

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
ONE CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023**

FACT SHEET

**DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO
THE CLEAN WATER ACT (CWA)**

NPDES PERMIT NUMBER: MA0005371

NAME AND MAILING ADDRESS OF APPLICANT:

Michael G. Standel, Mill Manager
Schweitzer-Mauduit International, Inc.
701 Greylock Street
Lee, MA 01238

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Schweitzer-Mauduit International, Inc.
701 Greylock Street
Lee, MA 01238

RECEIVING WATER: Housatonic River, MA-21

RECEIVING WATER CLASSIFICATION: Massachusetts Class B (Warm Water)

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1. Proposed Action

The above named applicant has applied to the U. S. Environmental Protection Agency (EPA) for re-issuance of a National Pollutant Discharge Elimination System Permit to discharge treated process wastewater, filter backwash, and storage well overflow into the designated receiving water. The previous permit was issued on May 31, 2000, took effect on July 30, 2000, and expired on July 30, 2005. EPA received an amended application for permit re-issuance on August 12, 2005. Since the application for permit re-issuance was considered timely and complete by EPA, the previous permit has been administratively continued until EPA takes action on the re-issuance.

2. Type of Facility

Schweitzer-Mauduit International, Inc. owns and operates four separate paper mills located along the Housatonic River in the vicinity of Lee, Massachusetts. Included are the Niagara Mill, the Greylock Mill, the Columbia Mill, and the Eagle Mill, which are collectively known as the Lee Mills. The mills manufacture specialty papers primarily for the tobacco industry, including lightweight plugwrap, porous plugwrap, filter paper, and tipping paper. Also, there is a relatively small amount of pulp produced on an intermittent basis for use at a facility in another state. The pulp used for the papermaking processes in the Lee Mills is made from virgin material and is manufactured elsewhere.

The Niagara Mill is located upstream from the other mills. One paper machine operates at the Niagara Mill.

The Greylock Mill is downstream from the Niagara Mill. It is the newest of the four facilities and has one large operating paper machine. The biological ("secondary") wastewater treatment plant serving all four mills is located here, but the settling/clarification ("primary") treatment and discharge point are at the Columbia Mill.

The Columbia Mill is located downstream from the Greylock Mill. No paper machines operate at this mill now, but it is used for storage, and the intermittent pulping operation is located here. The pulping operation uses tobacco plant stalks in an unbleached Kraft process to produce cigar wrappers. Also, the building is used to treat water supplied from the Housatonic River for the paper making processes.

The Eagle Mill, the oldest of the Lee Mills, originally built in the early 1800's, is downstream from the Columbia Mill. Two paper machines now operate at the Eagle Mill. Also, water from Laurel Lake is filtered for process and fire protection uses at the Eagle Mill.

The locations of the four Lee Mills relative to each other and to the Housatonic River, along with the discharge locations, are shown on the map contained in **Figure 1**.

3. Discharge Locations and Description

The primary water supply for the Lee Mills is from the Housatonic River, augmented from groundwater wells, and treated prior to use in the processes at the Columbia Mill. Water is supplied from this source to the Columbia Mill, the Greylock Mill, and the Niagara Mill. The Niagara Mill also uses water from groundwater wells and a small amount of water from the Town of Lenox public water supply. The water supply to the Eagle Mill is from Laurel Lake and groundwater wells.

Wastewater from papermaking at the Greylock Mill and pulping operations at the Columbia Mill are sent to the biological treatment plant at the Greylock Mill for secondary treatment. Wastewaters from the Niagara Mill, the Eagle Mill, and non-pulping miscellaneous wastewater and filter backwash from the Columbia Mill, along with the secondary effluent from the Greylock Mill, are sent for primary flocculation/clarification at the Columbia Mill. The Company indicates that this unusual situation, where high-BOD wastes are provided biological treatment before primary clarification, works well because of the unique nature of their wastewater.

The treated process wastewater effluent is normally discharged through Outfall 002 to the Housatonic River at the dam overflow point next to the Columbia Mill. Outfall 003, at essentially the same location, allows a discharge to be made from the secondary clarifier, which is located at the Greylock Mill, directly to the River without further treatment at the Columbia Mill. Outfall 003 is rarely used, but may serve as an emergency outfall if maintenance is needed on Outfall 002. The permit specifies that the same Outfall 002 limitations apply to Outfall 003 (or the combined effluent from Outfalls 002 and 003 if both are discharging simultaneously). Sludge from the primary clarification process is dewatered and sent to a landfill.

The complex relationship among the four Mills' water supply and process wastewater treatment is illustrated graphically on the chart contained in **Attachment B**. The effluent quality which has been reported on Discharge Monitoring Report (DMR) forms under the current permit is summarized in **Attachment A**.

In addition to the discharges from Outfalls 002/003, there are two other outfalls at the Eagle Mill. These outfalls, numbered 006 and 007, discharge uncontaminated water supply and fire protection overflow water.

Storm water discharges from the four Lee mills are authorized and regulated separately under EPA's Multi-Sector General Permit for storm water.

Sanitary wastewater is routed to the sanitary sewer for transport and treatment at the Lee wastewater treatment plant.

No cooling water is used at the Lee Mills.

4. Receiving Water Description

The Housatonic River is designated as a Class B warm water body by the Massachusetts Surface Water Quality Standards (314 CMR 4.06). Class B waters are designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Where designated they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value. [314 CMR 4.05(3)(b)]

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those water-bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such require the development of total maximum daily loads (TMDLs). The Housatonic River at the point of discharge is on the most recently EPA approved Massachusetts list of waters requiring the development of TMDLs (i.e., 303(d) list or Category 5 of the Massachusetts Year 2004 Integrated List of Waters) for unknown toxicity, priority organics (PCBs), thermal modifications, pathogens, and turbidity. It is also on the Proposed 2006 CWA 303(d) List for those same pollutants.

5. Permit Basis: Statutory and Regulatory Authority

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement effluent limitations and other requirements, including monitoring and reporting, in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State statutes and regulations. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136.

When establishing NPDES permit requirements, EPA is required to consider, and include limitations in the permit, based on the most stringent of the following concepts: (a) technology-based requirements, (b) water quality-based requirements, (c) anti-backsliding from the limitations and requirements in the current/existing permit, and (d) antidegradation requirements.

Technology-based requirements represent the minimum level of control that must be imposed under Sections 402 and 301 (b) of the CWA and implementing regulations at 40 CFR 125, 133, and 405 through 471. For publicly-owned treatment works (POTWs), technology-based requirements are effluent limitations based on secondary treatment requirements of Section 301(b)(1)(B) of the CWA as defined in 40 CFR 133.102. In situations where promulgated technology-based requirements are not applicable, Section 402(a)(1)(B) of the CWA provides that such limits be based on EPA's judgment. Such limits are referred to as "best professional judgment" (BPJ) limits, and are referenced in 40 CFR 125.3.

Water quality-based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality standards. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations

based on federal or state water quality standards. The Massachusetts Surface Water Quality Standards (314 CMR 4.00) contain requirements for conventional and toxic pollutants in order to provide protection for designated uses in the receiving waters. Included in these Standards are provisions that EPA criteria for toxic pollutants, established pursuant to Section 304 (a) of the CWA, shall be used unless site-specific criteria are established. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained, or attained.

Anti-backsliding as defined in Section 402(o) of the CWA and implementing regulations at 40 CFR §122.44(l) require reissued permits to contain limitations as stringent or more stringent than those of the previous permit unless the circumstances allow application of one of the defined exceptions to this regulation.

In accordance with regulations found at 40 CFR Section 131.12, each state must adopt a statewide antidegradation policy to maintain and protect existing in-stream water quality. The Massachusetts Antidegradation Policy is found at Title 314 CMR 4.04. No lowering of water quality is allowed, except in accordance with the antidegradation policy. This applies in situations where a lowering of water quality is being proposed, such as a new discharge or an increased discharge of pollutants at a facility with an existing permit.

6. Effluent Limitations and Monitoring Requirements in the Permit

Technology-based requirements are promulgated for the Pulp, Paper, and Paperboard Point Source Category at 40 CFR Part 430. Papermaking operations at the Schweitzer-Mauduit facilities at Lee, MA, fall under the following subparts of that regulation: Subpart K: Fine and Lightweight Papers from Purchased Pulp Subcategory (Lightweight Papers Produced from Purchased Pulp Subdivision), and Subpart L: Tissue, Filter, Non-Woven, and Paperboard from Purchased Pulp Subcategory (Filter and Non-Woven Papers Produced from Purchased Pulp Subdivision).

In addition, there is production of pulp from tobacco plant stalks for use at other locations. This process falls under Subpart C of 40 CFR Part 430 (Unbleached Kraft Subdivision).

As stated in the application for permit re-issuance, production under Subpart K is approximately 80 tons per day, production under Subpart L is approximately 25 tons per day, and production under Subpart C averages approximately 0.15 tons per day. Subparts K, L, and C include limitations for BOD₅, TSS, pH, and the toxic pollutants, pentachlorophenol and trichlorophenol, which are often used as biocides in this type of mill. Limitations were calculated from Subparts K, L, and C, using these production rates for the paper and pulp production at the Lee Mills. The calculations for treatment technology-based effluent requirements are shown in **Attachment C**.

Effluent limitations must be based on 40 CFR 430, unless more stringent limitations are necessary to comply with the state water quality standards or antbacksliding from current permit limits. The state water quality standards are required to be met in the receiving waters. Those standards allow the use of dilution by the receiving waters for certain types of effluent parameters, using the seven-day, once in ten year, drought flow (7Q10). That drought flow in

the Housatonic River at the point of discharge from Outfalls 002 and 003 is estimated to be 47.8 cubic feet per second (cfs). However, the mills withdraw approximately 3.0 cfs of water from the Housatonic River for use as process water. Therefore, the 7Q10 flow has been adjusted to account for the withdrawal. The adjusted 7Q10 flow used to calculate water-quality based effluent limitations is 44.8 cfs ($47.8 - 3.0 = 44.8$ cfs). The adjusted 7Q10 flow used for this draft permit is different than the 7Q10 flow of 38 cfs used in the current permit. The calculations and basis for the water quality-based effluent requirements are shown in **Attachment D**.

Attachment E is a summary of the basis for the draft permit effluent limits for Outfalls 002/003, considering the treatment technology-based requirements, the water quality-based requirements, the previous permit limits (anti-backsliding), antidegradation, and the discharge monitoring results under the previous permit. Outfalls 006 and 007 only contain storage well overflow of water supply and fire protection water, so detailed analysis of the various types of effluent limits is not needed. The following additional information provides an explanation of the draft permit effluent limits.

a. Outfalls 002 and 003 -- The rationale for the permit limitations is as follows for Outfall 002, which contains the treated process wastewater (and for the emergency discharge Outfall 003 if and when it is in use -- or the combined outfalls 002 and 003 when both are discharging):

Flow -- The draft permit proposes to carry forward the monthly average and maximum daily reporting requirements from the current permit. The permittee specified a monthly average design flow of 3.99 MGD in the NPDES application for permit reissuance. As indicated in Attachment A, the average monthly flow discharged from outfalls 002 and 003 during the period from January 2003 to December 2006 ranged from 3.37 to 4.66 mgd with an average of 3.97 mgd. A flow of 3.99 mgd has been used in the water quality based effluent limitation calculations for the draft permit (see Attachment D).

BOD₅ and TSS -- As stated above, limitations were calculated from the promulgated standards in 40 CFR 430, using the production rates applied for via the permit application. These limits were compared with limits in the current permit. The limits from the current permit (BOD₅ daily maximum (summer) = 2,500 lb/day; BOD₅ monthly average (summer) = 1,500 lb/day; BOD₅ daily maximum (winter) = 3,794 lb/day; BOD₅ monthly average (winter) = 2,050 lb/day; TSS daily maximum = 1,800 lb/day; and TSS monthly average = 1,300 lb/day) are considerably more stringent and are therefore carried forward into the new permit under the antibacksliding requirement. Those current permit limits for BOD₅ were originally based on achieving the state water quality standards. No new water quality studies have been done in this portion of the Housatonic River which could be used to update the water quality basis for those limits. Past performance of the treatment facility summarized in Attachment A, show that the facility has consistently maintained BOD₅ and TSS levels well below the permit limits with summer season monthly average BOD₅ and TSS loading ranging from 179 to 635 lbs/day and 124 to 686 lbs/day, respectively.

pH -- The limits of within the range 6.5 -- 8.3, and not more than 0.5 units outside the background range, are based on the state water quality standards. This limit is unchanged from the current permit. The pH standard contained in 40 CFR 430 is less stringent.

Total Nitrogen -- Quarterly reporting (no limit) is required in order to obtain information as to the amount of this nutrient being added to the watershed. This information, when combined with nutrient information from other sources, will help determine total nutrient loadings to the watershed, and possible corrective measures where nutrient enrichment is a problem under the state water quality standards. If such corrective measures are needed, a future permit limit for nitrogen may be necessary.

Specifically for Total Nitrogen, water quality modeling has demonstrated that excessive nitrogen loadings are causing significant water quality problems in Long Island Sound, including dissolved oxygen. The State of Connecticut has begun to impose nitrogen limitations on Connecticut discharges to Long Island Sound and its tributaries. EPA agrees there is a need to determine the loadings of nitrogen from sources in Massachusetts which are tributary to Long Island Sound, and to help determine what limits, if any should be imposed on discharges in Massachusetts. Therefore, based on Section 308 of the Clean Water Act, the quarterly requirement for total nitrogen testing is included in the draft permit.

Total Phosphorus – The draft permit proposes to revise the current summer season phosphorus limit of 40 pounds per day (lbs/day) to 13.0 lbs/day. The proposed limit is based on achieving 0.10 mg/l (100 µg/l) of phosphorus in the receiving water for low-flow (7Q10 flow) conditions of 44.8 cfs (adjusted for flow withdrawal), using the average discharge flow from the application of 6.2 cfs (3.99 mgd). The calculation is provided in Attachment D. The in-stream target of 100 µg/l was derived from federal nutrient criteria guidance designed to avoid excessive nutrient enrichment and algal growth in flowing streams. As indicated in Attachment A, monthly average growing season phosphorus levels from this discharge for 2003 to 2006 have been well below the current 40 lb/day limit, as well as the proposed limit, ranging from 0.8 lbs to 12.7 lbs/day with an overall average of 3.6 lbs/day.

Temperature -- The weekly monitoring requirement for temperature is carried forward from the current permit. While in the past, the discharge has occasionally had temperatures above 83 degrees F, EPA concludes, based on a review of the observed discharge temperatures, available dilution, and the rapid-mixing conditions that occur in the receiving water downstream of the outfall, that the discharge will not cause in-stream temperature criteria exceedences. For example, assuming the discharge temperature is 10° F above the receiving water temperature, the calculated increase in in-stream temperature, assuming no heat loss to the atmosphere, is 1.2° F. Moreover, in order for the discharge to cause more than a 5° F rise in receiving water temperature, the discharge temperature would have to be more than 41° F above the receiving water temperature. Based on the discharge monitoring data summarized in Attachment A, there is no reasonable potential at this time for the discharge to cause or contribute to temperature criteria exceedences in the Housatonic River.

River temperature increase (ΔT_{river}) resulting from discharge temperature 10° F above the river temperature:

$$\Delta T_{\text{river}} = (Q_{\text{discharge}})(T_{\text{discharge}} - T_{\text{river}})/(Q_{\text{discharge}} + Q_{\text{river}})$$

$$\Delta T_{\text{river}} = (6.2 \text{ cfs})(10^{\circ} \text{ F})/(6.2 \text{ cfs} + 44.8 \text{ cfs}) = 1.2^{\circ} \text{ F}$$

EPA has determined that in-stream temperature monitoring is not necessary at this time. However, the requirement for temperature monitoring of the discharge will continue to provide temperature data that will be reviewed for reasonable potential analyses in the future when the permit comes up for reissuance.

Acute Toxicity and Chronic Toxicity -- These parameters are included to provide assurance that there is no unacceptable toxicity in the discharge. Toxicity is regulated under the state water quality standards. The acute toxicity limit, $LC_{50} \geq 100\%$, remains unchanged from the current permit while the proposed chronic limit in the draft permit is revised to Chronic NOEC $\geq 12\%$ to take into account the updated 7Q10 flow calculation for the receiving water. There have been occasional exceedences of the toxicity limits in the past. EPA will continue to monitor the results of future toxicity tests and should the trend of occasional toxicity exceedences continue, EPA may require the permittee to perform a Toxicity Identification Evaluation (TIE) and a Toxicity Reduction Evaluation (TRE).

b. Outfalls 006 and 007 -- These two outfalls discharge uncontaminated, filtered water from Laurel Lake which is in excess of that needed for papermaking processes and for fire protection. The annual monitoring requirements for this uncontaminated water are carried forward from the current permit. The rationale for the permit limitations is as follows:

Flow -- The draft permit proposes to carry forward the monthly average and maximum daily reporting requirements from the current permit.

BOD5 and TSS -- Reporting (no limits) is required for general information on these discharge points.

pH -- The limits are the same as for Outfall 002/003, above, based on the state water quality standards.

c. Other Effluent Requirements -- In addition to these specific effluent limitations, there are several narrative effluent requirements which contain general limitations to comply with state water quality standards on such things as color, oil sheen, foam, floating or settleable solids, and non-specific toxic chemicals. A prohibition on the use of trichlorophenol and pentachlorophenols is contained in the permit. Also, other general monitoring conditions are contained in the permit. Although nutrients are not currently added to the biological treatment process, this is often done at paper mills due to the nutrient-deficient nature of papermaking wastewater. The permit requires nutrient addition to be minimized if this practice needs to be implemented in the future.

d. Storm Water Discharges -- Storm water discharges from the Lee Mills are regulated under the EPA's Multi-Sector General Permit. Therefore, they are not covered in this permit.

7. Essential Fish Habitat

Under the 1996 Amendments to the Magnuson-Stevens Fishery Conservation and Management Act, EPA is required to consult with the National Oceanic and Atmospheric Administration's

National Marine Fisheries Service (NOAA Fisheries) if EPA proposes a permit action that may adversely impact any essential fish habitat (EFH). The Amendments broadly define EFH as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". "Adversely impact" means any impact which reduces the quality and/or quantity of EFH.

EFH is only designated for species for which federal Fisheries Management Plans exist. A NOAA Fisheries website (See <http://www.nero.noaa.gov/hcd/webintro.html>) contains maps of designated EFH. In some cases, a narrative identifies rivers and other waterways that should be considered EFH due to present or historic use by federally managed species such as Atlantic salmon.

EPA's review of available EFH information indicates that Housatonic River is not designated EFH for any federally managed species. Therefore, EFH consultation with NOAA Fisheries is not required.

8. Endangered Species Act

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species, where as the National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish.

As the federal agency charged with authorizing the discharge from this facility, EPA has reviewed available habitat information developed by the Services to see if one or more of the federal endangered or threatened species of fish, wildlife, or plants may be present within the influence of the discharge. EPA has concluded that no federally-listed or proposed, threatened or endangered species or critical habitat, under the jurisdiction of the USFWS or NMFS, are known to occur in the in the receiving waters identified in this permit. A copy of the Draft Permit and Fact Sheet has been provided to both USFWS and NMFS for review and comment.

9. State Certification Requirements

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving waters certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of the Massachusetts Department of Environmental Protection (MassDEP) has reviewed the draft permit. EPA has requested permit certification by the State pursuant to 40 CFR 124.53 and expects that the draft permit will be certified

10. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to Mark Voorhees, U.S. EPA, Office of Ecosystem Protection, 1 Congress Street, Suite 1100, Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for a public hearing to consider the Draft Permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a Final Permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the Final Permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124.19.

11. EPA and State Contacts

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

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Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

SCHWEITZER-MAUDUIT, INT'L INC
NPDES Permit MA0005371
DMR Summary

Pipe 2: Combined Pipes 002/003

Date	# Meas./ Month	TEMP, WATER DEG. F		BOD, 5-DAY (20 DEG. C)		pH		SOLIDS, TOTAL SUSPENDED		PHOSPHO Min
		Average	Max	Average	Max	Min	Max	Average	Max	
30-Apr-06		64	64	556	1054	6.7	7.4	299	414	0.07
31-Mar-06				479	1324	6.7	7.5	370	535	
28-Feb-06				383	704	6.9	7.4	246	327	
31-Jan-06				544	1826	6.9	7.5	686	2699	
31-Dec-05				420	704	7	7.4	205	462	
30-Nov-05				472	839	6.7	7.5	427	855	
31-Oct-05				572	878	6.8	7.2	629	993	
30-Sep-05		81	81	572	878	6.5	7.2	680	1404	0.09
31-Aug-05		86	86	635	1183	6.8	7.1	424	690	0.38
31-Jul-05		88	88	255	344	6.8	7.3	194	334	0.09
30-Jun-05		87	87	492	892	6.8	7.3	396	683	0.33
31-May-05		75	75	262	460	7.1	7.5	405	1055	0.04
30-Apr-05		71	71	356	763	6.8	7.4	542	2324	0.23
31-Mar-05				434	830	7.1	7.7	302	894	
28-Feb-05				504	1004	7.2	7.5	373	968	
31-Jan-05				393	842	7.1	7.5	300	513	
31-Dec-04				324	554	7.3	7.7	224	324	
30-Nov-04				320	520	7.3	7.6	260	607	
31-Oct-04				478	618	6.6	7.4	492	859	
30-Sep-04		79	79	312	393	6.7	7.5	294	534	0.4
31-Aug-04		87	87	418	692	6.9	7.7	392	519	0.04
31-Jul-04		85	85	466	679	6.7	7.4	217	403	0.1
30-Jun-04		78	78	481	1108	6.8	7.5	361	698	0.06
31-May-04		79	79	570	1228	6.6	7.6	327	503	0.05
30-Apr-04		70	70	521	928	6.9	7.6	372	533	0.04
31-Mar-04				441	782	6.8	7.8	367	761	

29-Feb-04			202	344	6.8	7.5	249	516	
31-Jan-04			261	607	6.9	7.7	176	294	
31-Dec-03			374	815	6.8	7.5	397	987	
30-Nov-03			222	444	7	7.7	128	215	
31-Oct-03			360	604	7.1	7.6	328	1508	
30-Sep-03	81	81	188	319	7	7.8	254	510	0.04
31-Aug-03	88	88	268	434	6.9	7.6	263	430	0.06
31-Jul-03	83	85	299	721	7.1	7.6	190	281	0.06
30-Jun-03	84	84	281	510	6.8	7.6	224	569	0.04
31-May-03	76	76	224	515	7	7.7	125	207	0.03
30-Apr-03	64	69	179	286	6.8	7.7	141	203	0.02
31-Mar-03			176	412	6.9	7.9	145	369	
28-Feb-03			222	736	6.7	7.8	175	344	
31-Jan-03			226	624	7.1	8	124	329	
Min	-	-	-	-	6.5	-	-	-	0.02
Average	79.26	-	378.55	-	-	-	317.58	-	-
Max	-	88	-	1826	-	8	-	2699	-

Pipe 6: Overflow Clear Well Storage

Date	# Meas./ Month	BOD, 5-DAY (20 DEG. C) Max	pH		SOLIDS, TOTAL SUSPENDED Max	FLOW Max
			Min	Max		
31-Aug-05		1.44	8.13	8.13	0.72	216000
31-Jul-05		1.44	8.13	8.13	0.72	216000
31-Jul-04		0.58	8.25	8.25	0.36	53850
31-Jul-03		0.1	8.14	8.14	0	28800
Min		-	8.13	-	-	-
Average		-	-	-	-	-
Max		1.44	-	8.25	0.72	216000

Pipe 7: Overflow Tower Storage

	# Meas./	BOD, 5-DAY (20 DEG. C)	pH	SOLIDS, TOTAL SUSPENDED	FLOW
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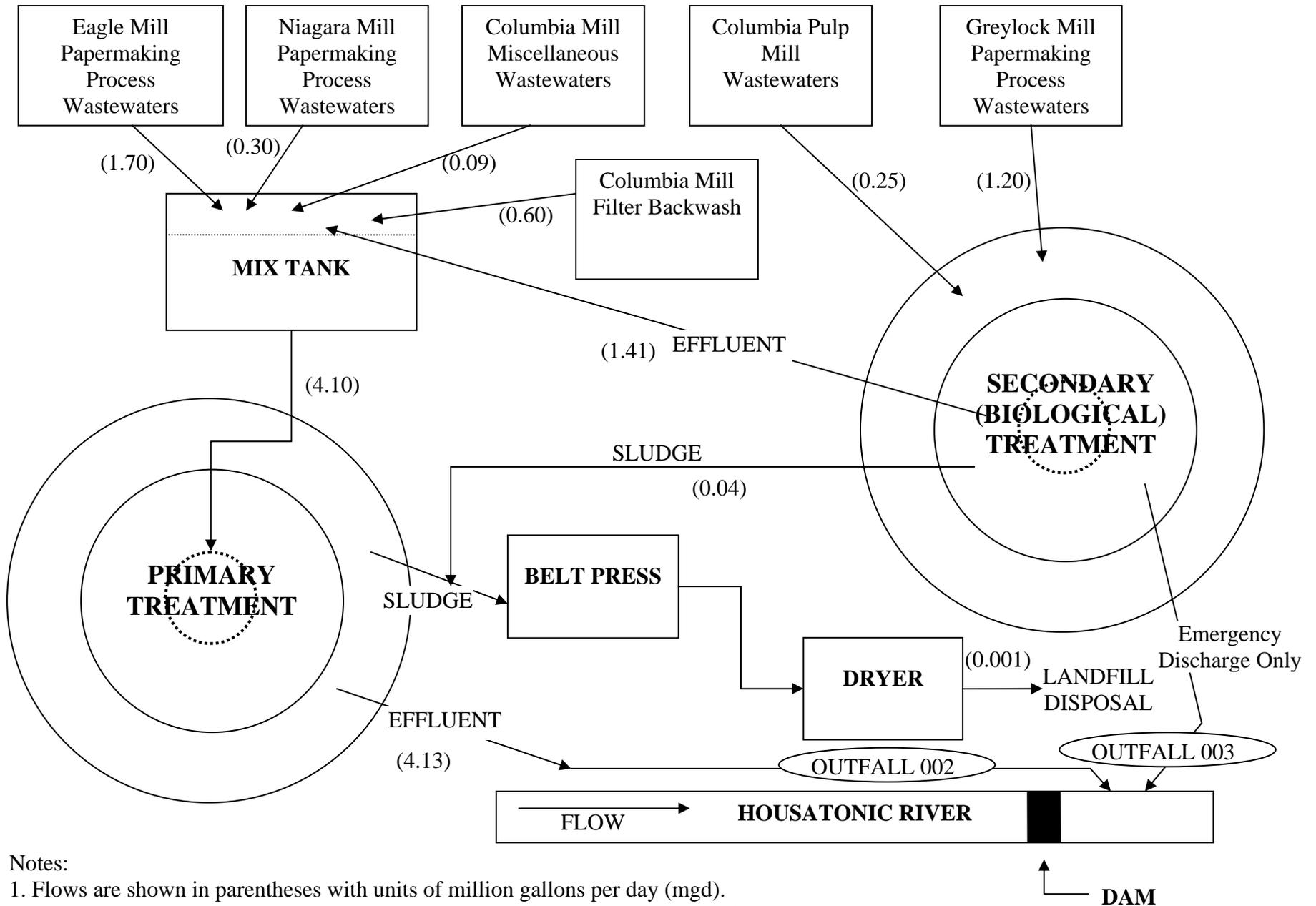
Date	Month	Max	Max	Max	Max
31-Aug-05		0.27	8.12	0.14	43000
31-Jul-05		0.27	8.12	0.14	43000
31-Jul-04		0.38	8.2	0.28	41717
31-Jul-03		0	7.99	0	28800
Min		-	-	-	-
Average		-	-	-	-
Max		0.38	8.2	0.28	43000

DRUS, TOTAL (AS P)		FLOW		LC50 STAT 48HR ACU CERIO	NOEL STATRE 7DAY CHR CERIO
Average	Max	Average	Max	Min	Min
0.1	0.1	4320000	5450000		
		4120000	4820000	100	25
		3850000	4410000		
		3760000	5610000		
		3770000	4950000	>100	100
		3620000	4980000		
		4190000	6790000		
0.1	0.1	3890000	4620000	>100	50
1.54	1.54	3980000	4610000		
0.12	0.12	3680000	4810000		
0.61	0.61	3880000	4440000	>100	100
0.07	0.07	3890000	4710000		
0.72	0.72	3960000	6190000		
		3850000	4310000	>100	6.25
		3900000	4440000		
		3960000	4390000		
		3840000	4447000	>100	100
		3370000	4800000		
		4111000	4680000		
0.4	0.4	4020000	4710000	>100	50
0.05	0.05	4020000	4510000		
0.17	0.17	4030000	5430000		
0.09	0.09	4445000	5090000	>100	25
0.06	0.06	4390000	5140000		
0.06	0.06	3900000	5060000		
		3410000	4750000	25	14

		3680000	4680000		
		3640000	4640000		
		4140000	4910000	>100	50
		3580000	4500000		
		3890000	4710000		
0.06	0.06	3790000	4300000	>100	50
0.11	0.11	3830000	4470000		
0.13	0.13	4080000	4770000		
0.06	0.06	4660000	5300000	>100	50
0.06	0.06	3950000	4730000		
0.03	0.04	3950000	4640000		
		3980000	4390000	>100	14
		3550000	4250000		
		3750000	4360000		
-	-	-	-	25	6.25
0.24	-	3915650	-	-	-
-	1.54	-	6790000	-	-

Attachment B

Process Diagram for Schweitzer-Mauduit International, Lee, MA



Notes:

1. Flows are shown in parentheses with units of million gallons per day (mgd).
2. Flows are approximations for illustration only. Actual flows vary somewhat from day to day.

ATTACHMENT C

TREATMENT TECHNOLOGY-BASED EFFLUENT REQUIREMENTS

Federal Category: a) Lightweight papers from purchased pulp
b) Tissue, filter, nonwoven, and paperboard from purchased pulp
c) Unbleached Kraft pulp

Clean Water Act Reference: Sections 301, 304, 307, and 402

Code of Federal Regulations Reference: a) 40 CFR 430, subpart K
b) 40 CFR 430, subpart L
c) 40 CFR 430, subpart C

Pollutants/Parameters: BOD₅, TSS, pH, pentachlorophenol, and trichlorophenol

Production Rates: a) 80 tons/day of lightweight specialty papers
b) 25 tons/day of sanitary paper products
c) 0.15 tons/day of tobacco pulp

Calculations and Comments:

- Production Rates:

- a) Lightweight specialty papers: 80 tons/day = $\underline{160}$ x (1,000 lb/day)
- b) Sanitary paper products: 25 tons/day = $\underline{50}$ x (1,000 lb/day)
- c) Tobacco pulp production: 0.15 tons/day = $\underline{0.3}$ x (1,000 lb/day)

- Determining BPT and BCT

- a) Subpart K – Using the lightweight papers produced from purchased pulp subdivision of §430.112 (and 113):

BOD₅, daily max = (24.1) (160) = 3,856 lb/day

BOD₅, monthly avg = (13.2) (160) = 2,112 lb/day

TSS, daily max = (21.6) (160) = 3,456 lb/day

TSS, monthly avg = (10.6) (160) = 1,696 lb/day

pH = within the range 5.0 to 9.0 at all times

- b) Subpart L – Using the filter and non-woven papers produced from purchased pulp subdivision of §430.122 (and 123):

BOD₅, daily max = (29.6) (50) = 1,480 lb/day

BOD₅, monthly avg = (16.3) (50) = 815 lb/day

TSS, daily max = (26.6) (50) = 1,330 lb/day

TSS, monthly avg = (13.0) (50) = 650 lb/day

pH = within the range 5.0 to 9.0 at all times

- c) Subpart C – Using the unbleached Kraft subdivision (non-continuous dischargers) subdivision of §430.33:

$$\text{BOD}_5, \text{ daily max} = (2.8) (0.3) = 0.84 \text{ lb/day}$$

$$\text{BOD}_5, \text{ monthly avg} = (1.9) (0.3) = 0.57 \text{ lb/day}$$

$$\text{TSS, daily max} = (6.0) (0.3) = 1.80 \text{ lb/day}$$

$$\text{TSS, monthly avg} = (3.6) (0.3) = 1.08 \text{ lb/day}$$

pH = within the range 6.0 to 9.0 at all times

Adding the three components of the total effluent to determine the BPT/BCT limitations:

$$\text{BOD}_5, \text{ daily max} = 3,856 + 1,480 + 0.84 = 5,337 \text{ lb/day}$$

$$\text{BOD}_5, \text{ monthly avg} = 2,112 + 815 + 0.57 = 2,928 \text{ lb/day}$$

$$\text{TSS, daily max} = 3,456 + 1,330 + 1.80 = 4,788 \text{ lb/day}$$

$$\text{TSS, monthly avg} = 1,696 + 650 + 1.08 = 2,347 \text{ lb/day}$$

- Determining BAT

Subpart K (§430.114), Subpart L (§430.124), and Subpart C (§430.34) all have BAT limitations for pentachlorophenol and trichlorophenol, if chlorophenolic-containing biocides are used. These chemicals are not now used at any of the Schweitzer-Maudit Lee Mills, and the draft permit prohibits their future use.

ATTACHMENT D

WATER QUALITY-BASED EFFLUENT REQUIREMENTS

Pollutants/Parameters: BOD₅, pH, Total N, Temperature, Acute WET, Chronic WET

State Water Quality Standards References: 314 CMR 4.00 (for class B, warm water: Section 4.05(3)(b))

Drought Flow at the Point of Discharge (7Q10): 44.8 CFS

The drought flow or 7Q10 flow used to evaluate potential water quality based effluent limits was recalculated for the draft permit using flow data collected by the USGS on the Housatonic River at the Great Barrington, MA gauge (01197500). First, the 7Q10 flow was determined for the flow record period of 1935-2006 at the USGS gauge using the DFLOW 3.1b program. Next, the 7Q10 flow factor was calculated by dividing the 7Q10 flow by the drainage area at the gauge. Last, the estimated 7Q10 at the facility was calculated by multiplying the 7Q10 flow factor by the drainage area at the outfall location for the Schweitzer Mauduit facility in Lee, MA. As indicated in the Fact Sheet, the mills withdraw approximately 3.0 cfs from the Housatonic River for use as process water. Therefore, the recalculated 7Q10 flow was adjusted to account for the flow withdrawal from Housatonic river.

USGS Gauge 01197500 - drainage area = 282 sq. mi., 7Q10 flow = 74.5 cfs,
7Q10 flow factor = 0.2642 cfs/sq.mi

Schweitzer Mauduit in Lee, MA drainage area = 180.92 sq. mi., 7Q10 flow = 0.2642*180.92
7Q10 flow = 47.8 cfs

Adjustment to account for flow withdrawal = 47.8 cfs – 3.0 cfs = **44.8 cfs**

Discharge Flows: Outfall 002/003 (Process Wastewater) = 3.99 MGD

Calculations and Comments:

- Discharge Flow in CFS = (3.99) (1.55) = 6.2 CFS
- $DF = \text{Dilution Factor} = \frac{Q_R + Q_E}{Q_E} = \frac{44.8 + 6.2}{6.2} = \frac{51.0}{6.2} = 8.22$
- BOD₅: Site-specific studies of the assimilative capacity of receiving streams are required to determine acceptable discharge loadings for oxygen-consuming wastes. No such assimilative capacity studies have been done on the Housatonic River since the previous permit was issued. Therefore, the previous permit's water quality-based limits for these conventional pollutants are carried forward into the proposed permit. These limits are as follows: Summer limits (April-September) for BOD₅ are 1500 lb/day, as a monthly average, and 2500 lb/day,

as a daily maximum. Winter limits (October-March) for BOD₅ are 2050 lb/day, as a monthly average, and 3794 lb/day, as a daily maximum.

- **pH:** The water quality standard for Class B waters is within the range of 6.5 to 8.3, and not more than 0.5 units outside the background range. This limitation is applied directly to the discharge.
- **Total N:** In order to determine nutrient inputs to Long Island Sound via the Housatonic River, reporting of total nitrogen is needed. At this time, there is not enough information available to determine if a limit is needed.
- **Total P:** No nutrient studies of the Housatonic River have been done since the previous permit was issued. However, an analysis of the current phosphorus limit of 40 pounds per day indicates that the permitted discharge of phosphorus at this level represents a reasonable potential to cause and/or contribute to excursions of Massachusetts' water quality standards relating to accelerated eutrophication in receiving waters. The draft permit proposes to revise the phosphorus limit to meet an in-stream total phosphorus target of 0.1 mg/l (100 µg/l). This target was derived from federal nutrient criteria guidance designed to avoid excessive nutrient enrichment and algal growth in flowing streams.

The revised limit takes into account upstream ambient phosphorus levels. Background (upstream) total phosphorus concentrations had to be estimated for this limit calculation because of data limitations and EPA's intent to include more stringent phosphorus limits in the next reissuance of NPDES permits for Pittsfield and Lennox (two significant contributors of phosphorus to the Housatonic River upstream from Schweitzer Maudit). The more stringent phosphorus limits at the upstream facilities will reduce ambient phosphorus concentrations upstream from Schweitzer Maudit's outfalls. Assuming the minimum level of reductions at the upstream facilities, a background phosphorus concentration of 0.060 mg/l (60 µg/l) is used in the calculation.

$$\begin{aligned}
 C_{\text{discharge}} \text{ (mg/l)} &= ((Q_{7Q10} + Q_{\text{discharge}}) \times C_{\text{target}}) - (Q_{7Q10} \times C_{\text{background}}) / Q_{\text{discharge}} \\
 &= (((44.8 + 6.2) \text{ cfs} \times 0.100 \text{ mg/l}) - (44.8 \text{ cfs} \times 0.06 \text{ mg/l})) / 6.2 \text{ cfs} \\
 &= 0.389 \text{ mg/l}
 \end{aligned}$$

$$\begin{aligned}
 M_{\text{discharge}} \text{ (lbs/day)} &= Q_{\text{discharge}} \text{ (mgd)} \times C_{\text{discharge}} \text{ (mg/l)} \times 8.3454 \text{ (conversion factor)} \\
 &= 3.99 \text{ mgd} \times 0.408 \times 8.3454 \\
 &= 13.0 \text{ lbs/day}
 \end{aligned}$$

Temperature: The water quality standard for Class B waters (warm water fisheries) is not to exceed 83°F, with the rise in temperature due to a discharge not to exceed 5°F. These limitations are applied directly after mixing of the discharge with the receiving water. While in the past, the discharge has occasionally had temperatures above 83 degrees F, EPA concludes, based on a review of the observed discharge temperatures, available dilution, and the rapid-mixing conditions that occur in the receiving water downstream of the outfall, that the discharge will not cause in-stream temperature criteria exceedences. For example, assuming the discharge temperature is 10° F above the receiving water temperature, the calculated increase in in-stream

temperature, assuming no heat loss to the atmosphere, is 1.2° F. Moreover, in order for the discharge to cause more than a 5° F rise in receiving water temperature, the discharge temperature would have to be more than 41° F above the receiving water temperature. Based on the discharge monitoring data summarized in Attachment A, there is no reasonable potential at this time for the discharge to cause or contribute to temperature criteria exceedences in the Housatonic River.

River temperature increase (ΔT_{river}) resulting from discharge temperature 10° F above the river temperature:

$$\Delta T_{\text{river}} = (Q_{\text{discharge}})(T_{\text{discharge}} - T_{\text{river}})/(Q_{\text{discharge}} + Q_{\text{river}})$$

$$\Delta T_{\text{river}} = (6.2 \text{ cfs})(10^{\circ} \text{ F})/(6.2 \text{ cfs} + 44.8 \text{ cfs}) = 1.2^{\circ} \text{ F}$$

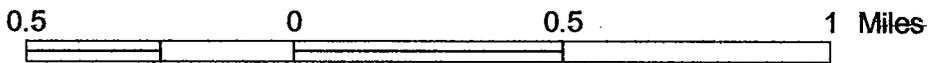
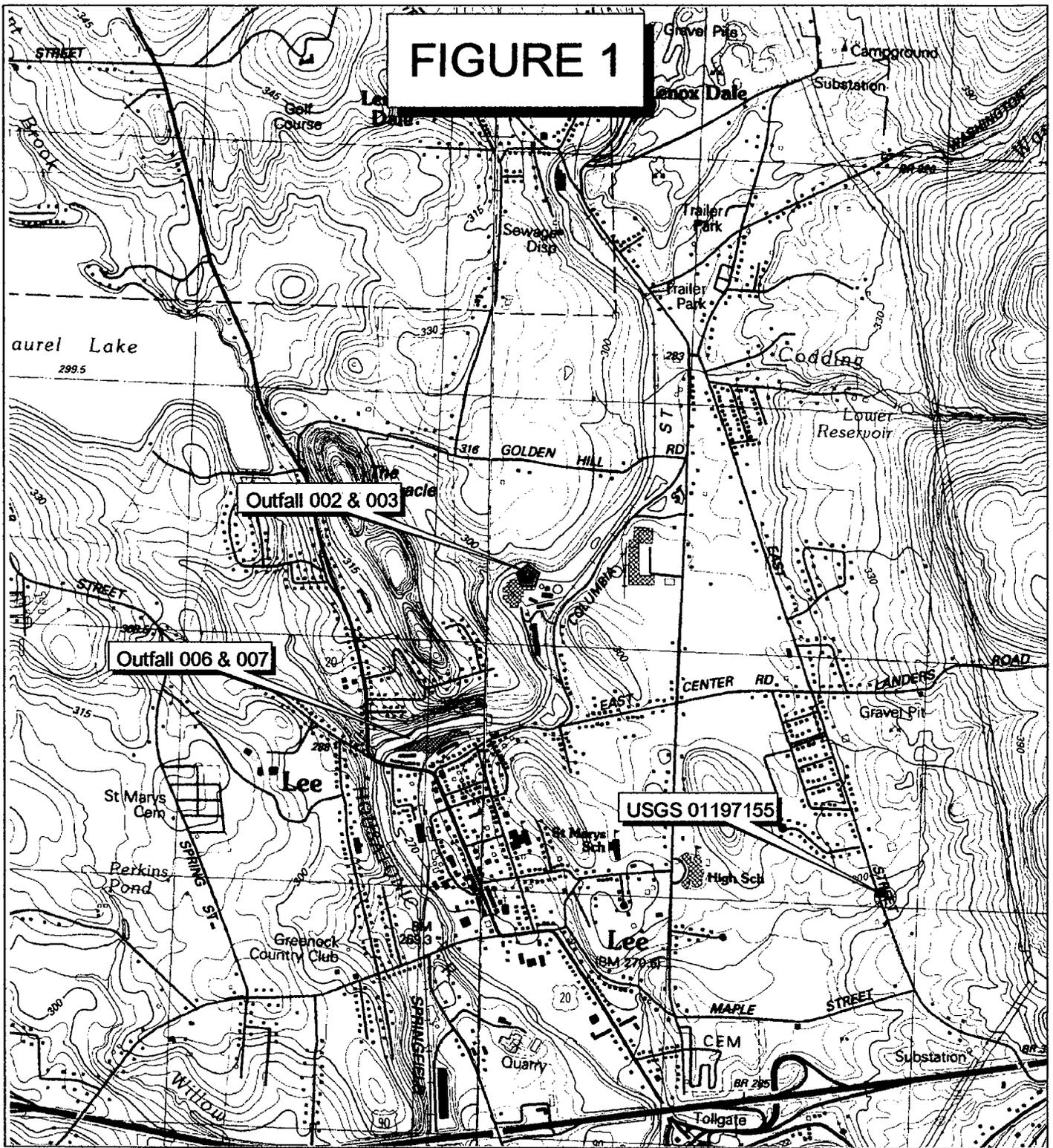
- Acute WET: In order to avoid unacceptable acute whole effluent toxicity in any portion of the receiving water, the current 100% limit is carried forward in the proposed permit.
- Chronic WET: Using the updated dilution factor to calculate a chronic whole effluent toxicity limit, $1 \div 8.22 = 0.12$, and a new limit of 12% is proposed for the draft permit. This limit is slightly less stringent than the current permit limit of 14%. The proposed change in the limit is due to the updated 7Q10 calculation.

ATTACHMENT E

BASIS FOR DRAFT PERMIT EFFLUENT LIMITS

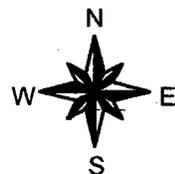
<u>Pollutant</u>	<u>How Measured</u>	<u>Units</u>	<u>Technology-Based Limits</u>	<u>Water Quality-Based Limits</u>	<u>Anti-Backsliding Limits</u>	<u>Antidegradation Limits</u>	<u>DMR Results Avg / Max</u>	<u>Draft Permit Limits</u>
BOD ₅	daily max	lb/day	5337	2,500 summer 3,794 winter	2,500 summer 3,794 winter	N/A	751/1,274 743/1,826	2,500 summer 3,794 winter
BOD ₅	30 day avg	lb/day	2928	1,500 summer 2,050 winter	1,500 summer 2,050 winter	N/A	402/635 372/572	1,500 summer 2,050 winter
TSS	daily max	lb/day	4788	N/A	1,800	N/A	672/2699	1,800
TSS	30 day avg	lb/day	2347	N/A	1,300	N/A	315/686	1,300
pH	--	std units	5.0/6.0-9.0	6.5-8.3	6.5-8.3	N/A	6.5-8.0	6.5-8.3
Total N	daily max	mg/l	N/A	Report	N/A	N/A	N/A	Report
Total P	monthly avg	lb/day	N/A	13.0 summer (also report mg/l)	40 summer (also report mg/l)	N/A	4/12	13.0
Total P	daily max	lb/day	N/A	Report summer (also report mg/l)	Report summer (also report mg/l)	N/A	8/51	Report
Temperature	daily max	°F	N/A	≤83 summer (in-stream)	≤83 summer (in-stream)	N/A	78/88	≤83 summer (in-stream)
Acute WET	--	%	N/A	100	100	N/A	81/25 min	100
Chronic WET	--	%	N/A	≥12	≥14	N/A	51/6 min	≥12

FIGURE 1



Data from MassGIS & MA DEP.
All Data Subject to Revision

Schweitzer-Mauduit International, Inc.
Lee, MA
MA0005371



For Intra-Agency Policy Deliberations

4/11/07, Massachusetts DEP