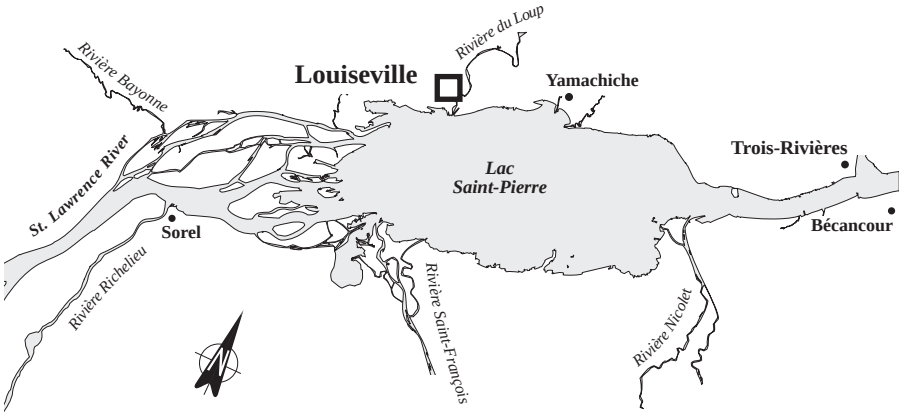
FACT SHEET 53

Sal-Tan Leather Inc.

271 route Notre-Dame Nord

Louiseville, Quebec

J5V 2L6



A list of 106 industrial plants has been established under St. Lawrence Vision 2000 (SLV 2000), the second phase of the St. Lawrence Action Plan, launched in 1988. The overall objective is to reduce toxic effluent and virtually eliminate discharges of persistent toxic substances.

The 106 industrial plants designated under SLV 2000 are divided into four groups, each with a specific objective. The SAL-TAN LEATHER INC. tannery in Louiseville is in Group 1, comprising plants that discharge inadequately treated effluent.

The objective for Group 1 is to reduce toxic effluent discharges in targeted plants by 90%.

INDUSTRIAL PLANT

Tannery

The SAL-TAN LEATHER INC. tannery in Louiseville prepares sheepskins for garment manufacturing and cowhides for furniture production. Sheepskin treatment processing includes retanning and dying, drying, softening, conditioning and finishing. The hides are then graded, measured and shipped. Semi-finished cowhides are softened, conditioned and finished, then graded, measured and shipped. Annual production capacity of the plant is 930 000 m^2. In 1995, the plant operates at 70% design capacity and employs a work force of 100.

PRODUCTION

PRINCIPAL RAW MATERIALS

- Tanned sheepskins
- Semi-finished cowhides
- Colourings
- Retanning products
- Lacs
- Pigments

FINISHED PRODUCTS

- Sheepskins for garment manufacturing
- Cowhide for furniture

TREATMENT MEASURES

INITIAL EFFLUENT VALUES

Mainly BOD_5

Based on 1995 company data, in 1993 the plant discharged about 182 m^3/d of effluent into the river, containing notably:

- 110 kg/d of biochemical oxygen demand (BOD_5)
- 35.3 kg/ of oil and grease (O&G)
- 5.8 kg/d of suspended solids (SS)
- 1.2 kg/d of chromium

RESOURCES AND USES TO PRESERVE

Boating activities

Wastewater from the SAL-TAN LEATHER INC. tannery is currently discharged untreated into the du Loup River. In 1996 it will be pretreated at the tannery, treated at the Louiseville wastewater treatment plant, and then discharged into the du Loup River about 4 km from its mouth. Water sports and pleasure boating are popular on this river in the vicinity of Louiseville. The area is also a cottaging site. A marina as well as private wharves and boat-ramps are located upstream from the discharge point. A number of fish species, including eels, swim upriver. The area is popular with fishing enthusiasts who catch pike and walleye, among other species of fish.

ENVIRONMENTAL DISCHARGE OBJECTIVES

Environmental protection

Environmental discharge objectives are established to preserve local resources and uses. These guidelines, expressed as maximum permissible loads and concentrations for effluent released into the environment, are used in choosing treatment methods which best promote environmental protection. There are no environmental discharge objectives for SAL-TAN LEATHER INC. since effluent from the tannery will be sent to the municipal wastewater treatment plant in 1996.

EFFLUENT TREATMENT

Pretreatment planned

In 1996, industrial wastewater will be flowing into a pretreatment basin where suspended solids will settle out. After, they will be passed through a dechroming treatment including neutralisation, coagulation, flocculation and tangential-flow filtration system. Domestic wastewater and runoff from the property and roofs will be discharged untreated into the municipal sewerage system.

PREVENTION AND CLEANUP MEASURES IMPLEMENTED

Connection to municipal wastewater treatment plant

On December 17, 1993, the company signed an agreement with Louiseville for wastewater treatment. Connection to the sewerage system is planned for November 1996, while the wastewater treatment plant (aerated lagoons) will open in June 1996.

Modernization of equipment and manufacturing processes is planned in 1996 and 1997. The proposed changes will reduce hydraulic and organic loads. There are also plans to install a pretreatment system including degreasing and dechroming units in 1996.

REGULATORY COMPLIANCE - WATER COMPONENT

CA renegociation

SAL-TAN LEATHER INC. is preparing to apply for authorization to change the standards in its existing certificate of authorization. These standards no longer correspond to the company's operations. Effluent should meet the standards of the agreement with the municipality of Louiseville.

POLLUTION ABATEMENT

CHIMIOTOX INDEX ABATEMENT OF TOXIC POLLUTION

Mainly total oil and grease

The Chimiotox index gauges the load of all toxic substances in industrial effluent using toxicity factors assigned to each contaminant. It is used, among other things, to monitor discharge trends over the years (Figure 1) and determine the toxic contribution of each pollutant (Table 1).

Table 1 gives data from the September 1995 SLV 2000 characterization along with the Chimiotox values calculated from them assuming an effluent flowrate of 180 m^3/d. Twelve substances were selected in testing for more than 120. Based on these data, total oil and grease accounts for 76% of the Chimiotox index, followed by total chromium with 13%.

Figure 1 is plotted from 1995 SLV 2000 characterization data. The Chimiotox index calculated from the 1995 data was applied to the years 1993 and 1994. Projections for 1996 to 1998 are based on SLV 2000 characterization data adjusted for the efficiency of the municipal wastewater treatment system.

Table 1 ***Chimiotox Index (1995) - Sal-Tan Leather Inc.****

Substance	Load (kg/d)	Toxic Weighting Factor	Chimiotox Units (CU)
Total oil and grease	35.250	100	3 525
Total chromium	1.228	500	614
Dibenzo(*a,h*)anthracene	0.002 **	100 000	245
Total sulphides	0.339	500	170
Total beryllium	0.003 **	15 601	40
Total copper	0.021	451	9
Total phosphorus	0.054	50	3
Total iron	0.777	3.3	3
Ammonia nitrogen	2.733	0.8	2
Total cadmium	0.003 **	909	2
Total cyanides	0.007 **	200	1
Total aluminum	0.093	11	1
CHIMIOTOX INDEX			**4615**

* Assuming an effluent flowrate of 180 m^3/d (12 substances selected in testing for more than 120)

** Load calculation based on analytical data which are near methodological detection limits

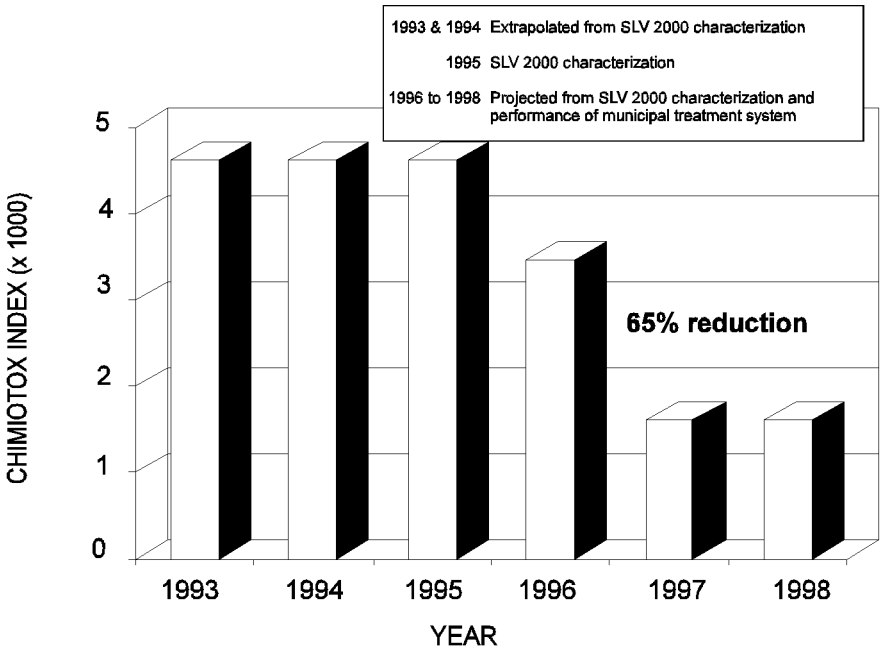


Figure 1 ***Chimiotox Index trends (1993 to 1998) Sal-Tan Leather Inc.***

VIRTUAL ELIMINATION OF PERSISTENT TOXIC SUBSTANCES

One long-range objective of SLV 2000 is the virtual elimination of eleven persistent bioaccumulative toxic substances from the effluent of 106 priority plants located on the St. Lawrence and its tributaries. The targeted substances are those designated by the International Joint Commission in August 1993: PCBs, DDT, dieldrin, toxaphene, dioxins, furans, mirex, mercury, lead alkyls, benzo(*a*)pyrene and hexachlorobenzene. To reach this objective, Protection has fixed the environmental discharge objectives set for applicable substances as its target by the end of SLV 2000 in 1998, thereby ensuring that all uses of the receiving environment are protected.

Based on 1995 SLV 2000 characterization data, none of these eleven persistent bioaccumulative toxic substances was detected in the company's effluent.

PEEP TOXICITY REDUCTION

Moderate PEEP

The Potential Ecotoxic Effects Probe (PEEP) combines the results of six standardized bioassays measuring the toxic effects of effluent. Results are expressed on a logarithmic scale (1 to 10) of increasing toxicity and are used to monitor discharge trends over the years. A series of bioassays of effluent from the SAL-TAN LEATHER INC. tannery was carried out in 1995; a PEEP value of 4.4 was obtained and the PEEP proved to be moderate.

REDUCTION IN SUBSTANCES MONITORED

Load stability

According to 1995 SLV 2000 characterization data, the tannery discharged 182 m^3/d of effluent containing notably:

- 110 kg/d of biochemical oxygen demand (BOD_5)
- 35.3 kg/d of oil and grease (O&G)
- 5.8 kg/d of suspended solids (SS)
- 1.2 kg/d of chromium

For lack of other data, these figures were also used to represent the situation in 1993 and in 1995. No major changes were made to either the process or the water treatment system during that time.

KEY POINTS

- **65% reduction in Chimiotox index**
- **Connection to Louiseville wastewater treatment plant scheduled for 1996**
- **Process modernization and installation of wastewater pretreatment system planned for 1996 and 1997**

Based on December 1995 inventory

ADDITIONAL INFORMATION

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Published by authority of the Minister of the Environment

Catalogue No. En153-6/53-1996E
ISBN 0-662-23326-3
(Aussi disponible en français sous le titre *Établissements industriels : faits saillants*)