi) and UCC-1 filings* (form attached as Exhibit 44)	1/	1/	1/	1/	1/	1/	6/
45. Intellectual Property							
Assignment of (a) United States Patents and Applications; (b) Foreign Patents and Applications; (c) United States Registered Trademarks and Applications; (d) Foreign Registered Trademarks and Applications; (e) Copyrights; and (f) Intellectual Property by Seller to Purchaser pursuant to Sections 2.1(b), 5.5 and 4.1(b)(iii) (forms of assignment attached as Exhibits 45a, 45b, 45c, 45d, 45e and 45f)	1/	1/	1/	1/	1/	1/	6/
46. Personal Property							
Bill of Sale and Assignment to Purchaser of all of Seller's right, title and interest in certain personal property listed in Schedule 2.1(d) to the Asset Purchase Agreement pursuant to Section 2.1(d) (form attached as Exhibit 46)	1/	1/	1/	1/	1/	1/	6/
47. Inventories							
Bill of Sale and Assignment to Purchaser of all of Seller's right, title and interest in inventory listed in							

* Azrock receivable to be excepted.

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
Schedule 2.1(f) to the Asset Purchase Agreement pursuant to Section 2.1(f)' (form attached as Exhibit 47)	1/	1/	1/	1/	1/	1/	6/
Documents Related to Transfer of Interests in Real Property							
48. Release of Escrow dated February 26, 1986 by which deeds and other real property documents delivered by Seller prior to closing were released (attached as Exhibit 48)	1	copy	1	copy	copy	copy	2/4
Transfer Locations							
The following Mill Transfer Locations are numbered to correspond with Schedule A-1 of the Asset Purchase Agreement (form for lease transfers attached as Exhibit 49)*							
Mills:							
49. Mill Transfer Location No. 1 (Missoula, Montana)							
a. Fee interests - for parcels A(parts I & II), B, C, D, E, & F from Seller to Purchaser							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Filing	copy	copy	copy	copy	copy	copy	0/6

* Note: Originals of all the documents listed below, except for the Original Document Files and transfer documents, were delivered by Champion, Stone and the Title Company prior to Closing.

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interests [3]							
i. Burlington Northern RR (Warehouse)							
a) [Action re Landlord: Consent]	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
ii. Alfred & Rosemary Deschamps (Purchaser to be lessor)							
a) Transfer document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
iii. Robert A. Peterson (Purchaser to be Lessor)							
a) Transfer document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
c. Spot Warehouse Agreement							
i. Montana Transfer Co.							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Invoice of Agreement	copy	copy	copy	copy	copy	copy	0/6

50. Mill Transfer Location No. 2 (Ontonagon, Michigan)

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
a. Fee interest - Remainder of Property excluding North half of Government Lot 7, Section 25, and all of Sections 5, 8, 13, and 24.							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interests [2]							
i. Norman Pestka Construction (Warehouse)							
a) Transfer document: Assignment and Assumption of Lease from Seller to Purchaser	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
ii. U.S. Department of the Army (Waste Treatment Site)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
51. Mill Transfer Location No. 3 (York, Pennsylvania)							
a. Fee interest: parcels A-G							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interests [4] [Purchaser to be Lessor]							
i. Borg-Warner Air Conditioner, Inc. (Parking Facility)							
a) Transfer Document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
ii. David R. Crawford Associates							
a) Transfer document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
iii. Charles H. Grafton and Todd Raver							
a) Transfer document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
iv. Edward I. Doucette d/b/a Doucette Industries							
a) Transfer document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
Converting Facilities							
The following Transfer Locations are numbered to correspond with Schedule A-2 of the Asset Purchase Agreement.							
52. Transfer Location No. 1 (Birmingham, Alabama)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
53. Transfer Location No. 2 (Columbus, Indiana)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interest							
i. Columbus Warehouse & Cartage (Warehouse)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
c. Spot Warehouse Agreements [2]:							
i. Service Warehouse Inc.							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
ii. Tierney Industrial Warehouse							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
54. Transfer Location No. 3 (Denver, Colorado)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
55. Transfer Location No. 4 (Fort Smith, Arkansas)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interests [2]							
i. Fleming-Felker Partnership (Warehouse)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption of Lease from Seller to Purchaser	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
ii. United States of America (Wind Shear lease) (Purchaser to be the Lessor)							
a) Transfer Document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
56. Transfer Location No. 5 (Fullerton, California)							
a. Fee Interest (2 parcels)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
v. Change of Ownership Report	copy	copy	copy	copy	copy	copy	0/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
57. Transfer Location No. 6 (Grand Prairie, Texas)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	-	-	1/2
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interest							
i. E.C. Reinauer & Sons, Inc. (Warehouse)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
58. Transfer Location No. 7 (Gurnee, Illinois)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
59. Transfer Location No. 8 (Jefferson, Ohio)							
a. Fee interest (six tracts)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interest							
i. Ashtabula County Construction Co., Inc. (Warehouse)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
c. Spot Warehouse Agreement:							
i. Ancon							
a) Transfer document: Master Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
60. Transfer Location No. 9 (Joliet, Illinois)							
a. Lease interest							
i. New York Life Ins. (Facility)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
d) Lessee's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
b. Spot Warehouse Agreement:							
i. Spivey Marine and Harbor Service Co. (Shoreline agreement - Purchaser to Lessor)							
a) Transfer Document: Assignment & Assumption of Shoreline Agreement	2	copy	1	1	copy	copy	4/3
b) Original Invoice	copy	copy	copy	copy	copy	copy	0/6
61. Transfer Location No. 10 (Keokuk, Iowa)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
iv. Transfer Tax Affidavit including Federal Identification number and addresses of Purchaser and Seller	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interest (Warehouse)							
i. Muscatine Realty Corp.							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
62. Transfer Location No. 11 (Lexington, North Carolina)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
63. Transfer Location No. 12 (Little Rock, Arkansas)							
a. Fee interest (2 tracts)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
64. Transfer Location No. 13 (Mansfield, Massachusetts)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
65. Transfer Location No. 14 (Milwaukee, Wisconsin)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iii. Transfer Tax Affidavit	copy	copy	copy	copy	copy	copy	0/6
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
v. Transfer Tax Return	copy	copy	copy	copy	copy	copy	0/6
b. Lease interest							
i. Waldorf Corporation (Facility)							
a) [Action re Landlord: New lease between Waldorf and Stone]	1	copy	copy	copy	copy	copy	1/5

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
[b) Transfer document: Assignment and Assumption of Lease from Seller to Purchaser]	2	copy	1	1	copy	copy	4/3
c) [Original Lease]	1	-	-	-	-	-	1/0
66. Transfer Location No. 15 (Minneapolis, Minnesota)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Affidavit of Purchaser for Registered Land	copy	copy	copy	copy	copy	copy	0/6
v. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
vi. Certificate of Real Estate Value	copy	copy	copy	copy	copy	copy	0/6
b. Lease interests							
i. Burlington Northern Inc. (Facility)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
ii. May Brothers (Purchaser to be Lessor)							
a) Transfer Document: Assignment and Assumption of Lease Agreement	2	copy	1	1	copy	copy	4/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
b) Original Lease	1	-	-	-	-	-	1/0
67. Transfer Location No. 16 (Richmond, Virginia)							
a. Fee interest (parcel II)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
b. Lease interest (Facility) (parcel I)							
i. Sovran Bank N.A.							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
c) Lessee's Commitment for Title Insurance	1	-	copy	copy	-	-	1/2
68. Transfer Location No. 17 (Salinas, California)							
a. Fee Interest (9 parcels)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
v. Preliminary Change of Ownership Report	copy	copy	copy	copy	copy	copy	0/6
b. Lease interest							
i. Growers Ice & Development (Maintenance Agreement for water, sewer and electric lines)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
69. Transfer Location No. 18 (San Jose, California)							
a. Fee interest							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3
iv. Original Document File Relating to Facility	1	-	-	-	-	-	1/0
v. Preliminary Change of Ownership Report	copy	copy	copy	copy	copy	copy	0/6
70. Transfer Location No. 19 (Sand Springs, Oklahoma)							
a. Fee interest (3 tracts)							
i. Deed of Conveyance	1	copy	copy	copy	copy	copy	1/5
ii. Certified Survey of Facility	1	-	1	1	-	-	3/0
iii. Purchaser's Commitment for Title Insurance	1	-	copy	copy	copy	-	1/3

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
107. Transfer Location No. 55 (Arlington Heights, Illinois)							
a. Lease interest							
i. Chicago Title & Trust Co. (Warehouse)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
108. Transfer Location No. 56 (Mission Viejo, California)							
a. Lease interest							
i. G & S Properties (Sales Office)							
a) [Action re Landlord: Consent]	1	copy	1	1	copy	copy	3/3
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
109. Transfer Location No. 57 (Jonesboro, Arkansas)							

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
a. Lease interest							
i. Roy C. Bearden (Warehouse)							
a) Action re Landlord: Consent	1	copy	copy	copy	copy	copy	1/5
b) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
c) Original Lease	1	-	-	-	-	-	1/0
110. Transfer Location No. 58 (Shreveport, Louisiana)							
a. Lease interest							
i. Wheless Properties, Inc. (Warehouse)							
a) Transfer document: Assignment and Assumption Agreement	2	copy	1	1	copy	copy	4/3
b) Original Lease	1	-	-	-	-	-	1/0
111. Transfer Location No. 59 (Framingham, Massachusetts)							
[not to be conveyed]							
112. Transfer Location No. 60 (Reno, Nevada)							
[not to be conveyed]							
F. To Be Delivered by DPW							
113. Opinion of counsel to Purchaser pursuant to Section 11.2(b)							
G. To Be Delivered by GS							
114. Opinion of counsel to Purchaser pursuant to Section 11.2(b)							

	Purchaser	Stone	Seller	DPW	GS	SASMF	Total Originals/Copies
H. To Be Delivered by SASMF							
115. Opinion of counsel to Seller pursuant to Section 11.1(a)							

Title Company

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