

*Welland R.
Surface Waters.*

STANDARDS DEVELOPMENT BRANCH MOE
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SURFACE WATER BRANCH
OFFICE
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ONTARIO WATER
RESOURCES COMMISSION

INDEX

INDUSTRIAL WASTE DATA

FOR

INDUSTRIES

IN

WELLAND COUNTY

1959

Prepared as an aid to the Welland County Survey

for

Office Reference Purposes

Note: Some Industries without waste problems are omitted

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897.8
.W58
I53
1959
MOE

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Index industrial waste data for
industries in Welland county.

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I N D E X

NIAGARA FALLS

Page

American Can Co. of Can. Ltd.	1
Animal Trap of America	2
Arklus Machine Tool Works	3
Benjamin Glove & Canvas Mfrs.	4
Bentley Sporting Goods	5
Burgess Battery Co.	6
Canadian National Railway	7
Coca Cola	8
Cyanamid of Canada Ltd.	9
Delduca Food Products Ltd.	10
Dominion Chain Co. Ltd.	11
E. H. Ferree Co. Ltd.	12
Flexo Cotten Products	13
Gerber Products of Canada Ltd.	14
J. S. Graham (Can.) Ltd.	15
The International Silver Co.	16
Irish Dry Co.	17
Kimberley-Clark Canada Limited	18
F. H. Leslie Ltd.	19
Linnenbank Leather Goods	20
May Foundry Co.	21
Morris Herbert, Crane and Hoist Co.	22
Nabisco Foods Ltd.	23
Niagara Bronze Co.	24
Niagara Cut Stone	25
Niagara Dry Beverages	26
Niagara Foundry Company	27
Niagara Paper Box Co. Ltd.	28
Niagara Rug Co. Ltd.	29
Niagara Sheet Metal and Welding Co.	30
Niagara Wire Weaving Co. Ltd.	31
Oneida Limited	32
Pakfold Continuous Forms Ltd.	33
Provincial Engineering Ltd.	34
F. W. Roberts Mfg. Co. Ltd.	35
Spirella Co. of Canada Ltd.	36
Zippo Mfg. Co. (Can) Ltd.	37

WELLAND

Atlas Steels Ltd.	38
Canada Foundries & Forgings Ltd.	39
Canada Foundries & Forgings Ltd.	40
Dominion Yarns Ltd.	41
General Tire Co., Ltd. (Stokes Div.)	42
National Textiles Ltd.	43
Plymouth Cordage Co. Ltd.	44

WELLAND cont'd

Page

Reliance Electric & Engineering (Can) Ltd.	45
Switson Industries Limited	46
United Steel Corp. Ltd. (Mead-Morrison)	47
Wabasso Cotton Co., Ltd. (Empire Div.)	48
Welland Electric Steel Foundry Ltd.	49
Welland Iron & Brass Works Ltd.	50
Whiting Corp. (Canada) Ltd.	51

FORT ERIE

Acorn Mfg. Ltd.	52
Andrew Sheet Metal	53
The Arner Co. Ltd.	54
Cameron Woodworking	55
Canadian Gasket Co. Ltd.	56
Canadian National and Wabash Railway	57
Gauzer Ornamental Iron Works Ltd.	58
Gould National Batteries of Can. Limited	59
Hart & Cooley Mfg. Co. of Can. Ltd.	60
Horton Steel Works Ltd.	61
Industrial Plastics Can. Ltd.	62
Irvin Air Chute	63
Mar-Can Ltd.	64
Markel Electric Products Ltd.	65
Mentholatum Co. Ltd.	66
Owl-Lite Equipment Ltd.	67
Pierce & Stevens Can. Ltd.	68
Pratt-Lambert Paint Works Ltd.	69
Sterling Factories (Can) Ltd.	70
Twin Coach of Can. Ltd.	71
Williams Gold Refining Co. of Can. Ltd.	72
Willoughby Tool & Die	73
Wilsolite Can. Ltd.	74

PORT COLBORNE

Canadian Furnace Co., Ltd.	75
International Nickel Co. of Canada Ltd.	76
Maple Leaf Milling Co., Ltd.	77
National Harbours Board	78

THOROLD

Botsford & McGee Ltd.	79
Interlake Steel Co. Ltd.	80
Last Minute Manufacturing Co. Ltd.	81
Murray - Brantford Ltd.	82
Provincial Paper Ltd.	83
Spun Rock Wools Ltd.	84
Thorold Concrete Block Co. Ltd.	85
Thorold Pulp Co. Ltd.	86
York Electroplating Ltd.	87

CHIPPAWA

	<u>Page</u>
Norton Co.	88
E. Weightman & Sons	89

BERTIE TOWNSHIP

Baer Refrigeration Ltd.	90
Cline's Ornamental Iron Works	91
Commonwealth Shoe Co. Ltd.	92
Erie Stone Co. Ltd.	93
Fleet Manufacturing Co. Ltd.	94
Imperial Aluminum Company	95
Monarch Massage Equipment	96
Trico Products	97
Truly Magic Products	98
Wallace & Tiernan Ltd.	99

CROWLAND TOWNSHIP

Canadian Lands Die & Machine Co. Ltd.	100
Climatite Aluminum Sash Ltd.	101
Electro Metallurgical Co. Ltd.	102
El Mech Tools Ltd.	103
General Die & Machine Co. Ltd.	104
Haun Drop Forge Co. Ltd.	105
Linde Air Ltd.	106
Niagara Sausage and Meat Prod. Ltd.	107
Page Hersey Tubes Ltd.	108
Peninsula Die and Tool Ltd.	109
Welland Packers Ltd.	110
Welland Tubes Ltd.	111

HUMBERSTONE TOWNSHIP

Canada Cement Co. Ltd.	112
Canada Packers Ltd.	113
John Deere Plow Co. Ltd.	114
Robin Hood Flour Mills Ltd.	115

PELHAM TOWNSHIP

D'Arcy Cropp Canning Factory	116
Treguno Fruit Farms	117
Vineland Canning Co.	118

STAMFORD TOWNSHIP

	<u>Page</u>
Barratt Spun Concrete Poles	119
Bissell Carpet Sweeper Co.	120
T. G. Bright and Co. Ltd.	121
Canadian Carborundum Co. Ltd.	122
Canadian Liquid Air Products	123
Canadian Ohio Brass Co.	124
Chateau-Gai Wines Ltd.	125
Crawford Fitting Co.	126
Cyanamid of Canada Limited (Welland Works)	127
Dominion Brake Shoe Co. Ltd.	128
B. F. Goodrich, Chemical, Canada	129
Hamill Machine Works	130
Hastings Machine Tools Ltd.	131
International Co-op Ltd.	132
Joseph's Aluminum	133
Lionite Abrasives Ltd.	134
Lubrizol of Canada Ltd.	135
McIntyre Aluminum Products	136
Moeller Mfg. Co. (Canada)	137
Noranda Mines	138
Provincial Engineering Ltd., Plant 2	139
Stategic-udy, Metallurgical and Chemical	140

THOROLD

Beaver Wood Fibre Co. Ltd.	141
Exolon Co. Ltd.	142
Hayes Steel Products Ltd.	143
National Refractories Ltd.	144
Nichols Chemical Co. Ltd.	145
Ontario Paper Co. Ltd.	146
Standard Steel Construction Ltd.	147

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY American Can Co. of Can. Ltd. COUNTY Welland

ADDRESS 1695 Lewis St., WATERSHED Niagara R.
Niagara Falls.

PERSONNEL *Mr. R. E. Burke, Plant Accountant.
*Mr. W. J. O'Reilly, General Foreman.
Mr. J. H. W. Bates, Plant Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8 x 2 Shifts</u>	<u>5</u>	<u>120 (plant & office)</u>
Max.	<u> </u>	<u> </u>	<u>(20 on night shift)</u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>10,800 (total bill)</u>	<u>18,500</u>	<u>Nil</u>
Cooling	<u>City</u>			
Industrial	<u>City</u>			

Water - Sept. 3M = 1,200,000.
Bills - Dec. 3M = 980,000.
Mar. 3M = 702,000.

RAW MATERIALS Steel, castiron.

PRODUCTS Special canning machinery (new). Also service and maintain old machines.

WASTE DISPOSAL

Sanitary To City Sewers (3,600 G/D est. for 30 G/person.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

Solids from trap Land dumped.

DESCRIPTION OF SEWERS Network of sewers in plant to drain entire area.

Discharged to city sewer.

REMARKS: Small spray booth for washing old machines brought in for servicing.
 Used only 60% of the time that the plant operates. The floor drain for this
 booth discharges to a 4' high 3' diam. baffled tank for solids and grease
 removal. The overflow goes to city sewers.

Survey by; E. T. Ciebien.

Steam, caustic and soda ash are used for the cleaning operation. Date June 16, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Animal Trap of America. COUNTY Welland.
 ADDRESS 1781 Ellen St., WATERSHED Niagara R.
Niagara Falls.
 PERSONNEL Mr. H. G. Payne, Manager.
Mr. S. Granville, Plant Superintendent.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>13</u> (2 men on nights)
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	} <u>7,300 (total)</u>	<u>7,900</u>	<u>Nil</u>
Cooling	_____		"	_____
Industrial	_____		"	_____
Water 3M =	Sept. = 432,000.		Mar. 365,000.	
Bills	Dec. = 486,000		June 513,000.	

RAW MATERIALS _____
Steel, waste papers.

PRODUCTS Animal traps,
Hand garden tools,
Moulded pulp floral containers.

WASTE DISPOSAL

Sanitary City Sewers (30 x 13 = 390 G/Day)

	Quantity	How Estimated	Date Sampled
Cooling	<u>2.400</u>	<u>Observed flow</u>	<u>-----</u>
Industrial	<u>4.300</u>	<u>Subtraction</u>	<u>-----</u>

DESCRIPTION OF SEWERS Sewer network within plant to service total plant area

discharging to city sewer. Definite discharge point unknown.

- REMARKS: (1) 400 gallons of water with 120 gallons.
H₂SO₄ are used for steel pickling.
This tank and a 400 gallon rinse tank are dumped. together about once a month
- (2) Water Cooling a) air compressor.
b) welder.
c) Trico-degreaser.
- (3) 2,800 gallons white water storage tank with over flow to sewers.
2,000 gallons pulp storage tank.
Units are washed out completely at least once a year.

Survey by; E. T. Ciebien.

Date June , 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Arklus Machine Tool Works. COUNTY Welland

ADDRESS 202 Muir St., WATERSHED Niagara River.

Niagara Falls.

PERSONNEL _____

* Louise Arklus - Owner.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8½</u>	<u>5</u>	<u>5</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>Flat Rate</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Steel, bronze, castiron.

PRODUCTS Tools, dies, special machines.

WASTE DISPOSAL

Sanitary To city sewers (30 x 5 = 150 G/D)

	Quantity	How Estimated	Date Sampled
Cooling	<u>---</u>	<u>-----</u>	<u>-----</u>
Industrial	<u>---</u>	<u>-----</u>	<u>-----</u>

DESCRIPTION OF SEWERS One sewer connection. Exact location unknown.

REMARKS: Essentially a dry industry. No oil losses to sewers.

Survey by; E. T. Cieblen.

Date June , 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Benjamin Glove & Canvas Mfrs. COUNTY Welland

ADDRESS 518 Ellis St., WATERSHED Niagara River.
Niagara Falls.

PERSONNEL B. G. Schulze Pres.
Mrs. E. M. McGree, Secretary.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5 1/2</u>	<u>24</u>
Max.	_____	_____	<u>3 office</u> <u>27</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No Meter.</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Cloth, Canvas, leather, asbestos.

PRODUCTS Gloves, Canvas Goods.

WASTE DISPOSAL

Sanitary To city sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS

REMARKS: No industrial liquid waste; Dry Industry.

Survey by; E. T. Ciebien.

Date June 16, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Bentley Sporting Goods COUNTY Welland

ADDRESS First St., Niagara Falls. WATERSHED Niagara R.

PERSONNEL Mr. G. L. Bentley, President,
Mr. R. Coughlan, Director & Gen. Mgr.,
Miss L. E. Whittaker, Secretary-Treasurer.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>20 to 40</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls</u>	<u>No meter</u>	<u></u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Metals, wood, cardboard.

PRODUCTS Manufacture and distribute: Tennis, badminton, squash, golf,
croquet, games boards, blackboards, toys.

WASTE DISPOSAL

Sanitary To city combined sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>No meter</u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>

DESCRIPTION OF SEWERS

REMARKS:

Dry industry. No industrial liquid wastes.

Survey by; E. T. Ciebien.

Date June 17, 1959.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling } Industrial }	<u>40-51,000</u> <u>gal./day.</u>	<u>Water Bills</u>	<u> </u>

DESCRIPTION OF SEWERS Plant sewers including cooling, wash and sanitary flows
discharge to city sewers.

REMARKS: The largest use of water is for cooling purposes on grinders, welders,
 quenching etc.

 Approximately 5 gal./min. are used to wash the metal containers for
 small battery cells.

 Small amounts of water are used for floor and equipment wash-up.

Survey by; E. T. Ciebien.

Date June , 1959.

WASTE DISPOSAL

Sanitary To city sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS

REMARKS: Steam engines have recently been completely stopped. In the past the water was chiefly used in these engines.

There was a large volume of water used previously to wash steam engines as well.

At present yard engines are all diesels and these require a much smaller volume of water for maintenance.

Survey by; E. T. Ciebien.

Date June 25, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Chateau-Gai Wines Ltd. COUNTY Welland
ADDRESS 1375 Stanley St. N. , Stamford Twp. WATERSHED Niagara R.
P.O. Box 6, Niagara Falls,
PERSONNEL Mr. R. G. Swan, Superintendent
Mr. R. Smith, Assistant Superintendent

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>55 ± 5</u>
Max.	<u>_____</u>	<u>_____</u>	<u>_____</u>
Seasonal Variation	<u>24</u> <u>5 weeks</u> <u>Sept. & Oct.</u>	<u>6 - 7</u>	<u>120</u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>1,650</u>	<u>-</u>	<u>Nil</u>
Cooling	<u>Well</u>)	<u>{ 150,000</u>	<u>_____</u>	<u>Nil</u>
Industrial	<u>Stamford</u>)	<u>{ 110,000</u>	<u>_____</u>	<u>Nil</u>

RAW MATERIALS Grapes.

PRODUCTS Wines.

WASTE DISPOSAL

Sanitary

Septic tank, sand filter to HEPC Canal.

	Quantity	How Estimated	Date Sampled
Cooling			-
Industrial	260,000	Pump capacity Water bill	-

DESCRIPTION OF SEWERS

Wastes discharge to an open ditch which leads to the

HEPC Power Canal 1/2 mile away.

REMARKS:

Pumice is dumped on farm land for fertilizer.

Lees are pumped into tank trucks and sent to Toronto for alcohol recovery.

Wash waters from floors, filter presses, barrels and tanks are the prime source of polluted water.

Survey by; E. T. Ciebien.

Date June 23, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Coca Cola, COUNTY Welland,

ADDRESS 2158 Main St., WATERSHED Niagara River,
Niagara Falls.

PERSONNEL J. B. Dafos - Mgr.
*E. B. Dickson - Officer Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>30 P. & O.</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>15-40,000</u>	_____	<u>Nil.</u>
Cooling	<u>& bottle wash</u>	_____	_____	<u>Nil.</u>
Industrial	<u>to bottles.</u>	_____	_____	_____

*floc. & chlorination.

RAW MATERIALS Syrup, Water and Carbon Dioxide.

PRODUCTS Carbonated Beverages.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Cyanamid of Canada Ltd. COUNTY Welland

ADDRESS Niagara Works WATERSHED Niagara R.

4th St. Niagara Falls,

PERSONNEL Mr. I. L. McDonald, Plant Manager

Mr. W. R. Melvin, Plant Engineer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>700 ± 25</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>140,000</u>	<u>167,000</u>	<u>Nil</u>
Cooling	<u>HEPC Canal</u>	<u>13,000,000</u>	_____	<u>Settle solids</u>
Industrial	_____	_____	_____	_____

RAW MATERIALS Coke, lime, nitrogen from the atmosphere

PRODUCTS Cyanamid (Crude CaCN₂) calcium cyanamide

WASTE DISPOSAL

Sanitary Treated in 8 septic tanks then to twp. combined sewers and
several to HEPC Canal.

	Quantity	How Estimated	Date Sampled
Cooling	<u>13,000,000 G/day</u>	<u>Pump capacity</u>	<u>July 24, 1959</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS A 30" sewer carrying approximately 90% of the water
from the plant discharges directly to the HEPC Canal.

Another smaller sewer carrying 10% of the water discharges
via plant sewer to the township sewer under Victoria Avenue and then to
the Niagara River at the Whirlpool Rapids.

The cooling pond overflow also connects to the above sewer
to the Niagara River.

REMARKS:

Water is primarily used as a coolant for the furnaces, ovens, and the power transformers in the plant.

The processes are essentially dry and produce no industrial liquid wastes.

The sanitary wastes, after treatment in the 8 septic tanks, discharge to both the plant sewers systems and then to the HEPC Canal and also the Niagara River.

Survey by; E. T. Ciebien

Date June, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Delduca Feed Products Ltd.. COUNTY Welland

ADDRESS 1648 Stanley St.. WATERSHED Niagara River.
Niagara Falls.

PERSONNEL M. Delduca - Owner.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>6 - 8</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls</u>	<u>No Meter</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Food.

PRODUCTS Canned casserole dishes.

WASTE DISPOSAL

Sanitary To city sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS Wash waters discharge to sanitary sewers.

REMARKS: This is a new industry and still in the experimental stages.
Within one year it is expected this plant will move to Stamford Twp.
to a new building for larger scale production.

Survey by; E. T. Cieblen.

Date June 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Dominion Chain Co. Ltd. COUNTY Welland
ADDRESS 800 Bender Hill WATERSHED Niagara R.
Niagara Falls
PERSONNEL Mr. F. C. Cullimore, President
Mr. D. McDonald, Plant Engineer
Mr. E. Manson, Maintenance Foreman

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>300 ± 20</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls</u>	<u>10,000</u>	<u>-</u>	<u>Nil</u>
Cooling	<u>" "</u>	<u>5,000</u>	<u>-</u>	<u>"</u>
Industrial	<u>" "</u>	<u>55,000</u>	<u>62,000</u>	<u>"</u>

RAW MATERIALS Steel, plastic, wire, etc.
Various chemicals required for cleaning and plating.
(including H₂SO₄, Hcl, cadmium, zinc, brass)

PRODUCTS Chains and cables.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY E. H. Ferree Co. Ltd., COUNTY Welland.
ADDRESS 1701 Lewis St., WATERSHED Niagara River.
Niagara Falls.
PERSONNEL Mr. R. E. Binns - Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>68 P & O.</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls</u>	<u>1,500 to 3,100</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Leather 80%, plastic 20%.

PRODUCTS Leather and plastic - wallets
- keycases
- coin purses.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: Dry industry, No industrial liquid wastes.

Survey by; E. T. Ciebien.

Date June 16, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Flexo Cotten Products. COUNTY Welland.

ADDRESS 1993 Clark St., WATERSHED Niagara River.
Niagara Falls.

PERSONNEL Mr. H. M. Seigel - Owner.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>5</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls</u>	<u>1,500 to 2,500</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS (1) Cotton.

(2) Dirty Rags.

PRODUCTS (1) Mops

(2) Clean Rags.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling } Industrial }	<u>1,500 to 2,500</u> gal./day	<u>Water Bills</u>	<u>---</u>
	" "	" "	" "

DESCRIPTION OF SEWERS All wastes to city sewers.

REMARKS: Rag washing wastes constitute the ^{only} industrial liquid waste from this plant.

Survey by; E. T. Ciebien.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Gerber Products of Canada Ltd., COUNTY Welland.

ADDRESS 1611 North St., WATERSHED Niagara River.
Niagara Falls.

PERSONNEL _____

M. Fortin - Plant Supt.

I. Sagert - Plant Engineer.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>Can 8 hrs.</u>	<u>5</u>	<u>125 + 20.</u>
Max.	<u>Packing 8 hrs.</u>	_____	_____
Seasonal Variation	<u>Cereal</u> <u>Cook 24 hrs.</u>	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>61,500</u>	_____	<u>Nil</u>
Cooling	_____	<u>to 185,000</u>	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Fruits, vegetables, grains, flour, meat, eggs, etc.

PRODUCTS Canned baby foods:

Cereal, biscuits, fruits, meats, etc.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY J. S. Graham (Can.) Ltd. COUNTY Welland.
ADDRESS 630 Clifton St. WATERSHED Niagara River.
Niagara Falls.
PERSONNEL A. Donaldson - Supt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>4 to 10</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No Meter</u>	<u>---</u>	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Cardboard.

PRODUCTS Photographic mounts.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: No industrial liquid waste; Dry industry.

Survey by; E. T. Ciebien.

Date June 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY The International Silver Co. COUNTY Welland

ADDRESS 303 River Road WATERSHED Niagara River
Niagara Falls

PERSONNEL Mr. R. C. Fuller, President

* Mr. R. G. Christopher, Vice-President

* Mr. K. Patterson, General Foreman

* Mr. J. LaBerge, Maintenance Foreman

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>150 plant</u> <u>50 office</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls</u>	<u>115,000</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Sheet steel, carbon steel
rod steel,
nickel, silver, and a variety of chemicals

PRODUCTS Cutlery, flatware, holloware
of 1) Stainless steel
2) Silver plated carbon steel
3) Sterling silver

WASTE DISPOSAL

Sanitary To city

	Quantity	How Estimated	Date Sampled
Cooling	115,000 gal/day	Water bills	
Industrial			

DESCRIPTION OF SEWERS There are 4 main connections from plant sewers
to the city combined sewer called Muddy Run.

REMARKS: Samples were taken and a report written for inclusion in the
Welland County report.

Survey by; E. T. Ciebien

Date June 4, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Irish Dry Co., COUNTY Welland,
ADDRESS 1834 Pcer St., WATERSHED Niagara River,
Niagara Falls.
PERSONNEL G. Crober, - Pres.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>13</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls</u>	<u>5-11,000</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS CO2, syrup, water.

PRODUCTS Carbonated Beverages - Up-Town.
- Wishing Well.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>5,000 to</u>	<u>Water Bills</u>	<u>-----</u>
Industrial	<u>11,000 gal/day</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Bottle wash wastes are screened and discharges to sanitary sewers.

Approximately 10% of water purchased is sold as product.

REMARKS: Bottle washing wastes, including caustic, and floor and equipment washings are discharged to city sewers.

Survey by; E. T. Ciebien.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Kimberley-Clark Canada Limited, COUNTY Welland

ADDRESS 431 Victoria Avenue, WATERSHED Niagara R.
Niagara Falls, P.O. Box 390.

PERSONNEL _____

* Mr. H. L. Seifert, Plant Manager

Mr. A. Harvey, Plant Engineer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>17 (2 x 8½)</u>	<u>5</u>	<u>425 P. & O.</u>
Max.	_____	_____	<u>(125 on nights)</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic } and/or Sanitary }	<u>Niagara Falls</u>	<u>110,000</u>	<u>123,000</u>	<u>Nil</u>
Cooling }	_____	_____	_____	_____
Industrial }	_____	_____	_____	_____

RAW MATERIALS Sheet papers, cardboard, cotton.

PRODUCTS Kleenex tissues, table napkins, sanitary napkins.

WASTE DISPOSAL

Sanitary	<u>To city combined sewers.</u>		
	<u>(13,000 gpd based on 30 gallons per person per day)</u>		
	Quantity	How Estimated	Date Sampled
Cooling)	<u>100,000 to</u>	<u>Water bills</u>	<u>-</u>
Industrial)	<u>110,000 gal/day</u>	<u></u>	<u>-</u>

DESCRIPTION OF SEWERS Sanitary and industrial plant sewers all discharge to combined city sewers.

REMARKS: Water is used for sanitary purposes, air cleaning operation, bleach tank, cooling and boiler make-up at this plant.

This bleaching operation is carried out in a 500-gallon tank, where water and several bleaching agents, such as, caustic soda, sulphuric acid and sodium hypochlorite are used to 'whiten' the cotton gauze used in sanitary napkins. This tank is dumped after each batch or about 8 times daily.

The air scrubbing equipment is used to remove the air borne fibres which come from the various tissue cutters.

Mr. Seifert stated that tests of the discharging water showed that approximately 200 pounds of fibre are removed from the air and discharged to the sewers.

No samples were taken at this plant.

Survey by; E. T. Ciebien.

Date June 12, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY R. J. Lavelle Candle Co., COUNTY Welland.
ADDRESS 630 Clifton St., WATERSHED Niagara River.
Niagara Falls.

PERSONNEL _____

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	_____	_____	_____
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	_____	_____	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Plant has had recent fire:
- no operations at present.
- it is not known wether plant will re-open.

PRODUCTS _____

WASTE DISPOSAL

Sanitary _____

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS:

Survey by; E. T. Ciebien.

Date June , 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY F. H. Leslie Ltd., COUNTY Welland.
ADDRESS 801 Valley Way, WATERSHED Niagara River.
Niagara Falls.
PERSONNEL G. R. Dingman - Manager.
*Howard Timms - Prod. Supt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>100</u>
Max.	<u>_____</u>	<u>_____</u>	<u>_____</u>
Seasonal Variation	<u>_____</u>	<u>_____</u>	<u>_____</u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>8-19,000</u>	<u>_____</u>	<u>Nil</u>
Cooling	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
Industrial	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>

RAW MATERIALS (1) Newsprint.
(2) Paper, paints, inks.

PRODUCTS (1) Newspaper "Evening Review."
(2) Postcards, advertising folders.

WASTE DISPOSAL

Sanitary To city sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>8,000 to</u>	<u> </u>	<u> </u>
Industrial	<u>19,000 gal/day</u>	<u>Water Bills.</u>	<u> </u>

DESCRIPTION OF SEWERS All wastes discharge to city sewers.

REMARKS: Large use of water for air conditioning in summer months.
Most water used for cooling, boiler make-up, and sanitary purposes.
Very small amounts used to wash ink and paint from equipment.

Survey by; E. T. Ciebien.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Iinnenbank Leather Goods, COUNTY Welland.

ADDRESS 602 Victoria Ave., WATERSHED Niagara River.
Niagara Falls.

PERSONNEL R. I. Iinnenbank, - Sec. Treas.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>14</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>230 to 600</u>	<u>---</u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Leather.

PRODUCTS Billfolds, keycases, etc.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS ---

REMARKS: No industrial liquid wastes; Dry industry.

Survey by; E. T. Ciebien.

Date June 22, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY May Foundry Co., COUNTY Welland.
ADDRESS 2029 Clark St., WATERSHED Niagara River,
Niagara Falls.
PERSONNEL J. May - Owner.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>10</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No meter.</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Brass, Bronze, Copper, Zinc, Lead, Aluminum.

PRODUCTS Castings.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	---	_____	_____
Industrial	---	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: Small amount of water used to moisten sand.
No industrial liquid waste.

Survey by; E. T. Ciebien.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Morris Herbert, Crane and Hoist Co., COUNTY Welland.
ADDRESS 300 Stanley Ave., WATERSHED Niagara River.
Niagara Falls.
PERSONNEL J. S. Rossall, President.
W. Rogerson, Works Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>100 ± 15.</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>13,500</u>	<u>---</u>	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Steel, castiron, Cast iron.

PRODUCTS Materials Handling Equipment.
eg. Hoists, Cranes, Pulleys.

WASTE DISPOSAL

Sanitary To sanitary sewers (3,000 g/day) based on 30 gal/day/person.

	Quantity	How Estimated	Date Sampled
Cooling	<u>10,000 gal/day</u>	<u>Water Bill.</u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS All sewers discharge to city sewer.

REMARKS: Water is used in:

- (1) in Boilers.
- (2) Cooling air compressors.
- (3) Water backed spray booth.
- (4) Cooling machinery.
- (5) Flush sprinkling system.
- (6) Water front lawn.

No industrial liquid wastes.

Survey by; E. T. Ciebien.

Date June 22, 1959.

WASTE DISPOSAL

Sanitary To sanitary sewer (5000 gal/day) based on 30 gal/day/person.

	Quantity	How Estimated	Date Sampled
Cooling	<u>34-41,000</u>	<u>Water Bills</u>	<u> </u>
Industrial	<u>gal/day</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS All the wastes from wheat cooking and kettle washing operation discharge to the city sewers. There is a catch basin to trap solids on the plant sewer.

REMARKS: Approximately 40 batches per day of 275 gallons per batch or 11,000 gal. of wheat cooking liquor are discharged daily.

 Other grain softening and conditioning waters are lost by evaporation in drying, baking or toasting operations.

 Wednesday and Friday, 4 kettles are boiled with 1,000 gallons of water each to wash them. This water is also discharged to sewers.

Survey by; E. T. Ciebien.

Date June 4, 29 , 1959.

87

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Bronze Co., COUNTY Welland.
ADDRESS 497 Buttrey St., WATERSHED Niagara River.
Niagara Falls.
PERSONNEL J. Barnett, Foreman.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>5</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No Meter</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Ingot Bronze.

PRODUCTS Custom Castings.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: No industrial liquid waste. Small amount of water used to moisten sand.

Survey by; E. T. Ciebien.

Date June 8, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Cut Stone.. COUNTY Welland.
ADDRESS 490 Buttrey St., WATERSHED Niagara River.
Niagara Falls.
PERSONNEL E. Geard, Supt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>12</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>19-28,000</u>	<u>---</u>	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Large Stones.

PRODUCTS Cut Stones.

WASTE DISPOSAL

Sanitary To Sanitary Sewer.

	Quantity	How Estimated	Date Sampled
Cooling	<u>19-28,000</u>	<u>Water Bill.</u>	<u>---</u>
Industrial	<u>gal/day.</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Stone cutting wheels are water cooled. The fine solids and water flow to an open ditch about 200 feet long and then discharge to a large swampy area. The Plant and the swamp are all on railway property.

REMARKS: The solids settle out within the length of the ditch. The effluent to the swampy area is clear. Tadpoles were seen to be living in the ditch. The solids are dredged out occasionally and piled near the plant on the railway property. Efforts are being made to sell the limestone to farmers for soil conditioning. It was believed by Mr. Geard, that an old sewer drained the swampy area and discharged the effluent to the Niagara River.

Survey by; E. T. Ciebien.

Date June 22, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Dry Beverages, COUNTY Welland.
 ADDRESS 1730 Ferry St., WATERSHED Niagara River.
Niagara Falls.
 PERSONNEL D. McCutcheon, Branch Mgr.
H. B. Hiles, Vice Pres. and Gen. Mgr.
R. Gasby, Plant Supt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8 plant.</u> <u>7 office.</u>	<u>5</u> <u>5</u>	<u>35 plant</u> <u>10 office</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>15-60,000</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Concentrate, Carbondioxide, Water.

PRODUCTS Carbonated Beverages.

WASTE DISPOSAL

Sanitary To Sanitary Sewers. (1,300 gal/day) based on 30 gal/person/day.

	Quantity	How Estimated	Date Sampled
Cooling	{ <u>14-60,000</u>	<u>Water Bills.</u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Bottle washing effluent is screened for solids and dis-
charged to city sewers.

REMARKS: Approximately 10% of water consumption is sold as product.
Remainder is used in bottle washing.
Caustic wash solution is recycled till quite dirty (2 weeks or more)
and dumped to city sewers.
Production is approximately 500,000 cases averaging 288 fl. oz. per case.
(per annum)

Survey by; E. T. Ciebien.

Date June 15, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Foundry Company. COUNTY Welland.

ADDRESS 752 Buttrey St., WATERSHED Niagara River,
Niagara Falls.

PERSONNEL Mr. Kayser, Plant Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>12</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No Meter.</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Scrap iron, pig iron.

PRODUCTS Castings.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	---	---	---
Industrial	---	---	---

DESCRIPTION OF SEWERS _____

REMARKS: No industrial liquid wastes. Small amount of water is used to moisten sand.

Survey by; E. T. Ciebien.

Date June 9, 1959.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: No industrial liquid waste; Dry industry.

Survey by; E. T. Ciebien.
Date June 16, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Rug Co. Ltd., COUNTY Welland.

ADDRESS 580 Victoria Ave., WATERSHED Niagara River.
Niagara Falls.

PERSONNEL Mr. A. Bogomolny - Sec. Treas.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>35 P & O</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>6-8,000</u>	<u>---</u>	<u>Nil.</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Cloth trimmings and wastes.

PRODUCTS Braided or woven scatter rugs of all sizes.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Sheet Metal and Welding Co., COUNTY Welland.

ADDRESS 1648 Stanley St., WATERSHED Niagara River.
Niagara Falls.

PERSONNEL M. Delduca - Owner.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>3 - 6</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No Meter.</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Sheet steel, Angle iron.

PRODUCTS Custom air ducts, and other sheet metal products.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: No industrial liquid wastes; dry industry.

Survey by; E. T. Ciebien.

Date June 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Wire Weaving Co. Ltd. COUNTY Welland.
ADDRESS 1406 Robinson St., WATERSHED Niagara River.
Niagara Falls., P.O. Box 58.
PERSONNEL E. J. Buell, - Pres.
J. G. Hallworth - Vice Pres.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>(3 shifts) 24</u>	<u>5</u>	<u>250-300 P & O.</u>
Max.	_____	_____	<u>(40 & 40 on two night shifts)</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>77-97,000</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Wire.

PRODUCTS Wire cloth for paper making machines.

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>77,000 to</u>	<u>Water Bills</u>	<u>9</u>
Industrial	<u>97,000 g/day.</u>		

DESCRIPTION OF SEWERS All wastes discharge to city sewers.

REMARKS: Wire is drawn through dies to the required diameter. A large volume of water is used to cool the dies.

A 50 gallon tank of 10 % H_2SO_4 is used for pickling. This tank is dumped about once a month. A 50 gallon running rinse tank is used after the pickle operation.

The remainder of the water is used in Boiler-make-up and floor washing.

Survey by; E. T. Ciebien.

Date June 17, 1959.

WASTE DISPOSAL

Sanitary To city combined sewers

	Quantity	How Estimated	Date Sampled
Cooling	} <u>80. to 93,000</u>	<u>Water bills</u>	<u> </u>
Industrial			<u> </u>

DESCRIPTION OF SEWERS Two outfalls to city sewers (Bender Hill)

REMARKS:

Process wastes were sampled and report is on file.

Survey by; E. T. Ciebien

Date June 24, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Pakfold Continuous Forms Ltd., COUNTY Welland.
ADDRESS 212 Park, WATERSHED Niagara River.
Niagara Falls.
PERSONNEL A. Hawkswell, - Office Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>27</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No Meter.</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Carbon paper, Lined paper.

PRODUCTS Continuous forms.

WASTE DISPOSAL

Sanitary ~~To sanitary sewer.~~ _____

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: No industrial liquid waste; dry industry.

Survey by; E. T. Ciebien.

Date June 16, 1959.

WASTE DISPOSAL

Sanitary To sanitary sewers (6,500 gal/day) based on 30 gal/person/day.

	Quantity	How Estimated	Date Sampled
Cooling	{ <u>9,000</u>	<u>Water Bill.</u>	<u>---</u>
Industrial	{ _____	_____	_____

DESCRIPTION OF SEWERS All wastes flow to city sewers.

REMARKS: Water is used for:
(1) cooling machinery.
(2) air compressor.
(3) air conditioners.
(4) Boiler make-up.
No industrial liquid wastes.

Survey by; E. T. Ciebien.

Date June 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY F. W. Roberts Mfg. Co. Ltd., COUNTY Welland.
ADDRESS 473 Buttrey St., WATERSHED Niagara River.
Niagara Falls.
PERSONNEL I. R. Zimmerman, - Plant Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>5</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>1,200</u>	<u>1,500</u>	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Steel, aluminum, castiron.

PRODUCTS Pulp and Paper Mill Supplies; eg. burrs, holders, forks, etc.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Spirella Co. of Canada Ltd. COUNTY Welland.
ADDRESS 1700 Lewis St., WATERSHED Niagara River.
Niagara Falls.
PERSONNEL E. Galley - Plant Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>42 Plant</u>
Max.	_____	_____	<u>7 Office.</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>800 - 1200</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Cloth, elastic, steel stays, piano wire.

PRODUCTS Corsets.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Zippo Mfg. Co. (Can) Ltd., COUNTY Welland,
ADDRESS 2152 Allen St., WATERSHED Niagara River,
Niagara Falls.
PERSONNEL R. C. Barber - Executive Vice President.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>15 ± 5</u>
Max.	<u>8</u>	<u>5</u>	<u>25</u>
Seasonal Variation	<u>-</u>	<u>-</u>	<u>-</u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Niagara Falls.</u>	<u>No Meter</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Steel, brass, cotton, felt, asbestos.

PRODUCTS Cigarette lighters.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS All wastes discharge to city sewers.

REMARKS: A small tank 10 - 15 gallons of chemicals including saltpetre, sodium ferric chloride is used to etch patterns on the sides of the lighters. A 15 gallon running rinse tank is also used.

The small tank is land dumped for disposal, the running rinse discharges to sanitary sewer.

Survey by; E. T. Ciebien.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Atlas Steels Ltd. COUNTY Welland
ADDRESS North of Major St. Welland east of WATERSHED Welland River
Canal
PERSONNEL Mr. O. J. Zanatta, Utilities Engineer*
Mr. P. B. MacKenzie, Combustion Engineer*
Mr. F. Noble, Instrument Mechanic*
Mr. W. Shisler, Instrument Mechanic*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>2,140</u>
Max.	<u></u>	<u></u>	<u>1,240 day shift</u>
Seasonal Variation	<u></u>	<u></u>	<u>900 night shift</u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u>263,000</u>	<u></u>	<u>nil</u>
Cooling	<u>Welland Canal</u>	<u>10,000,000</u>	<u></u>	<u>nil</u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Various requirements of Ni, V, Mn, Mo, Si, W, P, S, and Cr.
for allowing and processing steels
gal of: H₂SO₄, 81,000; HNO₃, 54,000; H₂F₂, 840; HCl 1,770;
lb. of: NaOH 290,000; Virgo Salt 234,000 CaC₂, 303,000 per year

PRODUCTS Allow steels, stainless, tool in sheets, rod bars, tubes
and wires

WASTE DISPOSAL

Sanitary To Crowland storm sewers to Welland River

	Quantity	How Estimated	Date Sampled
Cooling	<u>8,000,000</u>	<u>company data</u>	<u>June 11, 1959</u>
Industrial	<u>20,000,000</u>	<u>company data</u>	<u>June 11, 1959</u>

DESCRIPTION OF SEWERS (1) Township sewer 30" concrete accepts most of the plant wastes for discharge to Welland River - becomes a 36" brick sewer on crossing company property to north east. (11) A 42" brick sewer (Twp.) accepts few floor drains and storm water overflow of the 36" sewer. (111) an 18" sewer serves the south plant discharges to 20" sewer at the end of Patterson Street heading for the Welland River

REMARKS: No figures for pounds of pollutants per day could be calculated as the wastes were discharged to and sampled after dilution in the Crowland sewers. The effect on the Crowland 36" brick sewer was

B.O.D. 17 down to 10 ppm
 Solids 30 up to 106 ppm
 Iron 6 up to 22 ppm

very little effect on pH, phenol, chrome, and alkalinity. See report of August 27-28, 1957.

Survey by; F. J. Dart

Date June 11th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canada Foundries & Forgings Ltd., COUNTY Welland.
ADDRESS Canada Forge Plant, WATERSHED Welland River.
King St.
PERSONNEL Mr. A. L. Dean, General Manager.
Mr. J. T. Gardner, Superintendent C.F. Plant.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>100.</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	_____	_____	_____
Cooling	<u>Welland</u>	_____	_____	_____
Industrial	_____	_____	_____	_____
Total		<u>90,000</u>	<u>100,000</u>	<u>Nil.</u>

RAW MATERIALS Steel and steel alloys.

PRODUCTS Steel castings & forgings.

WASTE DISPOSAL

Sanitary Municipal sewer to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	<u>90,000</u>	<u>Water bill.</u>	<u>None.</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Welland sanitary sewer to Welland River.

REMARKS: One of two plants.

Canada Forge and Drop Forge - on another data sheet.

Plants used water only for cooling and quenching.

Survey by; F. J. Dart.

Date June 16, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canada Foundries & Forgings Ltd., COUNTY Welland.

ADDRESS Drop Forge Plant, WATERSHED Welland River.
Major St., Welland.

PERSONNEL Mr. J. T. Gardner - Supt. of Canada Forge Plant.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>150.</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland.</u>	<u> </u>	<u> </u>	<u>Nil.</u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Total		<u>40,000</u>	<u>59,000</u>	<u>Nil.</u>

RAW MATERIALS Steel. & Steel alloys.

PRODUCTS Steel castings & forgings.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Dominion Yarns Ltd.. COUNTY Welland.
ADDRESS 142 Empire St., WATERSHED Welland River.
Welland.
PERSONNEL Mr. Clement, Manager.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>130</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u>No meter.</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Cotton lases.

PRODUCTS Cotton thread, yarns and towelling.

WASTE DISPOSAL

Sanitary Sanitary sewer of Welland to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: Dry industry.

Survey by; F. J. Dart.

Date June 16, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY General Tire Co., Ltd. (Stokes Div.) COUNTY Welland

ADDRESS End of Ross Street, Welland WATERSHED Welland River

PERSONNEL Mr. E. Ball, Plant Engineer Safety *

Mr. Ken Humphreys, Pump room attendant *

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>5</u>	<u>650</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u>nil</u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u>nil</u>
Industrial	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Total		<u>410,000</u>	<u>440,000</u>	<u>nil</u>

RAW MATERIALS Varying qualities and quantities of crude rubber, plastics etc.

PRODUCTS Storage battery cases, pucks, plastic knobs, plastic moldings and tubes, electrical insulator components etc.

WASTE DISPOSAL

Sanitary to sanitary sewer to Welland River

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	<u>June 16, 1959</u>
Industrial	_____	_____	_____
Total	410,000		

DESCRIPTION OF SEWERS One drain services the north building containing mainly the over-
flow from extrusion cooling system

The main sewer services the hydraulic pump water overflow
machine shop etc. located outside the pump room

REMARKS: No noticeable contamination occurs from

- floor drainage
- hydraulic press water
- extrusion cooling water

Samples preserved and analysed for phenol gave negative results in spite of the fact that many phenolic substances are used by the plant. This is to be rechecked at a future date.

Survey by; F. J. Dart

Date June 16th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Plymouth Cordage Co. Ltd., COUNTY Welland.
ADDRESS 229 Plymouth Rd., WATERSHED Welland River.
Welland.
PERSONNEL Mr. A. C. Tibbits, Manager.*
Mr. G. A. Bennett, Asst. Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>250.</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u></u>	<u></u>	<u></u>
Cooling	<u>Welland</u>	<u></u>	<u></u>	<u></u>
Industrial	<u>Welland</u>	<u></u>	<u></u>	<u></u>
Total		<u>5000</u>	<u>6000</u>	<u>Nil</u>

RAW MATERIALS Manila, sisal, hemp, synthetics.

PRODUCTS Ropes and cords from raw materials.

WASTE DISPOSAL

Sanitary To sanitary sewer to Welland Canal.

	Quantity	How Estimated	Date Sampled
Cooling	<u>5000</u>	<u>Water bill</u>	<u>---</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS All wastes to sanitary sewer to Welland River.

REMARKS: Only industrial uses of water aside from cooling are the moisturizing of certain rope weaves and for fire protection.

Survey by; F. J. Dart

Date June 10th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY National Textiles Ltd., COUNTY Welland.
ADDRESS 31 Alexander St., WATERSHED Welland River.
Welland.
PERSONNEL Mr. W. S. McIntyre - Manager.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>60</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u>No meter</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Cotton and other finished materials.

PRODUCTS Tailored standard cut work clothes.

WASTE DISPOSAL

Sanitary Sanitary sewer to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: No laundrying either - strictly tailoring - dry industry.

Survey by; F. J. Dart.

Date June 15, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Reliance Electric & Engineering (Can) Ltd., COUNTY Welland,

ADDRESS Deniston & Water Sts., WATERSHED Welland River,
Welland.

PERSONNEL Mr. J. J. Hudson - Manager.*

Mr. D. Little - Plant Engineer.*

Mr. C.E. Kinsley - Plant Supt.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>300</u>
Max.	<u>16</u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Total		<u>2100</u>	<u>3100</u>	<u>N₁</u>

RAW MATERIALS Iron alloys, copper wire etc.

PRODUCTS Motors AC & DC, transformers.

WASTE DISPOSAL

Sanitary To sanitary sewer to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	<u>2100</u>	<u>Water bill</u>	<u> </u>
Industrial	<u>small</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS All wastes to sanitary sewer.

REMARKS: Only industrial water waste is an alkaline cleaner for degreasing.

Survey by; F. J. Dart.

Date June 10, 1959.

WASTE DISPOSAL

Sanitary to city sewers (6,000 g/day Est. 30 g/person)

	Quantity	How Estimated	Date Sampled
Cooling	<u>7,000</u>	<u>Visual</u>	<u> </u>
Industrial	<u>7,000</u>	<u>Subtract</u>	<u> </u>

DESCRIPTION OF SEWERS The plant has two working areas on opposite sides

of the street, both areas discharge their wastes to city sewers

REMARKS:

Wastes include:

1. plating operations
2. washing operations
3. degreasing
4. cooling (1) air compressors
(2) trico degreaser
5. spray paint booths

Survey by; E. T. Cieblen

Date July 8th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY United Steel Corp. Ltd. (Mead-Morrison), COUNTY Welland,

ADDRESS 317 King St. WATERSHED Welland River,

PERSONNEL Mr. H. LeBel - Manager.*

Mr. Zanitz - Engineering Dept.*

Mr. Goodman - Shop. Supt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u> </u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>
		14,400	15,700	Nil

RAW MATERIALS Steel beam, girders, and plates.

PRODUCTS Contractor's Heavy Machinery & Equipment.

WASTE DISPOSAL

Sanitary Sanitary Sewer to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	<u>12,000</u>	<u>Water bill</u>	<u>---</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Welland sanitary sewers to Welland River.

REMARKS: Occasional nitriding with potassium cyanide (KCN) is done. It is rarely used - 100# of KCN not being changed for at least five years. Articles rinsed after nitriding would add some cyanide to their wastes.

Survey by; F. J. Dart.

Date June 11, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Wabasso Cotton Co., Ltd. (Empire Div.) COUNTY Welland

ADDRESS Hagar Street, Welland WATERSHED Welland River

PERSONNEL Mr. R. Seyler, Plant Engineer *

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>5</u>	<u>750</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u>nil</u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u>nil</u>
Industrial	<u>Welland</u>	<u> </u>	<u> </u>	<u>nil</u>
Total		<u>251,000</u>	<u>266,000</u>	<u>nil</u>

RAW MATERIALS Cotton, dyes, starch, detergents, acetic acid, CuSO₄
NH₄OH, H₂S, and SO₃⁼, NaCl

PRODUCTS Finished cotton fabrics

WASTE DISPOSAL

Sanitary To sanitary sewer to Welland River

	Quantity	How Estimated	Date Sampled
Cooling & humidifying dyes	240,000	Difference	
Industrial dyes	40	Estimate	June 10, 1959
3 dye rinses	7,200	Rough calc.	June 10, 1959
Starch solution	20	Estimate	June 10, 1959

DESCRIPTION OF SEWERS To sanitary sewer to Welland River

REMARKS:

	<u>B.O.D./day</u>	<u>solids/day</u>
dyes	37.5 lb.	198 lb.
dye rinse #1	42.2 lb.	221 lb.
dye rinse #2	.8 lb.	4 lb.
dye rinse #3	-	-
starch solution	40 lb.	51.2
Total	84.5 lb.	474.2 lb.

Survey by; F. J. Dart

Date June 11th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Welland Electric Steel Foundry Ltd. COUNTY Welland
ADDRESS 123 Victoria St. WATERSHED Welland R.
Welland
PERSONNEL Mr. H. E. Davidson, President
* Mr. J. Bennett, Superintendent

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>80 ± 10</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u>Nil</u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>82,500 (total)</u>	<u></u>	<u></u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

20,577,800 gallons in 1958

RAW MATERIALS Scrap and virgin metals

PRODUCTS Alloy and carbon steel castings

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Welland Iron & Brass Works Ltd., COUNTY Welland,

ADDRESS 123 Victoria St., WATERSHED Welland River,
Welland,

PERSONNEL Mr. J. H. Gidrey - Plant Supt.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>30</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u>280</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Metal alloys mostly non-ferrous. Molding sand.

PRODUCTS Castings.

WASTE DISPOSAL

Sanitary To sanitary sewer to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____
Total	280.	Water bill	

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS: Dry industry - some water used to moisturize sand mold to 5% moisture for castings.

Survey by; F. J. Dart.

Date June 10, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Whiting Corp. (Canada) Ltd. COUNTY Welland
ADDRESS Alexander St., WATERSHED Welland River,
Welland.
PERSONNEL Mr. E. H. M. Storey - Manager.*
Mr. B. Epps - Order Dept.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>28</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u></u>	<u></u>	<u></u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u>Welland</u>	<u></u>	<u></u>	<u></u>
Total		<u>min. 500.</u>	<u>500,000</u>	

RAW MATERIALS Steel, steel alloys, bronze etc. as required.

PRODUCTS Large scale equipment and machinery.

WASTE DISPOSAL

Sanitary Welland Sanitary Sewer to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	<u>Variable.</u>	_____	_____

DESCRIPTION OF SEWERS Sanitary sewer to Welland River.

REMARKS: The only industrial use of water is the leak testing of large size equipment. Water use is therefore quite variable and dependent on what was being manufactured at the time. No contamination of this water occurred.

Survey by; F. J. Dart.

Date June 16, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Acorn Mfg. Ltd. COUNTY Welland

ADDRESS 105 Jarvis St. WATERSHED Niagara R.

Fort Erie

PERSONNEL Mr. D. Lowden, Manager and Owner

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>10</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Sheet metal to make stampings.

PRODUCTS Stampings.

WASTE DISPOSAL

Sanitary To sanitary sewers to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u>Nil</u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS:

No industrial liquid wastes.

Survey by; F. J. Dart.

Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Andrew Sheet Metal COUNTY Welland

ADDRESS Garrison Road WATERSHED Niagara R.
Fort Erie

PERSONNEL _____
Mr. D. Andrew, Owner

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>4</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Bertie Twp.</u>	<u>No meter</u>	_____	<u>None</u>
Cooling	<u>Zero</u>	_____	_____	_____
Industrial	<u>"</u>	_____	_____	_____

RAW MATERIALS Sheet metal,
angle iron

PRODUCTS Air ducts, furnaces, etc.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	<u>None</u>	<u> </u>	<u> </u>
Industrial	<u>None</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Sanitary connection to Septic tank.

REMARKS:

Dry industry.

Survey by; E. T. Ciebien.

Date

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Cameron Woodworking COUNTY Welland
ADDRESS 71 Concession WATERSHED Niagara R.
Fort Erie
PERSONNEL Mr. D. Cameron, Owner

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>3</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>No meter</u>	<u></u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Wood.

PRODUCTS Variety of wood products.

WASTE DISPOSAL

Sanitary To city sewer.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS

REMARKS:

Dry industry.

Survey by; *E. T. Ciesien*

Date *June 59*

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canadian Gasket Co. Ltd. COUNTY Welland

ADDRESS 290 Lewis St., Fort Erie WATERSHED Niagara R.

PERSONNEL Mr. Geo. Reynolds, Owner & President

* Mr. J. Taylor, Plant Supt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>34</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Fort Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>

RAW MATERIALS Copper, asbestos, rubber, cardboard, plastic, lead, etc. in sheets.
Acetic and phosphoric acids.

PRODUCTS Gaskets

WASTE DISPOSAL

Sanitary To Fort Erie sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	<u>Small</u>	_____	_____

DESCRIPTION OF SEWERS All wastes to sanitary sewer.

REMARKS: Copper gaskets are cleaned with either phosphoric or acetic acid. Concentrations less than 10% and volumes less than 3 gallons per week. Acids used only when copper gaskets are being made.

Survey by; F. J. Dart

Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canadian National and Wabash Railway COUNTY Welland
ADDRESS Diesel Shop, WATERSHED Niagara R.
Lewis St., Fort Erie.
PERSONNEL _____
Mr. W. R. Chalmers, Locomotive Foreman.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>86 (shop only)</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	_____	<u>Nil</u>
Cooling	<u>Niagara R.</u>	<u>No meter</u>	_____	<u>Nil</u>
Industrial	_____	_____	_____	_____

RAW MATERIALS _____

PRODUCTS Maintenance and service for Diesel engines. As many as 900 Diesels/month
have been serviced.
Approximately 20 engines are washed in 24 hours.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	-		
Industrial			

DESCRIPTION OF SEWERS The entire area of the tracks and buildings drains to one ditch along Lewis St., then to the Niagara R.

This ditch is equipped with an oil separator at the end of the railway property. The trapped oil is pumped out weekly by the Buffalo Waste Oil Co.

REMARKS: In 1957, 1,835,000 gallons were purchased from the Fort Erie waterworks. Since then, steam engines have been discontinued and although there is no meter, the amount of water purchased is known to be much less.

No values for water consumption were available. The city water has no meter. The pump does not operate continuously.

Survey by; E. T. Ciebien.

Date July 8, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Gauzer Ornamental Iron Works Ltd. COUNTY Welland

ADDRESS 29 Lewis St., Fort Erie WATERSHED Niagara R.

PERSONNEL Mr. W. Gauzer, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>4</u>
Max.	<u></u>	<u></u>	<u>5</u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	<u></u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u>Fort Erie</u>	<u></u>	<u></u>	<u>Nil</u>

RAW MATERIALS Iron bars and scrap.

PRODUCTS Iron work - blacksmithing.

WASTE DISPOSAL

Sanitary Fort Erie sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS:

Small amount of water for iron quench.

Survey by; F. J. Dart.

Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Gould National Batteries of Can. Limited COUNTY Welland

ADDRESS 275 Lewis Street WATERSHED Niagara R.
Fort Erie

PERSONNEL Mr. P. W. Roberts, Office Manager

Mr. W. Moratz, Plant Engineer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>30 (P & O)</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>900 (est)</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u>6,000</u>	<u> </u>	<u>Nil</u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Lead, rubber cases, H₂SO₄.

PRODUCTS Storage batteries.

WASTE DISPOSAL

Sanitary To city sewers.

	Quantity	How Estimated	Date Sampled
Cooling } Industrial }	<u>6,000</u>	<u>Water bill</u>	<u>June J.D.</u>

DESCRIPTION OF SEWERS Charging room sewers drain to open ditch - water spray
to prevent vapour accumulation.

Charging batteries area, sewers drain to open ditch,
water serves to cool cells being charged.

Floor wash to ditch as well.

REMARKS:

Sample showed large lead and suspended solids when floors were washed and less when only cooling and spraying operations were carried out. The pH is very low.

It is recommended that this waste be neutralized, settled and the supernatant discharged to sewers.

Survey by; E. T. Ciebien.

Date June 3, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Hart & Cooley Mfg. Co. of Can. Ltd. COUNTY Welland
ADDRESS Wood St. WATERSHED Niagara R.
Fort Erie
PERSONNEL Mr. K. Souder, General Manager
Mr. R. R. Raight, Factory Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>100 + 10</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>3,000 (est)</u> <u>30</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>City</u>	<u>4,700 (subt.)</u>	<u> </u>	<u>4</u>

RAW MATERIALS Steel, sheet metal etc.

PRODUCTS Air distribution equipment.

WASTE DISPOSAL

Sanitary Sanitary Sewers (12,000 Est. @ 30 G/D/Person.)

	Quantity	How Estimated	Date Sampled
Cooling	<u>3,300</u>	<u>Water Bill.</u>	<u>-0-</u>
Industrial	<u>220</u>	<u>Company Est.</u>	<u>June 18, 1959.</u>

DESCRIPTION OF SEWERS Calcium Carbide, acetylene generator - waters flow to settling lagoon 40' x 20' and then to sewer to Niagara River.

The lagoon effluent was sampled.

REMARKS: The small amount of flow (220 gal/day) from this plant should not prove harmful to the sewers or receiving body of water.

Survey by; E. T. Ciebien.

Date June 3, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Industrial Plastics Can. Ltd. COUNTY Welland

ADDRESS 29 Jarvis St., Fort Erie WATERSHED Niagara R.

PERSONNEL * Mr. S. W. Prince, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5½</u>	<u>6</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Warehousing of plastic piping, sheets etc. - some fabrication.

PRODUCTS No manufacturing.

WASTE DISPOSAL

Sanitary To sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u>Nil</u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS: Future expansion into plastic extrusion being planned.

Survey by; F. J. Dart

Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Irvin Air Chute COUNTY Welland

ADDRESS 477 Central Ave., Fort Erie WATERSHED Niagara R.

PERSONNEL * Mr. G. Bonn, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>30</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Fort Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>

RAW MATERIALS Parachutes to be patched, cleaned and folded.

PRODUCTS Folded parachutes.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Max-Can Ltd. COUNTY Welland

ADDRESS 40 Courtwright St., Fort Erie WATERSHED Niagara R.

PERSONNEL _____

* Mr. Thompson, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>8</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	<u>Fort Erie</u>	_____	_____	_____

RAW MATERIALS Worn-out athletic equipment.

PRODUCTS Re-conditioned athletic equipment.

WASTE DISPOSAL

Sanitary To sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Small</u>	<u> </u>	<u>None</u>

DESCRIPTION OF SEWERS Sanitary sewer for all wastes.

REMARKS:

Some of the athletic equipment is laundered creating a small amount of waste.

Survey by; F. J. Dart.

Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Markel Electric Products Ltd. COUNTY Welland

ADDRESS 23 Lewis St., Fort Erie WATERSHED Niagara R.

PERSONNEL * Mr. S. Payne, Maintenance Engineer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>16</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u>"</u>	<u>"</u>	<u> </u>	<u>"</u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Parts and pieces of heat vent systems.

PRODUCTS Assembled and painted heating vent systems.

WASTE DISPOSAL

Sanitary Fort Erie sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u>Small</u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Sanitary sewer only

REMARKS: Cooling water only for degreaser. Plating tanks had not been replaced since fire destroyed the original building.

Survey by; F. J. Dart

Date June 17, 1959

WASTE DISPOSAL

Sanitary To sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u>Small</u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS: No industrial liquid wastes.

Survey by; F. J. Dart,
Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Owl-Lite Equipment Ltd., COUNTY Welland.
(Partronics (Can.) Ltd.) old name.
ADDRESS 339 Douglas, WATERSHED Niagara River.
Fort Erie.
PERSONNEL Mr. J.C. Stratton - President.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5½</u>	<u>8</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>No Meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u>0</u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Angle iron, sheet metal, paint.

PRODUCTS Traffic warning blinker lights.

WASTE DISPOSAL

Sanitary To city sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>-0-</u>	<u> </u>	<u> </u>
Industrial	<u>-0-</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Dry industry.

Survey by; E. T. Ciebien.

Date June 3, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Pierce & Stevens Can. Ltd. COUNTY Welland.

ADDRESS (Near Race Track) Concession Street, WATERSHED Niagara River,
Fort Erie.

PERSONNEL Mr. E. Henderson - Plant Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>21.</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u>Nil</u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>No Meter.</u>	<u> </u>	<u> </u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Solvents, naphthas, petrochemicals, soluble acetates, resins,
plasticizers, film formers.

PRODUCTS Lacquers, Thinners, Protective coatings, Adhesives.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Pratt-Lambert Paint Works Ltd. COUNTY Welland

ADDRESS West end of Courtwright St. WATERSHED Niagara R.
Fort Erie.

PERSONNEL _____
* Mr. J. T. Pollard, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>45</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	_____	<u>Nil</u>
Cooling	<u>Fort Erie</u>	_____	_____	<u>"</u>
Industrial	_____	_____	_____	_____

RAW MATERIALS Pigments, alkyd resins, oils, solvents.

PRODUCTS Paints

WASTE DISPOSAL

Sanitary To sanitary sewers to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u>No meter</u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Cooling water for both ball and roller mills.

Survey by; F. J. Dart.

Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Sterling Factories (Can.) Ltd. COUNTY Welland

ADDRESS Lewis St., Fort Erie. WATERSHED Niagara R.

PERSONNEL * Mr. J. Felix, Plant Superintendent

Mr. J. Sharnoff, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8½</u>	<u>5</u>	<u>12</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Port Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u>Port Erie</u>	<u>No meter</u>	<u> </u>	<u>Nil</u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Aluminum strips, tubs, sheets.

PRODUCTS Aluminum grills, frame work, window displays.

WASTE DISPOSAL

Sanitary To Port Erie sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u>Small</u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS: Cooling water for air compressor.

Survey by; F. J. Dart

Date June 17, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Twin Coach of Can. Ltd. COUNTY Welland

ADDRESS 30 Courtwright St. WATERSHED Niagara R.
Fort Erie.

PERSONNEL _____

* Mr. A. B. Richardson, Employee

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>8</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Warehousing of motor coach parts.

PRODUCTS No manufacturing.

WASTE DISPOSAL

Sanitary To sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	<u>Nil</u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS: No industrial liquid wastes.

Survey by; F. J. Dart.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Williams Gold Refining Co. of Can. Ltd. COUNTY Welland

ADDRESS 30 Courtwright St., Fort Erie. WATERSHED Niagara R.

PERSONNEL

* Mr. L. C. Williams, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>13</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	<u></u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u>Fort Erie</u>	<u>"</u>	<u></u>	<u>Filtered</u>

RAW MATERIALS Gold, platinum, silver and their salts or as scrap.

Metallic cyanides for plating baths.

PRODUCTS Refined precious metals, e.g., dental gold, silver.

WASTE DISPOSAL

Sanitary To sanitary sewer to Niagara R.

	Quantity	How Estimated	Date Sampled
Cooling	-		
Industrial	small	No meter	

DESCRIPTION OF SEWERS Sanitary sewer only.

REMARKS: Gold, silver, and platinum plating on premises. Significant contamination from this company is very unlikely because:

- 1) Plating rinses are evaporated to recover precious metals.
- 2) All wastes including hand washings, etc., go to a treatment sump for the recovery of the metals.
- 3) Sulphuric acid cleaner is never dumped.

However, traces of cyanide may get to the sanitary sewer - a small flow well diluted by the sewer itself.

Survey by; F. J. Dart.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Willoughby Tool & Die, COUNTY Welland.
ADDRESS Central & Garrison, WATERSHED Niagara River.
Fort Erie.
PERSONNEL Mr. A. Zavorka - Owner.
* Mr. W. Bauml - Foreman.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8½</u>	<u>5½</u>	<u>4</u>
Max.	<u>_____</u>	<u>_____</u>	<u>_____</u>
Seasonal Variation	<u>Nil.</u>	<u>_____</u>	<u>_____</u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City</u>	<u>No Meter.</u>	<u>_____</u>	<u>_____</u>
Cooling	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
Industrial	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>

RAW MATERIALS Aluminum, sheet metal, steel.

PRODUCTS Trays, boxes, chocolate moulds.

WASTE DISPOSAL

Sanitary To town sewers.

	Quantity	How Estimated	Date Sampled
Cooling	<u>-0-</u>	<u> </u>	<u> </u>
Industrial	<u>-0-</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Dry industry. (No loss of cutting oils)

Survey by; E. T. Ciebien.

Date June 3, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Wilsolite Can. Ltd., COUNTY Welland.

ADDRESS Garrison Rd., WATERSHED Niagara River.
Fort Erie.

PERSONNEL Mr. W. Bowman - Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>4</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Bertie Twp.</u>	<u>No Meter.</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Distributors for rubber & plastic printing equipment.

PRODUCTS No manufacture.

WASTE DISPOSAL

Sanitary Septic Tank.

	Quantity	How Estimated	Date Sampled
Cooling	<u>-0-</u>	<u> </u>	<u> </u>
Industrial	<u>-0-</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Dry industry.

Survey by; E. T. Ciebien.

Date June 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canadian Furnace Co., Ltd. COUNTY Welland

ADDRESS Port Colborne, east bank of canal entrance WATERSHED Lake Erie

PERSONNEL Mr. H. J. Allen, President †

Mr. O. H. Hugill, General Manager *

Mr. W. G. McGorman, Plant Engineer

Mr. I. Gordner, Plant Superintendent

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>about 200</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Port Colborne</u>	<u>12,700</u>	<u> </u>	<u> </u>
Cooling	<u>Welland Canal</u>	<u>10,000,000</u>	<u>17,200,000</u>	<u>shot doses Cl₂</u>
Industrial	<u>Welland Canal</u>	<u>4,400,000</u>	<u>4,000,000</u>	<u>shot doses Cl₂</u>
Total		14,400,000		

RAW MATERIALS Iron ore 550 T/day

Coke 500 T/day

Limestone 300 T/day

PRODUCTS pig iron 600 T/day (capacity)

WASTE DISPOSAL

Sanitary Port Colborne sanitary sewer

	Quantity	How Estimated	Date Sampled
Cooling	<u>10,000 gpm</u>	<u> </u>	<u>October 29, 1957</u>
Industrial	<u>2,500 gpm</u>	<u> </u>	<u>October 29, 1957</u>

DESCRIPTION OF SEWERS Two sewers: one with 500-600 gpm water discharge and
the other with the remainder of the flow - discharge to a creek to Lake
Erie

REMARKS: Composite sample made of the creek with both sewers discharging
was made at a point where the creek joins Lake Erie

Main wastes in lb. per day

B.O.D.	750
Suspended solids	6,050
Iron	660
Phenol	2

Survey by; F. J. Dart

Date June 8th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY International Nickel Co. of Canada Ltd. COUNTY Welland

ADDRESS Port Colborne - east of Canal WATERSHED Lake Erie

PERSONNEL Mr. W. J. Freeman, Manager *

Mr. J. H. Tuck, Assistant Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>2,085</u>
Max.	<u> </u>	<u> </u>	<u>1,100 on days</u>
Seasonal Variation	<u>vacation shut down in summer</u>		<u>and rest on shifts</u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>
total	Welland Canal	7,027,000		chlorinated

RAW MATERIALS Sintered nickel oxide, coke coal

PRODUCTS Refined nickel - 18,000,000 lb./month

WASTE DISPOSAL

Sanitary to Port Colborne sanitary sewer 150 USG/min

	Quantity	How Estimated	Date Sampled
Cooling	<u>7,000,000</u>	<u>W. J. Freeman</u>	<u>June 10, 1959</u>
Industrial	<u>200,000</u>	<u>visual</u>	<u></u>

DESCRIPTION OF SEWERS One eight foot concrete underground culvert to Lake Erie south of plant. Inside the plant grounds - some of the effluents can be seen joining the total discharge in a large open pond. A surface drainage creek also arises on the south-west side of the plant

REMARKS: An analysis of 4.9 ppm Ni in the total discharge indicates a concentration of approximately 100 ppm in the nickel rinse effluent. A rough flow measurement on the sewer gave a figure of 5,200 Imperial gal/min in agreement with 6,500 US gal/min quoted by company sources.

Main wastes lb. per day

Suspended solids 21,600
 Nickel as Ni 340

Survey by; F.J. Dart

Date June 8th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Maple Leaf Milling Co., Ltd COUNTY Welland

ADDRESS Port Colborne, Lake Front WATERSHED Lake Erie

PERSONNEL Mr. C. C. Harwood, Manager*

Mr. R. Wilson, Superintendent*

Mr. Leslie Butt, Chief Engineer*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>5</u>	<u>295</u>
Max.	<u></u>	<u>7</u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Lake Erie</u>	<u></u>	<u></u>	<u>Filter & ClO₂</u>
Cooling	<u>Lake Erie</u> <u>very occasionally</u>	<u>small</u>	<u></u>	<u>" "</u>
Industrial	<u>Lake Erie</u>	<u></u>	<u></u>	<u>" "</u>

RAW MATERIALS Grain

PRODUCTS Baking flour

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY National Harbours Board COUNTY Welland

ADDRESS Port Colborne, Lake front WATERSHED Lake Erie

PERSONNEL Mr. F. W. Moore, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>irregular</u>	<u>irregular</u>	<u>40</u>
Max.	<u>24</u>	<u>7</u>	<u>110</u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Lake Erie</u>	<u></u>	<u></u>	<u>Cl₂</u>
Cooling	<u>Lake Erie</u>	<u></u>	<u></u>	<u>Cl₂</u>
Industrial	<u>none</u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Grain handling only

PRODUCTS

WASTE DISPOSAL

Sanitary 6 septic tanks to rock fill

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS None

REMARKS: Bin dust resulting from the grain handling gets blown out on the water

Survey by; F. J. Hart

Date June 8th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Botsford & McGee Ltd., COUNTY Welland,
ADDRESS Pine St., WATERSHED Old Welland Canal.
Thorold.
PERSONNEL Mr. A. Zamejo - Sec. Treas.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>12</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Thorold.</u>	_____	_____	_____
Cooling	<u>Thorold.</u>	_____	_____	_____
Industrial	_____	_____	_____	_____
Total		<u>2,550.</u>	<u>3,660</u>	<u>Nil.</u>

RAW MATERIALS Various grades of rubber - crude and cured carbon black, sulphur,
various pigments.

PRODUCTS Solid rubber tires, rubber-coated metal components, miscellaneous
rubber fittings.

WASTE DISPOSAL

Sanitary To sanitary sewer. Thorold to Old Welland Canal.

	Quantity	How Estimated	Date Sampled
Cooling	<u>2000</u>	<u>Water bill.</u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>

DESCRIPTION OF SEWERS All wastes to sanitary sewer except boiler blow-down- to
Old Welland Canal.

REMARKS: Essentially a dry industry.

Survey by; F. J. Dart.

Date June 25, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Ingersoll Steel Co. Ltd., COUNTY _____

ADDRESS Thorold - End of St. David St. to the east. WATERSHED _____

PERSONNEL Mr. T. S. Thin - Plant Manager,*

Mr. B. L. Kniffen - Shop Foreman,*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>5</u>	<u>8</u>	<u>30</u>
Max.	_____	_____	<u>38</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	_____	_____	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____
Total	Thorold	3000	3700	NH1

RAW MATERIALS Steel wire.

PRODUCTS Wood screws and small hardware.

WASTE DISPOSAL

Sanitary Sanitary Sewer - Thorold. - Old Welland Canal

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____
Total	3,000	Water bill.	June 24, 1959.

DESCRIPTION OF SEWERS All wastes go to sanitary sewers except the strong caustic cleaning solution. This strong solution is discharged to the CNR ditch beside the plant while the rinse following the cleaning solution is discharged to the sanitary sewer.

REMARKS: The cleaning solution (Permac G-A 371-31) has a pH of 12.5 and contains in each load dumped monthly contains:

630 lbs. of alkalinity as CaCO₃

5.6lbs. of other soluble.

0.8 lbs. of solids.

Survey by; P. J. Dart.

Date June 24, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Last Minute Manufacturing Co., Ltd. COUNTY Welland
ADDRESS 100 Wellington Street, Thorold WATERSHED Old Welland Canal

PERSONNEL Mr. L. Rapchuk, Production Foreman

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>18</u>
Max.	<u>8½</u>	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Thorold</u>	_____	_____	_____
Cooling	<u>Thorold</u>	_____	_____	_____
Industrial	_____	_____	_____	_____
Total		16,500	26,000	nil

RAW MATERIALS White metal, zinc, aluminum

PRODUCTS White metal, zinc and aluminum castings

WASTE DISPOSAL

Sanitary To Thorold sanitary sewers

	Quantity	How Estimated	Date Sampled
Cooling	<u>200,000</u>	<u>water bills</u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS All outfalls to sanitary sewer of Thorold

REMARKS: **Cooling water for dies is the only industrial use of water**

Survey by; **F. J. Dart**

Date **August 19th, 1959**

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Murray - Brantford Ltd., COUNTY Welland.
 ADDRESS Highway #58, WATERSHED Old Welland Canal.
Thorold. (Formerly Brantford Felt)
 PERSONNEL J.E. Cash - manager.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>6</u>	<u>60</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Thorold</u>	<u>13,500</u>	<u>15,000</u>	<u>Filtered & Cl₂ by town.</u>
Cooling	"	_____	_____	_____
Industrial	"	<u>377,000</u>	<u>376,000</u>	<u>Raw pumped by town.</u>
Total		400,000	411,000	

RAW MATERIALS Rags, old mattresses, waste paper, wood flour.
July 15. changes made. - less rags, no wood flour, wood rejects to
new grinding machine.

PRODUCTS Felt paper = 36 Tons per day.

WASTE DISPOSAL

Sanitary Discharged with mill wastes to Old Welland Canal.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____
Total	400,000	Water bills.	June 23, 1959.

DESCRIPTION OF SEWERS One sewer discharging directly to Old Welland Canal west of plant

REMARKS: July 15, 1959, operations with new grinders employing wood rejects will likely increase water consumption and wastes. Composition of the paper product will change - no wood flour as well as a reduction in amount of rags used.

Pounds daily:

B.O.D. 1440#.
Susp. Solids 1020#.

Survey by; F.J. Dart.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Provincial Paper Ltd. COUNTY Welland
 ADDRESS St. David Street and Pine Street, Thorold WATERSHED Old Welland Canal

PERSONNEL Dr. G. I. Hoover, Mill Manager*
Mr. W. A. Logan, Chief Chemist*
Mr. J. Sinclair, Sembr Chemist*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>6</u>	<u>600</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Thorold</u>	<u>29,000</u>	<u>37,000</u>	<u>treated</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u>raw from town</u>
Industrial	<u>Thorold</u>	<u>5,500,000</u>	<u>7,600,000</u>	<u>Alum, filter, Cl₂</u>

RAW MATERIALS Waste paper 70 tons/day. Sulphite and kraft pulps 100 tons/day
NaOH, Na₂P₂O₇, Cl₂, NaOCl

PRODUCTS Fine paper 170 tons/day

WASTE DISPOSAL

Sanitary With mill wastes to Old Welland Canal

	Quantity	How Estimated	Date Sampled
Cooling			
Industrial	5,500,000	Company weirs and water bills	July 7, 1959

DESCRIPTION OF SEWERS Two sewers external to building. The southern-most

carrying 1.7 MGD to 2.0 MGD of caustic drinking wastes and approximately
2.2 MGD of bleach plant wastes. The northern-most drain carries off the
paper machine wastes (1.8 MGD)

REMARKS: Separate reports:

Daily wastes:	B.O.D.	Susp. solids
drinking	14,020	21,280
bleachers	3,190	2,860
paper machine	5,220	9,030
Total	22,430	33,170

These figures agree in general with company figures of 5.0 to 6.0 tons/day paper machine; 1.9 to 2.5 tons/day bleach plant; 8.5 to 10.5 tons/day drinkers (monthly averages). Wastes are heavy when-ever the pulp stock is changed. The difference is very observable

Survey by; F. J. Dart

Date July 7th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Spun Rock Woole Ltd., COUNTY Wolland.
ADDRESS Ormond St., WATERSHED Old Wolland Canal.
Thorold.
PERSONNEL Mr. G.R. Buss - Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>10</u>
Max.	_____	_____	_____
Seasonal Variation	<u>Frequently off operation.</u>		_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Thorold</u>	<u>No meter.</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Special grades of rock - sometimes slag.

PRODUCTS Spun rock wool.

WASTE DISPOSAL

Sanitary To sanitary sewer Old Wellard Canal.

	Quantity	How Estimated	Date Sampled
Cooling	<u>-</u>	<u> </u>	<u> </u>
Industrial	<u>-</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Sanitary sewer of Thorold.

REMARKS:

Survey by; F. J. Dart.

Date June 25, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Thorold Concrete Block Co. Ltd. COUNTY Welland.
ADDRESS Davis Road near canal bridge. WATERSHED Old Welland Canal.

PERSONNEL Mr. J. Heraschuk, office manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>55</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland.</u>	<u>1</u>	_____	<u>-</u>
Cooling	<u>Welland.</u>	_____	_____	<u>-</u>
Industrial	_____	_____	_____	_____
Total		<u>14,200</u>	<u>14,400</u>	<u>Nil.</u>

RAW MATERIALS Washed sand, and gravel, cement.

PRODUCTS Concrete blocks.

WASTE DISPOSAL

Sanitary To sanitary sewer Thorold to Old Welland Canal.

	Quantity	How Estimated	Date Sampled
Cooling	<u>14,000</u>	<u>Water bill.</u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Everything to sanitary sewer.

REMARKS: Water also used to mix cement, but does not occur as a waste.

Survey by; F. J. Dart.

Date June 24, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Thorold Pulp Co. Ltd. COUNTY Welland.
ADDRESS Near Ormond and St. David Streets. WATERSHED Old Welland Canal.
Thorold.
PERSONNEL Mrs. J.F. Wilson - Superintendent* by phone.
O. Chenard - production superintendent.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>6</u>	<u>14</u>
Max.	_____	_____	<u>16</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Thorold</u>	_____	_____	_____
Cooling	<u>"</u>	_____	_____	_____
Industrial	<u>"</u>	_____	_____	_____
Total		<u>382,000</u>	<u>425,000</u>	<u>raw.</u>

RAW MATERIALS Wood.

PRODUCTS Ground wood fibre.

WASTE DISPOSAL

Sanitary Discharge with main wastes to Old Welland Canal.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____
Total	382,000	Water bills.	July 7, 1959.

DESCRIPTION OF SEWERS One sewer discharging directly to Old Welland Canal.

REMARKS: Daily Waste:

B.O.D. 2030#
Susp. Solids 7820#.

Survey by; F.J. Dart.

Date July 7, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY York Electroplating Ltd. COUNTY Welland
ADDRESS Ormond St. Highway #58 WATERSHED Old Welland Canal.
Thorold.
PERSONNEL Mr. C.H.York-Manager.*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>19</u>
Max.	<u>10</u>	<u>6</u>	<u>20</u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u></u>	<u></u>	<u></u>	<u></u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>
Total	<u>Thorold</u>	<u>32,000</u>	<u></u>	<u>Treated/</u>

RAW MATERIALS Castings or stampings to be plated.

PRODUCTS Finished products. Plated variously with copper, cadmium, Nickel,
Chromium, brass and bronze.

WASTE DISPOSAL

Sanitary To San. Sewer to Old Welland Canal.

	Quantity	How Estimated	Date Sampled
Cooling	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u>PUC Estimates</u>	<u>June 25, 1959.</u>

DESCRIPTION OF SEWERS Closed to San. Sewer.

REMARKS: Daily Wastes:

CU	0.12#
CN	0.35#
Cr	0.24#
Zn	0.04#
POD	1.08#
Susp. Solids	2.69#

Survey by; F.J.Dart/

Date June 24, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Norton Co. COUNTY Welland

ADDRESS Chippawa WATERSHED Welland R.

PERSONNEL H. J. Daly, Vice-President & General Manager

F. J. Rutland, Manager

*W. G. Barr, Plant Engineer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>600 - 700</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u>operation for 363 days per year</u>		<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Chippawa</u>	<u>20,000</u>	<u> </u>	<u>nil</u>
Cooling	<u>Welland R</u>	<u>5,760,000</u>	<u> </u>	<u>nil</u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Boaxite, silica sand, coke

PRODUCTS Abrasives

WASTE DISPOSAL

Sanitary To village sewers (20,000 g/d Est. 30 g/person

	Quantity	How Estimated	Date Sampled
Cooling	<u>5,760,000</u>	<u>Pump capacity</u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS 2 sewers discharge to ditch to Welland River

2 sewers discharge directly to Welland River

several settling basins are installed in sewers to settle solids

REMARKS:

One small 'special product' operation uses an acid (H_2SO_4) wash. This effluent discharges at about pH 1. However, the tremendous volume of cooling water dilutes this waste to a great extent. 40 gallon/min. of pH 1 water was estimated by the Plant Engineer. This is diluted by 4,000 gal/min of cooling water

Survey by; E. T. Ciebien

Date June , 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY E. Weightman & Sons COUNTY Welland

ADDRESS Chippawa WATERSHED Welland R

PERSONNEL Mr. E. Weightman

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>5</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Township</u>	<u>1,550</u>	<u>3,850</u>	<u>nil</u>

100, to 250,000 g/3 months

RAW MATERIALS sand, stone, cement, water

PRODUCTS Ready-Mix concrete

WASTE DISPOSAL

Sanitary To sanitary sewer

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	<u>1,550 g.p.d</u>	<u>water bill</u>	_____
	100, → 250,000 g/3 months		

DESCRIPTION OF SEWERS _____

REMARKS: Most of the water purchased is sold in the product.
Dry industry

Survey by; E. T. Ciebien

Date June, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Baer Refrigeration Ltd. COUNTY Welland
ADDRESS 391 Gorham Road WATERSHED Lake Erie
Ridgeway, Bertie Township
PERSONNEL Mr. E. Baer, Owner
* Mrs. E. Baer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>6</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Bertie Twp.</u>	<u>No meter</u>	<u></u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Wood, steel, fibreglas, plastic, arborite.

PRODUCTS Freezers (walk-in), bars, counters.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS

REMARKS:

Dry industry.

Survey by; E. T. Ciebien.

Date June 25, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Cline's Ornamental Iron Works COUNTY Welland
ADDRESS Stevensville WATERSHED Black Creek to
Bertie Township Niagara R.
PERSONNEL * Mr. C. Cline - partner

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>5</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Bertie Twp</u>	<u>No meter</u>	<u></u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Iron bars.

PRODUCTS Iron railings.

WASTE DISPOSAL

Sanitary To outdoor lavatory.

	Quantity	How Estimated	Date Sampled
Cooling	<u>-</u>	<u> </u>	<u> </u>
Industrial	<u>-</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

-

REMARKS:

Dry industry

Survey by;

Date

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	<u>?</u>	<u> </u>	<u> </u>
Industrial	<u>?</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS:

No industrial liquid wastes.

Survey by; E. T. Ciebien.

Date June 25, 1959.

WASTE DISPOSAL

(12,000 gallons/day est. 30 gal/person)

Sanitary Septic tank, chlorination, to ditch to Frenchman's Creek to
Niagara River

	Quantity	How Estimated	Date Sampled
Cooling } _____	_____	_____	_____
Industrial } _____	68,000	Water bill	June, 1959

DESCRIPTION OF SEWERS The sewers at this plant are not all located on plans, hence,
it is difficult to determine the units discharging to the several outfalls
from the company plant site. However, the entire flow combines and passes
through the golf course ditch to Frenchman's Creek.

REMARKS:

Operations which contribute liquid industrial wastes from this plant include:

1. plating,
2. anodizing,
3. cooling.

A flow plan of the plating and anodizing operations is held in the Industrial Waste files.

Survey by; E. T. Ciebien

Date June 3, 24, 25, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Monarch Massage Equipment COUNTY Welland
ADDRESS 12 Maple Street WATERSHED Niagara R.
Bertie Twp.(P. O. Box 1249 Fort Erie)
PERSONNEL _____
Mr. C. Wassman, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>30 ± 5</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Fort Erie</u>	<u>No meter</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Steel, foam rubber, material, electric motors, etc.

PRODUCTS Electric massage equipment.

WASTE DISPOSAL

Sanitary Septic tank & weeping tile

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS

REMARKS:

Dry industry. No industrial liquid waste.

Survey by; E. T. Ciebien.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Trico Products COUNTY Welland

ADDRESS 210 Dominion Rd. WATERSHED Lake Erie
Bertie Twp.

PERSONNEL _____
Mr. R. Spratt, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>4</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Bertie Twp.</u>	<u>No meter</u>	_____	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Warehouse for Trico products i.e. windshield wipers etc.

PRODUCTS _____

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Truly Magic Products COUNTY Welland

ADDRESS 220 Dominion Road WATERSHED Lake Erie
Bertie Twp.

PERSONNEL _____
Mr. H. Raymond

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>3</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Bertie Twp.</u>	<u>No meter</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Foam rubber, cloth.

PRODUCTS Rubber coasters, novelty goods.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS:

Dry industry. No industrial liquid wastes.

Survey by; E. T. Ciebien.

Date June 25, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Wallace & Tiernan Ltd. COUNTY Welland
ADDRESS Lucidol Division
Garrison Road WATERSHED Lake Erie
Bertie Twp.

PERSONNEL _____
Dr. F. V. Hoaft, General Manager
* Mr. A. Spear, Plant Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>(9½ x 4) + 8</u>	<u>5</u>	<u>7</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Bertie Twp.</u>	<u>6,500</u>	<u>-</u>	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Benzoyl chloride, potash, alum, sodium peroxide, lauric acid, etc.

PRODUCTS 6 Tons/week of organic peroxides
(1) Blend of peroxides
(2) Lauroyl peroxide

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling } 4,600 G/D	4,600 G/D	Mr. Spear	June 11, 1959
Industrial } 1,800 G/D	1,800 G/D	Batches	June 11, 1959

DESCRIPTION OF SEWERS All process wastes flow to an open ditch. The ditch
extends for 1 3/4 miles before reaching Lake Erie. The first 1/2 mile of
this ditch is on private property. Ordinarily the wastes do not go
very far in this ditch. The water drains into the soil or evaporates.
Only during high waters does any of this flow go directly to Lake Erie.

REMARKS:

The samples taken show very high pH fluctuation and large concentrations of dissolved and suspended solids. These wastes should not be permitted to reach the lake in this condition.

Survey by; E. T. Ciebien.

Date June 10, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canadian Lards Die & Machine Co. Ltd. COUNTY Welland.

ADDRESS Ontario Road at Southworth St. WATERSHED Lyons Creek.
Crowland Twp.

PERSONNEL Mr. E. Watt - Plant Supt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>8</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland.</u>	_____	_____	_____
Cooling	<u>Welland.</u>	_____	_____	_____
Industrial	<u>Welland.</u>	_____	_____	_____
Total		<u>500</u>		<u>Nil</u>

RAW MATERIALS Iron and Steel components.
Hydrochloric (HCl) and acetic (CH₃COOH) acids sodium and potassium
cyanides for nitriding.

PRODUCTS Tools and dies.

WASTE DISPOSAL

Sanitary To twp. sanitary sewers to Lyons Creek.

	Quantity	How Estimated	Date Sampled
Cooling	<u>400</u>	<u>earlier meter readings.</u>	<u> </u>
Industrial	<u> </u>	<u>(no longer metered)</u>	<u> </u>
	500		

DESCRIPTION OF SEWERS Township sewer.

REMARKS: Any pickling of metal components is on a very small scale and very occasional. Nitriding is done also on small scale, and 25# of cyanide has been ordered every 2 years. Users claim that 60% of the cyanide content evolves as fumes. Waste cyanide is treated with chloride of lime and land dumped. The only source of contamination is the parts rinsing after nitriding.

Survey by; F. J. Dart.

Date June 9, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Climatite Aluminum Sash Ltd. COUNTY Welland
ADDRESS Major St. at Schofield WATERSHED Welland R.
Crowland Township
PERSONNEL Mr. F. J. Morabito, President
Mrs. Joan Morabito

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>4</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>city</u>	<u>No meter</u>	<u></u>	<u>nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS aluminum, glass, screen

PRODUCTS aluminum storm doors, windows and screens

WASTE DISPOSAL

Sanitary _____ to sanitary sewer _____

	Quantity	How Estimated	Date Sampled
Cooling	_____ - _____	_____	_____
Industrial	_____ - _____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS:

Dry industry

(cutting and assembly of custom work only)

Survey by; E. T. Ciebien

Date July 8th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Electro Metallurgical Co., Ltd. COUNTY Welland
ADDRESS King Highway #58 east bank of Canal WATERSHED Welland Canal
south of Welland
PERSONNEL Mr. J. M. Trott, Plant Manager*
Mr. G. Loach, President
Mr. D. J. McIntyre, Vice-President

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>850</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u>50,000</u>	<u> </u>	<u>nil</u>
Cooling	<u>Welland Canal</u>	<u>2,333,000</u>	<u> </u>	<u>nil</u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Total		2,380,000		

RAW MATERIALS Sand (SiO₂), pyrolusite (MnO₂), chromite (Cr₂O₃) coke and other
ores

PRODUCTS Mn, Cr metals and their alloys for tool steel production industry

WASTE DISPOSAL

Sanitary To Crowland sanitray sewer to Welland River

	Quantity	How Estimated	Date Sampled
Cooling	<u>2,333,000</u>	<u>company weirs</u>	<u>June 6th, 1959</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Two weired outlets to Welland Canal - one for the south

plant and one for the north. Both contained cooling water from quench
furnace and electrode cooling - most of flow however was overflow water.

REMARKS: The company pumps 170,000,000 gallons/month and 100,000,000 is overflow water. Department of Transport charges them for net use of water according to the weirs.

B.O.D. entering canal is high 34-40 ppm representing 740 lb. per day. This may indicate the presence of sanitary sewage in the effluent

Survey by; F. J. Dart

Date June 9th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY El Mech Tools Ltd., COUNTY Welland,
ADDRESS 569 Southworth St., WATERSHED Lyons Creek,
Crowland Twp.
PERSONNEL Mr. W. Jaeger - Exec. Vice-President.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>40</u>
Max.	_____	_____	<u>60</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland.</u>	_____	_____	<u>Nil.</u>
Cooling	<u>Welland.</u>	_____	_____	<u>Nil.</u>
Industrial	<u>Welland.</u>	_____	_____	<u>Nil.</u>
Total		<u>900</u>	<u>1,100</u>	<u>Nil.</u>

RAW MATERIALS Sheet steel - some galvanized.

PRODUCTS Stampings, tools, and domestic furnaces.

WASTE DISPOSAL

Sanitary To sanitary sewer of Crowland Twp. to Lyons Creek.

	Quantity	How Estimated	Date Sampled
Cooling	<u>800</u>	<u>Water bills.</u>	<u> </u>
Industrial	<u>small</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS All wastes to sanitary sewer.

REMARKS: An alkaline grease remover dumped every 2-3 months - less than 600 gal.

Survey by; F. J. Dart.

Date June 9, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY General Die & Machine Co., Ltd., COUNTY Welland
ADDRESS Major Street, WATERSHED Welland E.
Crowland Twp.
PERSONNEL Mr. C. L. Painter, Manager & Owner

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>40 ± 5</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u>No meter</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Alloy and carbon steels.

PRODUCTS Drop forgings for railways, mining, automotive, agricultural, hardware.

WASTE DISPOSAL

Sanitary To township sewers.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS

REMARKS:

Dry industry. No industrial liquid wastes. Cooling water only.

Survey by; E. T. Ciebien.

Date August 10, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Haun Drop Forge Co., Ltd. COUNTY Welland

ADDRESS Major at Schofield WATERSHED Welland R.
Crowland Twp

PERSONNEL Mr. J. C. Haun, General Manager

Mr. L. Michener, Foreman

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>9</u>	<u>5</u>	<u>50 + 5</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>city</u>	<u>2,000 total</u>	<u> </u>	<u>nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

469,410 gallons 1958 water bill

RAW MATERIALS steel

PRODUCTS Drop hammer forgings (car parts)

WASTE DISPOSAL

Sanitary to sanitary sewer

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS

REMARKS:

some water used to cool air compressor
dry industry

Survey by; E. T. Ciebien

Date July 8th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Linde Air Ltd., COUNTY Welland.

ADDRESS Dain Ave. and Townline Rd., WATERSHED Lyons Creek.

PERSONNEL Mr. H. S. Clarkson - Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>30.</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u>Welland</u>	<u>33,000</u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Total		<u>33,000</u>		<u>nil.</u>

RAW MATERIALS Air.

PRODUCTS Liquid and bottled oxygen, some nitrogen.

WASTE DISPOSAL

Sanitary To township sanitary sewer to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	<u>33,000</u>	<u>Water bill</u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Crowland storm sewer to Lyons Creek.

REMARKS: Water is largely recirculated but remained virtually uncontaminated.

Survey by; F. J. Dart.

Date June 9, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Niagara Sausage and Meat Prod. Ltd. COUNTY Welland

ADDRESS Ontario Rd. at Lyons Creek WATERSHED Lyons Creek

PERSONNEL Mr. Chojeniski, Owner and Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u> </u>
Max.	<u>9</u>	<u>6</u>	<u>4</u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
TOTAL		5,000		nil

RAW MATERIALS 30 pigs, 1 cow, 2-3 calves per week

PRODUCTS Fresh meats, cuts and sausages

WASTE DISPOSAL

Sanitary To septic tank and field tile

	Quantity	How Estimated	Date Sampled
Cooling	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>5,000</u>	<u>estimate</u>	<u> </u>

DESCRIPTION OF SEWERS All wastes to triple chambered septic tank and then
to field tile

REMARKS: Disposal system is working satisfactorily

Survey by; F. J. Dart

Date June 15th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Page Hersey Tubes Ltd., COUNTY Welland
ADDRESS Ontario Rd. and Dain Ave., WATERSHED Lyons Creek
Welland.
PERSONNEL Mr. Baxter Dick - Plant Engineer.*
Mr. C. W. Morehead - Vice-President in charge of operations.
Mr. F. W. Farquhar - Asst. Works Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>1,500</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u>Lowered production on week-ends.</u>		<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland.</u>	<u>175,000</u>	<u>200,000</u>	<u>Nil</u>
Cooling and Industrial	<u>Welland Canal.</u>	<u>2,100,000</u>	<u>2,500,000</u>	<u> </u>

RAW MATERIALS Semi finished steel, iron skelp, zinc, CaC₂, H₂SO₄, NaOH, Bondexite,
NH₄Cl - oils for lubricating, cutting, fuel (Bunker C.)

PRODUCTS 600 tons of pipe/year. 1/2" to 16".

WASTE DISPOSAL

Sanitary ~~To Crowland Township sewers.~~

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	2100,000	Company meters	June 6 & 10, /59.

DESCRIPTION OF SEWERS ~~Main Sewer with industrial wastes - open drain~~
~~West toward Lyons Creek (partially culverted) 36" concrete.~~
~~North drain to west to Bort. sewer along Canal~~
~~a number of 8 V.P.'s for mainly surface drainage.~~

REMARKS: North drain to Govt. sewer - very slow flow and showed high BOD indicative of sanitary wastes. (BOD 89)

Main sewer to township drain to Lyons Creek was estimated to carry daily:

- BOD 1440#
- Susp. Solids 2960#
- Oil 4000#
- Iron 640#

Survey by; F.J. Dart.

Date June 10, 1959.

WASTE DISPOSAL

Sanitary To Crowland township sanitary sewer to Lyons Creek.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS Crowland sanitary sewer.

REMARKS: Essentially a dry industry. A small amount of oil may reach the sewers.

Survey by; F. J. Dart.

Date June 10, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Welland Tubes Ltd. COUNTY Welland

ADDRESS Ontario Rd. at Lyons Creek WATERSHED Lyons Creek

PERSONNEL Mr. Baxter Dick, Plant Supt. of Page Hersey*

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>300</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u>higher production in spring and summer</u>		

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
TOTAL		<u>200,000</u>	<u>250,000</u>	<u>nil</u>

RAW MATERIALS Iron sheets

PRODUCTS Iron pipes and tubes from 20" to 36"

WASTE DISPOSAL

Sanitary With industrial wastes to Lyons Creek

	Quantity	How Estimated	Date Sampled
Cooling	_____	<u>Water bills</u>	_____
Industrial	_____	_____	_____
Total	200,000+		July 15th

DESCRIPTION OF SEWERS 20" concrete culvert to Lyons Creek at Ontario Road

REMARKS: Plant in operation at time of sample and subsequent visits.
In spite of this effluent proved to have a high B.O.D. and
suspended solids

Survey by; F. J. Dart

Date July 15th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Welland Packers Ltd. COUNTY Welland

ADDRESS 310 Riverside (Highway #3A West of Welland) WATERSHED Welland R.

PERSONNEL Mr. Walter Kaczmarek * }
Mr. Stanley Kaczmarek* } employed by their father (owner)

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>3</u>
Max.	<u> </u>	<u>6</u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u>nil</u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Total		4,000		nil

RAW MATERIALS 30 pigs, 6 cows, 6 calves per week average

PRODUCTS Fresh meat

WASTE DISPOSAL

Sanitary Series of two septic tanks to field tile

	Quantity	How Estimated	Date Sampled
Cooling	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>4,000</u>	<u>Estimate</u>	<u>June 11th</u>

DESCRIPTION OF SEWERS Two septic tanks in series to newly-laid field

tile system

REMARKS: The newly-laid field tile system is currently working satisfactorily. Cooling water for refrigeration has direct access to Welland River

Survey by; F. J. Dart

Date June 11, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canada Cement Co., Ltd. COUNTY Welland

ADDRESS Humberstone Twp. west edge of Port Colbourne WATERSHED Lake Erie

PERSONNEL Mr. Alexander, Plant Superintendent *

Mr. D. Mullen, Plant Engineer *

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>6</u>	<u>90</u>
Max.	<u></u>	<u></u>	<u>120</u>
Seasonal Variation	<u>yes</u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Port Colbourne</u>	<u>+</u>	<u></u>	<u></u>
Cooling	<u>Port Colbourne</u>	<u>+</u>	<u></u>	<u></u>
Industrial	<u>Welland Canal</u>	<u>13,500</u> <u>fire protection</u>	<u></u>	<u>coarse screening</u>

RAW MATERIALS Limestone from quarries

PRODUCTS Cement and cement materials

WASTE DISPOSAL

Sanitary Port Colbourne sanitary sewer

	Quantity	How Estimated	Date Sampled
Cooling	<u>13,000</u>	<u>estimated from meter</u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>
quarry pumpage			June 8th, 1959

DESCRIPTION OF SEWERS Besides the town sanitary sewer containing cooling water,
an open ditch flows south from the west end of the plant discharging both quarry
pumpage and overflow from the fire protection tower filled with Welland Canal
water. The ditch discharges to Lake Erie

REMARKS: A sample of the open ditch (a composite) was taken and the attached analytical results show only high suspended solids.

No flow figures for the lb. per day

Survey by; F. J. Dart

Date June 22nd, 1959

WASTE DISPOSAL

Sanitary Septic tank & tile bed.

	Quantity	How Estimated	Date Sampled
Cooling	<u>Nil</u>	<u> </u>	<u> </u>
Industrial	<u>Nil</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Dry.

Survey by; F. J. Dart.

Date June 15, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY John Deere Plow Co., Ltd. COUNTY Welland

ADDRESS Humberstone Twp - east bank of Welland WATERSHED Lyons Creek
Canal south of Welland

PERSONNEL Mr. Limberger, Manager *

Mr. George Ott, Maintenance Foreman *

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>350</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Cooling	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>Welland</u>	<u> </u>	<u> </u>	<u> </u>
Total		35,500		

RAW MATERIALS Iron stock

PRODUCTS Tractor mowers and miscellaneous farm machinery

WASTE DISPOSAL

Sanitary Septic tank and field tile system (for all wastes)

	Quantity	How Estimated	Date Sampled
Cooling	<u>See above</u>	<u></u>	<u></u>
Industrial	<u>" "</u>	<u></u>	<u></u>

DESCRIPTION OF SEWERS All wastes go to a septic tank and field tile

system. This field tile leaks to the surface but does not over-
flow bed

REMARKS: no sample dry disposal

Survey by; F. J. Dart

Date June 15th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Robin Hood Flour Mills Ltd. COUNTY Welland

ADDRESS West Welland Canal bank Humberstone Twp. WATERSHED Welland Canal

PERSONNEL Mr. K. W. Crone, Manager-*

Mr. K. Lusty, Chief Electrician *

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>5</u>	<u>250</u>
Max.	<u> </u>	<u>7</u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland Canal</u>	<u> </u>	<u> </u>	<u>filter & Cl₂</u>
Cooling	<u>Welland Canal and Well</u>	<u> </u>	<u> </u>	<u>filter & Cl₂</u>
Industrial	<u>Welland Canal or very occasionally the well</u>	<u> </u>	<u> </u>	<u>Filter & Cl₂</u>
Total		63,000	70,000	

RAW MATERIALS Grain, Nova-del etc.

PRODUCTS Flour and cake mixes

WASTE DISPOSAL

Sanitary Septic tank and field tile

	Quantity	How Estimated	Date Sampled
Cooling	<u>5,000</u>	<u>guess</u>	<u> </u>
Industrial <u>wheat washing</u>	<u>53,000</u>	<u>visual</u>	<u>June 22nd, 1959</u>
Total	63,000	pump capacities and est. % flow	

DESCRIPTION OF SEWERS Wheat washers discharge to sump (where sampled)

and from there released to the Canal by underwater 2½" pipe

REMARKS: High B.O.D. and suspended solids on the wheat washers effluent

Daily wastes:

B.O.D. 188 lbs.
Susp. solids 227 lbs.

Survey by; F. J. Dart

Date July 22nd, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY D'Arcy Cropp Canning Factory COUNTY Welland
MAILING ADDRESS Box 403, Fonthill WATERSHED Eppingham stream
(Pelham Twp.)
PERSONNEL Mr. D'Arcy Cropp, Owner
Mr. R. Beckett, Plant Manager

<u>PLANT OPERATION</u>	Average	Maximum	Seasonal variation
Hours per day	_____	_____	_____
Days per week	_____	_____	_____
No. employees	_____	_____	_____

<u>WATER SUPPLY</u>	Source	Av.gpd	Max.gpd	Treatment
Domestic and/or Sanitary	<u>private well</u>	} _____ 10,000 _____	_____	<u>none</u>
Cooling	<u>"</u>		_____	<u>"</u>
Industrial	<u>"</u>		_____	<u>"</u>

RAW MATERIALS Cherries, peaches, pears

PRODUCTS Canned cherries, peaches, pears

WASTE DISPOSAL

Sanitary	Septic tank and tile bed.		
	Quantity	How Estimated	Date Sampled
Industrial - Cooling	10,000 gpd	From pump capacity	

DESCRIPTION OF SEWERS

Process wastes collected in a sump 12' x 6' x 4' pumped to second catch basin 4' x 4' x 3' - flows to third catch basin 5' x 5' x 9' flows to fourth catch basin 5' x 5' x 9' then discharged to four settling areas arranged in series. The last settling area is equipped with overflow to Effingham stream. Before waste water reaches overflow it is pumped on adjacent fruit land.

REMARKS

Survey by: A. B. Redekopp

Date:

Aug. 25, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Treguno Fruit Farms COUNTY Welland

MAILING ADDRESS R. R. #2 St. Catharines WATERSHED Effingham stream
(Pelham Twp.)

PERSONNEL Mr. P. E. Treguno, Jr., Owner
Mr. T. Sicard, Plant Foreman

<u>PLANT OPERATION</u>	Average	Maximum	Seasonal variation
Hours per day	<u>10</u>		
Days per week			
No. employees			

<u>WATER SUPPLY</u>	Source	Av.gpd	Max.gpd	Treatment
Domestic and/or Sanitary	<u>Private wells</u>			<u>None</u>
Cooling	<u>"</u>	<u>30,000</u>		<u>"</u>
Industrial	<u>"</u>	<u>120,000</u>		<u>"</u>

RAW MATERIALS Cherries, peaches, tomatoes, pears

PRODUCTS (canned cherries, peaches, tomatoes, pears.

WASTE DISPOSAL

Sanitary	Quantity	How Estimated	Date Sampled
_____	_____	_____	_____
Industrial - Cooling	30,000	from capacity	_____
_____	120,000	of the private wells.	_____
_____	_____	_____	_____

DESCRIPTION OF SEWERS

_____ Waste flow unscreened to first pond 75' x 30' x 8' then to
_____ second pond 100' x 30' x 4'. From second pond waste is pumped to a
_____ dammed valley located across tributary of the Effingham stream. Cooling
_____ water is discharged directly to the tributary of the creek.

REMARKS

Survey by: A. B. Redekopp

Date: Aug. 31, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Vineland Canning Co. COUNTY Welland
ADDRESS R. R. #5 Fenwick WATERSHED Welland
(Pelham Twp.) River tributary
PERSONNEL Mr. John Stefko, Owner
Mr. John Kordos, Plant Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>10</u>	<u>6</u>	<u></u>
Max.	<u></u>	<u>7</u>	<u>30</u>
Seasonal Variation	<u>Operate in vegetable & fruit season only</u>		<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>City of Welland municipal supply</u>	<u></u>	<u></u>	<u></u>
Cooling	<u>"</u>	<u>7,500</u>	<u></u>	<u></u>
Industrial	<u>"</u>	<u>2,500</u>	<u></u>	<u></u>

RAW MATERIALS Peaches, tomatoes, pears

PRODUCTS Canned peaches, whole tomatoes, pears

WASTE DISPOSAL

Sanitary Septic tank and tile bed

	Quantity	How Estimated	Date Sampled
Cooling	<u>7,500 gpd</u>	<u>visual</u>	<u> </u>
Industrial	<u>2,500 "</u>	<u>assessment</u>	<u> </u>

DESCRIPTION OF SEWERS Cooling water - tile to creek bed

Wash-up water - house sewer - to ditch to lagoon

REMARKS:

See report dated August 25, 1959.

Survey by; A. B. Redekopp

Date Aug. 25, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Bissell Carpet Sweeper Co., COUNTY Welland.

ADDRESS 2365 Dummond Rd., WATERSHED Niagara River.
Stamford Twp.

PERSONNEL Mr. O.E. Loberg - Vice Pres. & Gen. Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>30 (P.&O)</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford Twp.</u>	<u>No Meter,</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS (1) Steel, castings, bristles, plastics, cloth.
(2) Solvents, detergents.

PRODUCTS (1) Carpet sweepers.
(2) Liquid detergents. (rug cleaners)

WASTE DISPOSAL

Sanitary To sanitary sewers.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS: 1. Some plating is done on small parts of carpet sweepers.

Tanks include: 50 gallons chrome plate.

160 gallons nickel plate.

2 x100 gallons running rinses.

2. Small amounts of wash water are used to clean canning equipment and blending tanks of liquid detergents. These wastes presently flow untreated to twp. sewers.

N.B. This plant is to be moved to a new location within one year and mention was made during the present visit to include waste treatment when installing the new plant facilities.

Survey by; E. T. Ciebien.

Date June 17, 1959.

WASTE DISPOSAL

Sanitary 4,000 to 9,000 gallons/day/to sanitary sewers.

based on 30 Gal/day/person.

	Quantity	How Estimated	Date Sampled
Cooling	<u>150,000 g/day</u>	<u>Pump Capacity.</u>	<u>-----</u>
Industrial	<u>40,000-90,000</u>	<u>Water Bills.</u>	<u>-----</u>

DESCRIPTION OF SEWERS All wastes flow to township sanitary sewers.

REMARKS: Pomace (squeezed out grapes) is land dumped on farms.
Lees (solids settled from fermented grape juice) are filtered from wine and trucked to Toronto for alcohol recovery.
Wastes constitute washup of filter presses, grape presses and floors.
No bottles are washed only new bottles used.

Survey by; E. T. Ciebien.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Cyanamid of Canada Limited (Welland Works) COUNTY Welland
 ADDRESS Chippawa Road WATERSHED Welland River
Stamford Township
 PERSONNEL Mr. J. Schmidlein, Plant Manager
Mr. J. Keller, Plant Engineer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	{ <u>100 Office</u> <u>500 3 shifts</u> <u>150 maintenance</u> <u>50 shift relief</u> <u>800</u>
Max.	<u> </u>	<u>Approximate</u>	
Seasonal Variation	<u> </u>	<u>Distribution</u>	
	<u>Actual 837 July 6, 1959.</u>		

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>230,000</u>	<u>310,000</u>	<u>Nil</u>
Cooling	<u>Welland R.</u>	<u>20-25 MG/D</u>	<u> </u>	<u>Nil</u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

About 10 per cent Welland R. water treated with lime and ferrous sulphate for process uses.

RAW MATERIALS		
Sulphur	100 T/Day.	<u> </u>
Calcium Cyanamid	350 T/Day (Soon higher 500)	<u> </u>
Coke	200 T/Day	<u> </u>

PRODUCTS		
Ammonium nitrate	350 T/day	} soon } higher
Di Cyandiamide	100 T/day	
Sulphuric Acid	300 T/day	<u> </u>
Other products	Picrite, Xanthates	<u> </u>
	Resins Sulphas	<u> </u>

Measured in pounds/year

WASTE DISPOSAL

Sanitary Septic tank; then to industrial lagoon and via ditch to Welland River.

	Quantity	How Estimated	Date Sampled
Cooling	<u>330,000</u>	<u>Pumping</u>	<u>June 9, 1959</u>
Industrial	<u>20 to 24</u>	<u>Water bills</u>	<u>" "</u>

Thousand gallons per day.

DESCRIPTION OF SEWERS 1. Cooling waters discharge directly to ditch then to Welland R.

2. Process water and wash water flow to settling lagoon (approx. 1,000,000 U.S. gallons capacity) then to second ditch and to Welland R.

Both ditches combine at the property fence before flowing under Chippawa Creek Rd. to Welland R.

REMARKS: The vinylidene chloride monomer as purchased by the company contains phenol to inhibit polymerization during shipment. Before use, the phenol is reacted with caustic soda. The resulting sodium phenolate is piped to a dyked pit, where it soaks into the ground.

Samples of the lagoon effluent show a rather high BOD (80). However, the sample of the total effluent is quite low in BOD (2).

The dilution afforded by the cooling water seems to be sufficient to lower the concentrations of contaminants in this waste to reasonably low levels.

Survey by; E. T. Ciebien.

Date June 9, 11, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Joseph's Aluminum, COUNTY Welland.
ADDRESS N. C. Joseph (Canada) Ltd.,
Queen Elizabeth Blvd., WATERSHED Niagara River.
Stamford Twp. P.O. Box 265, Niagara Falls.
PERSONNEL *Mr. R.K. Hamilton, Plant Mgr.
Mr. J. Armstrong, Comptroller.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>41 + 4 P & O.</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford.</u>	<u>1,200</u>	<u>-</u>	<u>Nil</u>
Cooling	<u>"</u>	<u>13-16,000</u>	<u>-</u>	<u>"</u>
Industrial	_____	_____	_____	_____

RAW MATERIALS Aluminum, steel, copper, plastics, etc.

PRODUCTS Cookware, Giftwares, (aluminum) Bar B.Q. Grills (steel).

WASTE DISPOSAL

Sanitary		<u>To sanitary sewer (1,200 gal/day)</u>		
		based on 30 gal/person/day		
	Quantity	How Estimated	Date Sampled	
Cooling	<u>13,00 to</u>	<u>Water bills</u>	<u>-</u>	
Industrial	<u>16,000</u>	<u>for 6 months</u>	<u>-</u>	

DESCRIPTION OF SEWERS Plating room rinses flow along several open sewers in the
plating room to a junction box, then out to the township sewers.

REMARKS: Approximately 35 tanks, ranging in size from 45 gallons to 750 gallons, are used to plate articles with chromium and nickel.
 All tank transfers are carried out by hand operation. Hence, dragout will vary slightly, depending on the time available for the operations.
 These wastes flow untreated to the township sewers.

Survey by; E. T. Ciebien.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Plant 2, Provincial Engineering Ltd. COUNTY Welland
ADDRESS Stanley Road, WATERSHED Welland R.
Stamford Township.
PERSONNEL Mr. A. J. Tarney, Vice-President,
* Mr. Ronald Deeks, Chief Engineer,
* Mr. Henry Mead, Production Superintendent.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>130</u>
Max. Min.	<u>8</u>	<u>5</u>	<u>50 at date of visit.</u>
Seasonal Variation	<u>Dependent on contracts for work.</u>		<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>23,000</u>	<u></u>	<u>Nil</u>
Cooling	<u>Carborundum</u>	<u>15,000</u>	<u>50,000</u>	<u></u>
Industrial	<u>"</u>	<u></u>	<u></u>	<u></u>

At date of visit production was about 10% of capacity.

RAW MATERIALS Steel:
Beams, angle iron, etc.

PRODUCTS - Steel structures, e.g., hydro towers
- Custom galvanizing.

WASTE DISPOSAL

	Quantity	How Estimated	Date Sampled
Sanitary)	<u>To township sewers</u>		
Cooling)	<u>23,000 gpd</u>	<u>Water bill</u>	<u> </u>
Industrial)	<u>15,000 to</u> <u>50,000 gpd</u>	<u>Pump rating</u>	<u> </u>

DESCRIPTION OF SEWERS Plant sewers all discharge to 48" township main sewer
discharging to

REMARKS: The largest use of water is in the galvanizing room. There are 7
tanks used to galvanize the component parts of various steel structures.

Tank 1, 2 and 3 all contain 10% H₂SO₄. They are used for pickling. Occasionally
one tank is used to strip a reject of zinc.

Tank 4 is a cold water running rinse tank.

Tank 5 contains Zinc Ammonium Chloride concentration 18° to 20° Be at 150° F.
This solution serves as a flux for galvanizing. All the above tanks
are 34' x 3' x 3.5'.

REMARKS:

Tank 6 is a double tank containing 118 tons of Zinc in the inner shell and
44 tons of lead in the outer shell to serve as the heat exchange medium.

Tank 7 is a quench tank.

There are two vertical legs at the bottom of the tank.

The tank itself is 34' x 3' x 3.5'. Each vertical leg is approximately
20' deep with a diameter of 4'.

This arrangement permits vertical and horizontal quenching of long beams.

Samples were not taken during the June 7 visit, since only 10% of capacity
of the plant was being utilized.

Survey by; E. T. Ciebien.

Date June 7, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canadian Carborundum Co. Ltd. COUNTY Welland

ADDRESS Stanley St. WATERSHED Welland R.
Stamford Twp.

PERSONNEL Mr. A. McDonald, General Manager,
Mr. Jack Gregory, Plant Manager,
Mr. John Golding, Plant Engineer,

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>400 + 20</u>
Max.	<u>24</u>	<u>7</u>	<u>500</u>
Seasonal Variation	<u>Nil</u>	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford Twp.</u>	<u>71,000</u>	<u>85,000</u>	<u>Nil</u>
Cooling	<u>Welland River</u>	<u>3,600,000</u>	<u>5,400,000</u>	<u>Nil</u>
Industrial	_____	_____	_____	_____

RAW MATERIALS Boaxite, coke, steel turnings.

PRODUCTS 1. Crude abrasives (sent to U.S.A. for finishing).
2. Moulded abrasives, e.g., wheels, rods, etc.

WASTE DISPOSAL

Sanitary To township sewer 71 to 85,000 gal/day.

	Quantity	How Estimated	Date Sampled
Cooling	<u>3,600,000 to</u>	<u>Pump capacity</u>	<u> </u>
Industrial	<u>5,400,000</u> <u>gallons/day</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS Open sewers, covered with steel gratings, carry the cooling
waters from the plant to an outdoor lagoon. Here the solids settle out
and are dredged out for reuse in the plant. The water discharges to the
township trunk sewer in Stanley St.

REMARKS: The Provincial Engineering Co., Plant 2, purchase from 15,000 to 50,000
gallons per day from this company.

 Almost all the water used at this plant is for cooling the electrodes
and outer shells of the reaction furnaces.

 After the solids settle in the lagoon, the effluent from this plant
looked quite clear.

Survey by; E. T. Ciebien.

Date June 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Barratt Spun Concrete Poles. COUNTY Welland.

ADDRESS Montrose & Industrial, WATERSHED Niagara River,
Stamford Twp.

PERSONNEL Mr. A.C. Barratt.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>16</u>	<u>5</u>	<u>10</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>No Meter</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Cement, Sand, Stone, Reinforcing steel.

PRODUCTS Concrete poles.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS Floor washings presently flow across open field to a small ditch which is dry most of the year. A catch basin is to be installed to catch solids before discharging water to the open ditch.

REMARKS: Total quantity of wash water is quite small and when the catch basin is installed, the flow should not cause harm to the receiving water courses.

Survey by; E. T. Ciebien.

Date June 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canadian Liquid Air Products, COUNTY Welland.

ADDRESS 2555 Montrose Rd., WATERSHED Niagara River.
Stamford Twp.

PERSONNEL Mr. R. Flemens - Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>5</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>No Meter.</u>	<u> </u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Distributors only.

PRODUCTS Liquid air in cylinders.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	<u>-0-</u>	<u> </u>	<u> </u>
Industrial	<u>-0-</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Dry industry; No industrial liquid waste.

Survey by; E. T. Ciebien.

Date June 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Canadian Ohio Brass Co., COUNTY Welland
ADDRESS 1881 Thorold Stone Rd., WATERSHED Niagara River
Stamford Twp.
PERSONNEL Mr. K. V. Farmer, Vice-President
Mr. E. R. Davey, Plant Manager
* Mr. R. Flagg, Plant Engineer

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>115 + 15</u>
Max.	<u></u>	<u></u>	<u>& 30 office</u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>4,300</u>	<u></u>	<u></u>
Cooling	<u>"</u>	<u>5,000</u>	<u></u>	<u></u>
Industrial	<u>"</u>	<u></u>	<u></u>	<u></u>

Water bill 600,000 3M. April, May, June.
550,000 3M. Jan., Feb., March.

RAW MATERIALS Feldspar, flint, clay.
Sand.

PRODUCTS Porcelain insulators.

WASTE DISPOSAL

	To sanitary sewers (4,300 gal/day)		
	based on 30 gal/day/person.		
	Quantity	How Estimated	Date Sampled
Sanitary			
Cooling	5,000	Water bill	-
Industrial			

DESCRIPTION OF SEWERS The industrial sewers in the plant discharge to a 13' x 8' x 8'

baffled catch basin, where solids settle out and the effluent flows over the
baffle to township sewer.

REMARKS: Water is used for cooling, preparing plaster moulds and for mixing the porcelain. The amount of water used for mixing plaster is very small. The water used in mixing the felspar, clay and flint is reused. Make-up water is added daily. Losses include, evaporation and the water remaining in the clay mixture to maintain the consistency for moulding operations. This water is later baked out in kilns.

Survey by; E. T. Ciebien.

Date June 10, 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Crawford Fitting Co., COUNTY Welland.
ADDRESS 1238 St. Paul Ave., WATERSHED Niagara River.
Stamford Twp.
PERSONNEL Mr. L. H. Keith, Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>4</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford.</u>	<u>No meter</u>	<u></u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Stainless steel, aluminum, brass, plastics.

PRODUCTS Precision tube fittings.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS:

This plant will soon be moving to the township industrial area.
There are no liquid industrial wastes discharging from this plant.

Survey by; E. T. Ciebien.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Dominion Brake Shoe Co. Ltd., COUNTY Welland.
ADDRESS 256 Portage Rd. South., WATERSHED Niagara River.
Stamford Twp.
PERSONNEL Mr. J. McVicker - Vice Pres.
Mr. J. Crowther - Supt.
*Mr. S. Perkins - Gen. Foreman.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>60 ± 5</u>
Max.	<u></u>	<u></u>	<u></u>
Seasonal Variation	<u>Nil</u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford.</u>	<u>1,500</u>	<u>-</u>	<u>Nil</u>
Cooling	<u></u>	<u></u>	<u></u>	<u></u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>

RAW MATERIALS Steel, cast iron.

PRODUCTS Railroad track work.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: No industrial liquid waste; dry industry.

Survey by; E. T. Ciebien.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Hamill Machine Works. COUNTY Welland.

ADDRESS 1488 Arthur. WATERSHED Niagara River.
Stamford Twp.

PERSONNEL Mr. M.T. Hamill - Owner.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8½</u>	<u>5</u>	<u>2</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford.</u>	<u>No Meter.</u>	<u>-</u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Steel, cast iron.

PRODUCTS Machine parts.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Dry industry. No industrial liquid wastes.

Survey by; E. T. Ciebien.

Date June 17, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Hastings Machine Tools Ltd., COUNTY Welland.

ADDRESS 600 Montrose Rd., WATERSHED Niagara River.
Stamford Twp.

PERSONNEL Mr. G. Rickwood - Owner.

Mr. L. DeBernardo - Foreman.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8½</u>	<u>5</u>	<u>15</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford.</u>	<u>No Meter.</u>	<u>- 1</u>	<u>Nil</u>
Cooling	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Industrial	<u> </u>	<u> </u>	<u> </u>	<u> </u>

RAW MATERIALS Steel, cast iron, brass.

PRODUCTS Machines for optical industry.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: Dry industry. No industrial liquid waste.

Survey by; E. T. Ciebien.

Date June 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY International Co-op. Ltd., COUNTY Welland.

ADDRESS 2651 Cropp St., WATERSHED Niagara River.
Stamford, Twp.

PERSONNEL _____

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	_____	_____	_____
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	_____	_____	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Plant is closed at present. Expected new purchaser to prepare
canned spaghetti.

PRODUCTS _____

WASTE DISPOSAL

Sanitary _____

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS:

Survey by; E. T. Ciebien.

Date June 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Metallurgical Co. Ltd.
Lewis Metallurgical, COUNTY Welland.

ADDRESS Kent St., WATERSHED Niagara River.
Stamford Twp.

PERSONNEL _____

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	_____	_____	_____
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	_____	_____	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Plant has been "closed" and put up for sale.

PRODUCTS _____

WASTE DISPOSAL

Sanitary _____

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS:

Survey by; E. T. Ciebien.

Date June 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Lignite Abrasives Ltd., COUNTY Welland.

ADDRESS 193 Stanley Ave. N., WATERSHED Niagara River.
Stamford Twp.

PERSONNEL Mr. J. Harvey - Superintendent.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	<u>7</u>	<u>150 ± 10</u>
Max.	_____	_____	_____
Seasonal Variation	<u>Closed only 2 days per year.</u>		_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford.</u>	<u>4,500</u>	<u>-</u>	<u>Nil</u>
Cooling	<u>"</u>	<u>95,000</u>	<u>135,000</u>	<u>"</u>
Industrial	_____	_____	_____	_____

RAW MATERIALS 1) Boaxite, steel tarnings, coke.
2) Petroleum coke, silica sand, sawdust.

PRODUCTS 1) Crude Al₂O₃ abrasive.
2) Silica Carbide SiC.

WASTE DISPOSAL

Sanitary To township sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	<u>95-135,000</u> gal/day	<u>Water bills</u>	<u>0</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS 5 sumps are included in the sewer layout to settle solids,
water is pumped from the sumps to the sanitary sewer.

REMARKS: Cooling water is the prime use of the plant for this large volume of water.
No other liquid wastes are produced since the refinement of the products is carried out in American plants.

Survey by; E. T. Ciebien.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Lubrizol of Canada Ltd. COUNTY Welland.

ADDRESS 1800 Thorold Stone Rd., WATERSHED Niagara River.
Stamford Twp.

PERSONNEL Mr. N. A. Payne, - Gen. Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>25 ± 5</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>3,600</u>	<u>5,400</u>	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Chemical additives, intermediates, oil carrier base.

PRODUCTS Oil additives (tank car quantities).

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	{ <u>3-5,000</u>	<u>Water Bill</u>	<u>-</u>
Industrial	{ _____	_____	_____

DESCRIPTION OF SEWERS Floor washups discharge to an open ditch to H.E.P.C. power.

canal.

Cooling water and sanitary wastes discharge to township

sewer.

REMARKS: Oils are washed from blending tanks with a solvent. Approximately one 45 gallon drum of waste is sent to the dump every 2 weeks.

The ditch to the H.E.P.C. canal is usually dry and the flow seldom reaches the canal unless there is a large flow of storm water.

Survey by; E. T. Ciebien.

Date June 18, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY McIntyre Aluminum Products. COUNTY Welland.
ADDRESS Kent Ave., WATERSHED Niagara River.
Stamford, Twp.
PERSONNEL Mr. N. Crack - Office Mgr.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>15.20</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>2,000</u>	<u>3,000</u>	<u>Nil</u>
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Aluminum, glass, screen.

PRODUCTS "Altex" aluminum doors
windows
screens.

WASTE DISPOSAL

Sanitary To septic tank.

	Quantity	How Estimated	Date Sampled
Cooling	<u>2,000</u>	<u>Water Bill.</u>	<u>6-10-59</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: No industrial liquid waste; Dry industry.

Survey by; E. T. Ciebien.

Date June 10, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Moeller Mfg. Co. (Canada) COUNTY Wellard
ADDRESS 1760 Valley Way, WATERSHED Niagara River,
Stamford Twp.
PERSONNEL Carl Olson- Manager.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>2 P & O.</u>
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Stamford</u>	<u>No Meter</u>	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS Aluminum castings, rubber washers.

PRODUCTS Bottle stoppers.

WASTE DISPOSAL

Sanitary To sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	<u>0</u>	<u> </u>	<u> </u>
Industrial	<u>0</u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS

REMARKS: No industrial liquid waste; Dry industry.

Survey by; E. T. Ciebien.

Date June 11, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Noranda Mines. COUNTY Welland.

ADDRESS Chippawa Cr. Rd. WATERSHED Welland River.
Stamford Twp.

PERSONNEL _____

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	_____	_____	_____
Max.	_____	_____	_____
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	_____	_____	_____	_____
Cooling	_____	_____	_____	_____
Industrial	_____	_____	_____	_____

RAW MATERIALS " Closed "
(Process for sulphur production proved to be uneconomical.)

PRODUCTS _____

WASTE DISPOSAL

Sanitary _____

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS _____

REMARKS:

Survey by; E. T. Ciebien.

Date June 11, 1959.

WASTE DISPOSAL

Sanitary To township sanitary sewer.

	Quantity	How Estimated	Date Sampled
Cooling	{ <u>31-36,000</u> <u>gal/day.</u>	<u>Water Bill</u>	<u>-0-</u>
Industrial		<u> </u>	<u> </u>

DESCRIPTION OF SEWERS All water flows to township sewers.

REMARKS: Water is used for cooling electric furnaces.
Water for concentrating metal is used by recycling.

Survey by; E. T. Ciebien.
Date June , 1959.

WASTE DISPOSAL

Sanitary With Industrial Wastes.

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	_____	_____	_____
	5000,000	Company Source.	July 8th, 1959.

DESCRIPTION OF SEWERS Main outfall to small settling pond whose effluent was sampled = 3½ MGD. The pulp beaters effluent open channel = 1.0 MGD. Newsprint machine accessible only inside flowing east then north = 0.75 MGD. One sanitary outlet north side of building. All flows enter Beaver Dams Creek to Marlatt's Pond under Welland Canal.

REMARKS: Daily Wastes:

	B.O.D.	Susp. Solids.
Main Sewer	4650#	11700#
Newsprint	690#	1020#
Pulp Beaters	2230#	4120#
Total	7570#	16,840#

Survey by; F.J. Dart.

Date July 8, 1959.

WASTE DISPOSAL

Sanitary ~~Shroud San. Sewer except two toilets.~~

	Quantity	How Estimated	Date Sampled
Cooling	999,000	Pump capacities	June 23, 1959.
Industrial	_____	_____	_____

DESCRIPTION OF SEWERS ~~One private discharge to Marlatt 's Pond.~~

REMARKS: Water supply from Old Welland Canal receiving water from Welland Canal.

Survey by; F.J. Dart.

Date June 23, 1959.

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Hayes Steel Products Ltd. COUNTY Welland

ADDRESS Highway #58, Thorold South WATERSHED 12 Mile Creek

PERSONNEL Mr. R. Yaeger, Project Engineer*

Mr. W. S. Sandham, Plant Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>16</u>	<u>5</u>	<u>280</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland Canal</u>	<u> </u>	<u> </u>	<u>filter and Cl₂</u>
Cooling	<u>Welland Canal</u>	<u> </u>	<u> </u>	<u>filter and Cl₂</u>
Industrial	<u>Welland Canal</u>	<u> </u>	<u> </u>	<u>filter and Cl₂</u>
Total		<u>80,000</u>		<u>filter and Cl₂</u>

RAW MATERIALS Sheet steel, and crude castings, zinc

PRODUCTS Finished steel stampings and forgings

WASTE DISPOSAL

Sanitary To sanitary sewer sump - Beaver Dams Creek

	Quantity	How Estimated	Date Sampled
Cooling	_____	<u>company</u>	_____
Industrial (pickling)	_____	<u>figures</u>	_____
	79,000		July 8th, 1959

DESCRIPTION OF SEWERS Three outfalls to open ditch at rear - two at rear -
rarely flowing, and one (the main one) on the south side of the building

REMARKS: Oil is prominent in the wastes as it is sometimes dumped - does not show in any particular composite sample. Pickling to be discontinued at this plant, in the near future.

B.O.D. 5.20
Suspended solids 7.04
Iron (min.) 0.88 lb.)
Oil (min.) 23.2 lb.) DOES NOT INCLUDE POSSIBLE DUMPS

Survey by; F.J. Dart

Date July 8th, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY National Refractories Ltd. COUNTY Welland
ADDRESS Port Robinson - north of main county WATERSHED Welland Canal
road
PERSONNEL Mr. David Wright, Manager

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>20</u>
Max.	_____	_____	<u>25</u>
Seasonal Variation	_____	_____	_____

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Std. Steel Const. Co.</u>	_____	_____	_____
Cooling	_____	_____	_____	_____
Industrial	<u>Std. Steel Const. Co.</u>	_____	_____	_____
Total		1,000		

RAW MATERIALS Fire clays

PRODUCTS Fire bricks

WASTE DISPOSAL

Sanitary Two septic tanks to field tile

	Quantity	How Estimated	Date Sampled
Cooling	_____	_____	_____
Industrial	<u>small</u>	_____	_____

DESCRIPTION OF SEWERS Only wastes are domestic

REMARKS: Water is used only to mix fire clays and for domestic purposes.
Water supply is bought from neighbouring company Standard Steel Construction
Co. Ltd. which chlorinates and filters water from Welland Canal.

Survey by; P. J. Dart

Date

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Nichols Chemical Co., Ltd. COUNTY Welland

ADDRESS Beaver Dams Rd., Thorold South WATERSHED 12 Mile Creek

PERSONNEL Mr. A. J. Wallace, Location Supervisor

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>3</u>
Max.	<u> </u>	<u> </u>	<u> </u>
Seasonal Variation	<u> </u>	<u> </u>	<u> </u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Merritton</u>	<u> </u>	<u> </u>	<u>nil</u>
Cooling	<u>Merritton</u>	<u> </u>	<u> </u>	<u>nil</u>
Industrial	<u>Merritton</u>	<u> </u>	<u> </u>	<u>nil</u>
Total		9,000	10,000	

RAW MATERIALS Bauxite (Al₂O₃), Sulphuric acid, H₂SO₄

PRODUCTS Al₂(SO₄)₃ in aqueous solution. 70% tons/month dry basis

WASTE DISPOSAL

Sanitary Septic tank and field tile

	Quantity	How Estimated	Date Sampled
Cooling	<u> </u>	<u> </u>	<u> </u>
Industrial	<u>small</u>	<u> </u>	<u>June 23, 1959</u>

DESCRIPTION OF SEWERS One lagoon at the rear of the plant - normally does

not overflow

REMARKS: Daily wastes - normally none. Lagoon can overflow in spring;

analysis pH 2.5 Acidity CaCO₃ 9514 Aluminum 750

	total	s.s.	Diss.
Solids	15,996	32	15,964

Survey by; F. J. Dart

Date June 23rd, 1959

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Ontario Paper Co., Ltd. COUNTY Welland
 ADDRESS Thorold WATERSHED Old Welland Canal

PERSONNEL Mr. H. T. Fisher, Ass't to Vice-President,
Mr. R. Comette, Divisional Manager,
Dr. C. A. Sankey, Director of Research,
Mr. G. A. Franklin, Control Superintendent,
Mr. W. Fell, Engineer.

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>24</u>	Newsprint - 6	Hourly <u>1,134</u>
		Sulphite - 6-2/3	
Max.		Sulphite Drier - 5	Salary <u>279</u>
		Vanillin - 7	
Seasonal Variation		Alcohol - 7	

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	& Ind. <u>Munic.</u>	<u>50,000</u>	<u>66,000</u>	-
Cooling	-	-	-	-
Industrial	<u>Welland Ship Canal</u>	<u>26,400,000</u>	<u>28,800,000</u>	<u>Chlorinate approx. 2/3 of supply</u>

RAW MATERIALS Limestone - 350 lbs. per ton pulp - 34 tons per
Sulphur - 215 lbs. per ton pulp - 22 tons per day
Alum (newsprint mill) - 22 lbs. per ton newsprint - 7.25 tons per day
Lime - 40 tons per week in vanillin plant

PRODUCTS - 0.5 tons per day in newsprint mill (to neutralize alum)
Newsprint 658 tons per day (usually between 660 and 670 tons per day)
Sulphite pulp (to Beaver Wood Fibre Co., Ltd.) 25 tons per day
Sulphite pulp (dried for sale) - 50 tons per day
Industrial alcohol - 2,500 gallons per day
Vanillin - designed for 5,000 lbs. per day

WASTE DISPOSAL

Sanitary To plant sewers

	Quantity	How Estimated	Date Sampled
Cooling	<u>-</u>	<u>-</u>	<u>-</u>
Industrial	<u>26,300,000 gpd</u>	<u>based on consumption</u>	<u>July 7, 1959</u>

DESCRIPTION OF SEWERS (see report, page 5)

REMARKS:

Survey by;

Date

ONTARIO WATER RESOURCES COMMISSION

Industrial Waste Summary

INDUSTRY Standard Steel Construction COUNTY Welland

ADDRESS Port Robinson - north of main county road WATERSHED Welland Canal

PERSONNEL Mr. A. W. Russell, Office Manager *

Mr. Scott, Plant Superintendent *

PLANT OPERATION	Hrs. per day	Days per week	Plant Employees
Aver.	<u>8</u>	<u>5</u>	<u>108</u>
Max.	<u></u>	<u></u>	<u>200</u>
Seasonal Variation	<u></u>	<u></u>	<u></u>

WATER SUPPLY	Source	Av. g.p.d.	Max. g.p.d.	Treatment
Domestic and/or Sanitary	<u>Welland Canal</u>	<u></u>	<u></u>	<u>filter & Cl₂</u>
Cooling	<u>Welland Canal</u>	<u></u>	<u></u>	<u>filter & Cl₂</u>
Industrial	<u></u>	<u></u>	<u></u>	<u></u>
Total	<u>Welland Canal</u>	<u>30,000</u>	<u>35,000</u>	

RAW MATERIALS Steel beams, girders, slates etc.

PRODUCTS Constructed steel fabrications

WASTE DISPOSAL

Sanitary To four (4) septic tank to Welland Canal through weed bed

	Quantity	How Estimated	Date Sampled
Cooling	<u>30,000</u>	<u>Company estimates</u>	<u>August 19th</u>
Industrial	<u> </u>	<u> </u>	<u> </u>

DESCRIPTION OF SEWERS 4 septic tanks discharge to common ditch through weed bed to the Welland Canal

REMARKS: High B.O.D. of 42 ppm in discharge to Welland Canal although the suspended solids was only 28 ppm.
This would represent 12.6 lb. of B.O.D. and 8.4 lb. of suspended solids

Survey by; F. J. Dart
Date August 19th, 1959