

Appendix 1

St. Regis Paper Company Site (Cass Lake, MN) Document List and Description

Provided for
Human Health and Ecological Risk Assessment Panel Participants

January 5, 2000

Site Related Documents

- 01) Remedial Investigation/Alternatives Report. Barr Engineering
April, 1985

The purpose of the remedial investigation (RI) was to define impacts of past facility operations and waste management practices on public health and the environment. The purpose of the remedial alternatives analysis was to evaluate several remedial actions that are available to mitigate the present or potential future impacts identified during the RI. The report identifies several issues of concern and makes recommendations for remedial action (pp. 106-107) including 1) Excavation and transfer of sludge and contaminated soil into an on site vault, and the construction of a groundwater pump and treat system, 2) Further assessment of the extent of groundwater contamination near the city dump site, including potential impacts on Fox Creek, Pike Bay and the lower aquifer, and 3) Development of a routine monitoring program for surface and groundwater. Included here are the table of contents, executive summary, recommendations and selected tables.

- 02) Five-Year Review Report, St. Regis Paper Company Site. MN Pollution Control
Agency
March 27, 1995

This document evaluates the effectiveness of the remedial actions implemented at the site. It provides recommendations for future monitoring activities including an evaluation of the remnant plume and its potential for impacting the Pike Bay/Cass Lake system. Specifically, it suggests the following: 1) comprehensive sediment and surface water sampling from suspected discharge areas, 2) determination of whether the groundwater contamination is eluding the capture zone of the extraction system including the addition of another monitoring well to better define the southern edge of the remnant plume, 3) determine if DNAPL is present in the groundwater and assess its long term impacts on the remedial objectives, 4) conduct confirmatory soil sampling for PAHs, PCP, dioxin and metals to determine relative risk in areas where visibly contaminated soils and sludges have been excavated, and submit a report reviewing the data and making recommendations.

- 03) Site Review and Update, St. Regis Paper Company Site. MN Department of Health
March 29, 1995

This report was intended to provide information to the agencies conducting the 5-year review (above). It summarizes current conditions and issues at the site and makes recommendations regarding public health concerns. Issues and concerns highlighted in this report include: 1) identification and continued monitoring of all water supply wells, 2) evaluating wild rice as an exposure pathway for sediment contaminants, 3) Fish contaminant monitoring and consumption, and 4) confirmatory soil sampling and analysis for areas excavated using a “visual” standard. Recommendations made in this report include sealing contaminated wells, continued monitoring of surface and groundwater, identification of eastern edge of the groundwater contaminant plume (which may include additional monitoring wells), and continued efforts toward educating the local population regarding the presence of contamination in the area. Note that comments written on this draft are of unknown origin.

- 04) Environmental Review Report MJ Environmental
Champion Wood Treatment Facility Consultants Inc.
1997

The report was prepared for the Leech Lake Tribal Council who requested an independent review and evaluation of previous investigative work and remedial actions performed at the site. The report presents an evaluation of the remedial actions at the site and makes several recommendations for additional activities (p. 25) including: 1) collection and analysis of additional soil samples, 2) better define the southern edge of the density plume by installing an additional monitoring well, and 3) a more thorough review of the groundwater flow model currently used at the site. This report also provides an overview of pertinent site documents, reports and administrative orders associated with the remedial investigation and activities performed at the site. Note: appendices not included here.

- 05) Discussion of site investigation information relevant to five-year review issues. Champion International Corp.
June 1, 1995

This document was prepared for a technical discussion meeting between Champion Int’l., the U.S. EPA, and the Leech Lake Band of Chippewa. Several selected pages of this document have been included here which express Champion’s response to some of the key issues raised in the five-year review. The first two pages describe the proposed installation of a new monitoring well (well 222) to better define the southern extent of the remnant plume. This well was to be located south of well 220. To our knowledge, this well was never installed, in fact, Champion refutes the need for a well in this area in their response to the groundwater report (document #8, p. 7). Page three outlines Champion’s view on the feasibility of detecting and removing DNAPL (Dense Non-Aqueous Phase Liquids). Page four is Champion’s response to the five-year reviews recommendation for additional soil testing. Pages 5-18 contain

Champion's description of the results of their ecological assessment, including several tables which shows the surface water and sediment data results for 1984-1995. We wish to point out that PAH data was only reported for surface water and not for sediments in this assessment (only phenolics in sediments), and further, that sediment data was only reported one year; 1984. Also included are the results of Champion's PCB analysis (pp. 19-20), water supply surveys (pp. 21-25), and city dump pit remedial activities (pp. 26-29).

06) Annual Monitoring Report, 1/98-12/98.

Barr Engineering
March, 1999

Annual monitoring reports have been prepared by Barr Engineering for Champion International since 1986. This is the most recent of these reports, which summarizes of the results of monitoring activities at the site for the calendar year 1998. Several of the tables also include monitoring data from previous years, which shows trends of specific contaminants at different locations within the site. Of particular interest are tables 5, 7, 8, 14, 15 and 17. Note: no appendix included here.

NOTE - This section was updated by sending each expert panelist the Year 2000 monitoring data annual report (Barr 2001) prior to their attending the Risk Panel Meetings at Cass Lake, MN in May 2002. This was the most current Annual Report available at that time.

07) Groundwater Panel Report

MN Sea Grant
Jan. 11, 1999

Panel was assembled June 16-17, 1998 as part of the EPA Office of Environmental Justice (EJ) grant project to assess the availability, quality and interpretation of existing groundwater data for the site. The report summarizes the panel findings and recommendations.

08) Comments to Groundwater Panel Report

Champion International Corp.
March 23, 1999

This document is Champion's response to the groundwater panel report. It addresses specific points made in the groundwater report and also contains the company's chronological list of all reports and documents pertaining to the site.

Future Sampling Efforts

09) Draft field sampling plan for non-time-critical removal...

US EPA Region 5
Sept. 1999

10) Draft quality assurance project plan for non-time-critical...

These documents describe the revised field sampling and quality assurance project plan (QAPP) for the proposed EPA/Tetra-Tech 1999-2000 site investigation work.

The entire draft field sampling plan (09), and a selected section of the quality assurance project plan (10) outlining study objectives and design, are included here. Our understanding is that funding for this new field sampling/St. Regis site assessment came from a reallocation of EPA dollars originally earmarked for a contaminated landfill site elsewhere in Minnesota and to be administered by the MPCA. We heard of it at our first meeting with the tribe following the EJ award. Since that time there have been numerous national conference calls and correspondence regarding the sampling design and quality assurance aspects of this study. Following our June 1998 groundwater panel meeting at Cass Lake, EPA region 5 staff indicated that the field survey was expected to be carried out that autumn. Unfortunately, for reasons unclear to us, it still has not occurred.

Points of interest: Table 1-2 of the field sampling plan gives the sampling design and analysis summary (same as Table 1-14 in the QAPP). Table 1-2 of the QAPP shows the types of human health and ecological screening levels to be used for each medium. Tables 1-3 through 1-8 of the QAPP present the specific screening values for each analyte by medium.

- 11) Draft comments to EPA field sampling plan Champion International Corp.
November, 1999

Champion was invited to review the EPA/Tetra-Tech draft field sampling plan listed above and their draft comments are found in this document.

Detection Levels and Background Concentrations

- 12) US EPA Region 5 Biological Region 5 BTAG
Technical Assistance Group (BTAG) July 26, 1999
Fish sampling Questions

This document gives EPA's perspective on contaminant levels of concern in fish tissue based on risk assumptions, with respect to natural or atmospheric deposition (background) concentrations, and the appropriateness of detection limits based on these levels.

- 13) Liard River environmental quality monitoring program - selected sections
14) Slave River environmental quality monitoring program - selected sections

The above documents (13-14) describe studies conducted in relatively pristine areas within the Northwest Territories to provide baseline data for contaminants in fish, water and sediments. A general conclusion of these studies is that the measured contaminants levels represent "background" levels for this region, either naturally derived or globally distributed. These studies also used state of the art analytical techniques to achieve very low detection levels. The tribe believes that the

contaminant levels in these studies are appropriate for determining “background” levels for the Cass Lake site, and would like to see similar levels of detection. Executive summaries along with data tables for contaminants that are relevant to the Cass Lake (St. Regis) site, are included for each study.

Other Site-Related Information

- 15) Analytical results from supply well sampling August 5, 1998
conducted by the MPCA

Included here is the cover letter Summary from Jim Seaberg (MPCA)

- 16) Cass Lake foodweb, precipitation data, maps, fish tissue analyses, and fish consumption advisories

- a) Cass Lake-Pike Bay conceptual foodweb

This very general flowchart shows the probable pathways of energy with respect to the main organisms sampled or present in the Cass Lake-Pike Bay system.

- b) Local monthly precipitation data (Leech Lake Dam) 1995-1999

This table shows monthly precipitation data for the Leech Lake Dam (approximately 20 miles SE of the Cass Lake site) from January 1995 through August of 1999. Four different statistics are shown for each month (see ELEM code key). Note that total monthly precipitation (TPCP) and departure from normal monthly precipitation (DPNP) are in units of .01 inches.

- c) Mercury and PCB fish tissue data for Cass Lake-Pike Bay (1990 and 1996)

This table shows the Minnesota DNR’s fish tissue data for Mercury and PCBs. This data was used to establish fish consumption limits. Samples were skin on fillets (FILSK). Six different species were sampled and are represented by the following species codes: WE = Walleye, WSU = White Sucker, YP = Yellow Perch, CIS = Cisco, NP = Northern Pike, LWH = Lake Whitefish.

- d) Pike Bay fish tissue analytical summary for HxCDD (1995; 1987-1995).

Cover letter and tables describe the fish tissue sampling and analysis for dioxins (HxCDD) as required by the NPDES permit for the site. Table 2 summarizes all of the fish sampling results up to 1995.

- e) MN DNR Fish netting surveys, Fish consumption advisory, and water quality data for Cass Lake and Pike Bay.

- f) Lake maps showing depth contours, bottom substrate and primary vegetation for Cass lake and Pike Bay.

General Documents

- 17) Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories: Volume 2, Risk Assessment and Fish Consumption Limits US EPA July, 1997

Selected tables from this document Provide consumption limits for fish tissue concentrations of the contaminants discussed in these documents. In addition, toxicity profiles for arsenic and PAHs are included as well as information on special group (subsistence population) considerations.

- 18) Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories: Volume 3, Overview of Risk Management (Section 3) US EPA June, 1996

Describes the positive and negative impacts of fish consumption limits on various populations and subgroups including cultural and societal effects on Native American communities

- 19) EJ Grant ecological data

This section contains the results of the ecological sampling performed under the EJ Grant. Table 19.1 is a key for the various sampling locations. Figures 19.1a,b and c are maps showing the sampling locations in Cass Lake, Pike Bay and the channel wetland, respectively. The remaining pages are data tables and supporting documents showing the results of PAH and PCP/PCA analysis for the different matrices sampled as listed below:

Table 19.2. PAH and PCP analysis results for surficial (top 5 cm) sediment samples. Also included is a document describing the preliminary results and analysis of the sediment data from Dr. Swackhamer of the U of MN. In addition, Table 19.2a shows a comparison of these data to other “background level” study data.

Table 19.3. Results of metals analysis for surficial sediment samples.

Table 19.4. Results of PAH and PCP analysis of invertebrate tissue samples. Tissue consisted solely of chironomid species.

Table 19.5a. Relative amounts of PAHs and PCP measured in SPMD samplers. These data represent the net accumulation over a six week exposure period. Also included are several figures, tables, and text, demonstrating the principles and properties of contaminant monitoring using SPMDs, as well as some data from other studies which looked at PAH and PCP accumulation by SPMDs. Specifically, table

19.5b and 19.5c show the concentrations of individual PAHs per SPMD measured in an urban creek in Birmingham, Alabama. In addition, tables 19.5d and 19.5e compare concentrations of PCA and PCP sequestered by mussels and SPMDs respectively, in pulp-mill recipient waters in central Finland, while table 19.5f shows the concentration of PCA in SPMDs used to sample the upper Mississippi river.

Table 19.6a. Results of fish tissue analysis for PAHs and PCP/PCA. Also included is table 19.6b comparing the results of the EJ fish tissue data to other “background level” studies.

Microtox Assay: Table 19.7. *Microtox* sediment porewater screen assay results for Cass Lake/Pike Bay sediment samples. Site locations are shown on Figure 19.1 and these are the same sediments collected by NRRI, U of MN for contaminants analyses. The control is *microtox* diluent (i.e., osmotically adjusted DI water).

Benthic macroinvertebrates: This is a mini-report that presents and summarizes triplicate, petite Ponar dredge samples from transects adjacent to three potential contamination zones and at two reference areas (same transects used for other NRRI, U of MN sediment collections; see Figures 19.1a,b). Benthic macroinvertebrates were sampled from 1.5, 6, and 9 m along each transect.