OPERATING SUMMARY

WATER SUPPLY SYSTEMS

1975

Ontario

Ministry of the Environment

George A. Kerr, Q.C., Minister

Everett Biggs, Deputy Minister

TD
209
.W38
1975

WATER SUPPLY SYSTEMS

Operated by the Ministry of the Environment

Copyright Provisions and Restrictions on Copying:

This Ontario Ministry of the Environment work is protected by Crown copyright (unless otherwise indicated), which is held by the Queen's Printer for Ontario. It may be reproduced for non-commercial purposes if credit is given and Crown copyright is acknowledged.

It may not be reproduced, in all or in part, part, for any commercial purpose except under a licence from the Queen's Printer for Ontario.

For information on reproducing Government of Ontario works, please contact Service Ontario Publications at copyright@ontario.ca

CONTENTS

List of Tables	(iii)
Introduction	(iv)
Plant Flows	2
Water Quality	4
Process Data	12
Plant Staff	17
Operating Expenditures	18
Monthly Operating Data	25ff

LIST OF TABLES

TABLE	DESCRIPTION	PAGE
I	Plant Flows	3
II	Bacteriological Quality - Surface Water	6
III	Bacteriological Quality - Ground Water	7
IV	Chemical Characteristics - Surface Water	8
V	Chemical Characteristics - Ground Water	9
VI	Physical Characteristics - Surface Water	10
VII	Physical Characteristics - Ground Water	11
VIII	Total Algae - Raw Water	13
IX	Microstrainer Performance	13
X	Chemicals Used	14
XI	Filter Operation	15
XII	Waste Streams - Characteristics	16
XIII	Plant Staff	17
XIV	Operating Expenditures - Surface Water	18
XV	Operating Expenditures - Ground Water	20

INTRODUCTION

This report summarizes data from 77 water supply projects, not all of which provide treatment. In one case, Watford, Wyoming and Plympton, the project is a pipeline delivering water purchased from the Sarnia system.

During 1975 these projects supplied 42.2 billion gallons of water, 38.3 billion gallons from surface water sources and 3.9 billion gallons from ground water supplies.

This summary makes no attempt to delineate operating problems at individual plants. The nature of operating problems and unusual conditions, along with more detailed data, is contained in individual plant operating summaries.

OPERATING DATA

PLANT FLOWS

Table I summarizes flow data, including maximum rates where available. Design capacities listed for projects affording physical treatment (that is, microstraining, sedimentation and filtration) do not include reduction in potential output due to in-plant use of water for purposes such as backwashing of filters. Where no treatment, or chemical treatment only (usually chlorination) is provided, the maximum output is limited by pumping capacity.

A total of 42.2 billion gallons of water was produced: 38.3 billion gallons by surface water supplies and 3.9 billion gallons by ground water supplies.

TABLE I

PLANT FLOWS

SURFACE WATER SUPPLIES

PROJECT	DESIGN CAPACITY mgd	TOTAL OUTPUT million gal	AVERAGE DAY million gal	MAXIMUM DAY million gal	MAXIMUM RATE mgd
Region I - Southwestern					
Amherstburg	4.0	358.7	.98	1.54	2.5
Belle River (57)	4	277.4	1.01	2.5	-
Blandford - Blenheim Twp.	1.0	156.7	.43	.69	1.3
Comber Twp	N/A				
Dresden	.5	115.7	.32	.72	.74
Elgin Area W. S. S.	10.0	1419.3	3.9		
Goderich	3.0	334.7	.92	1.65	3.0
Harrow		not available			
Kent County W. S. S. (92)	-	402.3	4.4	8.9	
Lake Huron	37.0	8906.6	24.4	38.6	
Lambton Area W. S. S.		4322.3	11.8	28.9	41.0
Meaford	2.9	327.0	.90	1.9	-
Southampton	1.0	167.9	.46	1.50	-
Union W. S. S.	16.0	1845.2	5.06	10.9	14.4
Watford, Wyoming, Plympton WSS		62.1	.17		
Region II - West Central					
Dunnville	20.0	3052.0	8.36	13.7	
Region III - Central					
Bobcaygeon	.2	28.15	.077	.18	
Fenelon Falls	.36	85.10	.23	.48	1.00
Hastings		22.45	.062	.183	
South Peel - Lakeview	48.0	13011.0	36.0	68.0	
Warkworth - Percy Twp.	.10	22.55	.062	.15	
Region IV - Southeastern					
Bancroft		24.8	.068	.105	
Chalk River		21.9	.060	.30	.50
Eganville	.18	30.45	.083	.19	
Marmora	.23	49.6	.14	.24	
Renfrew	4	419.9	1.15	2.50	
Rockland	.8	201.3	.55	.95	
Region V - Northeastern					
Bruce Mines (122)		2.69	.022	.063	
Cache Bay		14.92	.041	.103	
Caldwell Twp. (Verner) (47)		4.58	.093	.16	
Espanola	1.5	181.1	.50	1.22	
Haileybury	1.5	182.5	.50	1.05	
Latchford (105)		1.9	.018	.034	
Michipicoten Twp. (Wawa)		476.6	1.31	2.93	
Moosonee	.11	60.5	.17	.34	
Shackleton - Machin Twp.	.12	13.14	.036	.081	
Wanapitei	6.25	1424.0	3.9	4.8	
Region VI - Northwestern					
Ear Falls	.14	42.7	.12	.20	
Emo Twp.	.08	16.55	.045	.095	
Geraldton		120.7	.44	.74	
Machin Twp. (Vermillion Bay)		4.55	.075	.112	
Red Lake Twp.	.25	134.47	.37	.53	

GROUND WATER SUPPLIES

PROJECT	DESIGN CAPACITY mgd	TOTAL OUTPUT million gal	AVERAGE DAY million gal	MAXIMUM DAY million gal	MAXIMUM RATE mgd
Region I - Southwestern					
Hanover		99.19	.27		
Milverton		N/A			
Mitchell		165.73	.45	1.06	1.44
Thedford		19.01	.05	.11	-
Van Astra		48.81	.13	.26	-
Zurich		N/A			
Region II - West Central					
Brantford Twp		42.36	.12	.25	-
Cambridge (Preston)		N/A			
Orangeville		372.56	1.02		
Woolwich Twp. (St. Jacobs)		22.4	.07	.15	
Region III - Central					
Anson, Hindon & Minden (243)		14.36	.059	.09	
Bradford		39.29	.11	.43	
Caledon (Bolton)		N/A			
Caledon (Caledon East)		21.96	.06	.31	
Cookstown		158.74	.43	.71	
Elmvale		50.62	.14	.38	
Havelock		39.75	.11	-	
King Twp. - Schomberg	.14	18.42	.05	.13	
Markham - Don Mills		221.59	.66	1.34	1.65
- German Mills #1		189.07	.68		
- Steeles Avenue		213.58	.93		
- Pharmacy Avenue		47.87	.65	1.12	
- Sabiston		301.96	.96	1.62	
- TOTAL		974.06	2.92		
Richmond Hill (59)		12.52	.21	.431	
Richmond Hill - Oak Ridges (59)	.47	6.01	.10	.140	
Stayner		91.72	.25	.46	-
Woodville Twp.		5.62	.01	.09	-
Region IV - Southeastern					
Alfred		20.83	.06	-	-
Bourget		N/A			
Chesterville (335)		28.07	.08	.16	
Frankford		64.78	.18	.52	
L'Orignal (137)		8.68	.05	.16	
Merrickville		N/A			
Plantagenet		N/A			
Vankleek Hill (304)		27.13	.09	.20	
Wellington (304)		28.84	.08	.29	
Westport		17.23	.05	.10	
Winchester		69.31	.19	.26	
Region V - Northeastern					
Black River Twp - Matheson, Ramor		N/A			
Blezard Valley Area W. S. S.		406.85	1.12		
Blind River		46.33	.13	.28	
Fauquier Twp. (Moonbeam)	.07	18.10	.05	.08	
North Himsworth (Callander)130)		3.79	.03	.23	
Warren (Ratter-Dunnet)		14.10	.04	.09	

Note: Number in brackets following plant name refers to number of days for which data is available.

WATER QUALITY

Bacteriological Quality

Tables II and III are summaries of bacteriological sampling carried out during 1975. The indicator organisms used were total coliforms. The results for raw water are tabulated to provide an approximation of geometric means taking the logarithm of coliforms less than 4 as being 0, from 4 to 32 as 1, from 33 to 320 as 2 and coliforms greater than 320 to 3. The geometric mean of n samples is antilog $\frac{(\log x_1 + \log x_2 + \ldots \log xn)}{n}$

Samples of treated water are taken leaving the plant and in the distribution system up to the point of delivery of the water, which in some cases is the ultimate consumer and in others the municipal distribution system.

Chemical Quality

The results of chemical analysis are shown as arithmetic mean values in Tables IV and V for surface waters and ground waters respectively. Where no treatment is provided, or where treatment does not alter the parameter, the figure shown is of all analyses both raw and treated water. In many cases these averages are based on very few samples, and in some cases, the values shown have come from samples taken in investigating consumer complaints. The data tabulated may, therefore, not be entirely representative of the normal finished product.

Physical Characteristics

Turbidity, color and temperature data for surface water supplies and turbidity and color for ground water supplies is contained in Tables VI and VII. Where no facilities exist for the removal of turbidity and colour (coagulation and filtration), that is, where raw water with, perhaps, chemical addition is pumped directly into the distribution system, averages of all samples are shown as treated water. Ground water temperatures are assumed to be constant and equal to ground temperatures, therefore they are not recorded. It would appear from the limited data on turbidity and color that ground waters (Table VII) frequently exceed the desireable criteria of 1.0 F.T.U. turbidity and 5 units apparent color.

TABLE II BACTERIOLOGICAL QUALITY

SURFACE WATER SUPPLIES

PROJECT	AVG CHLORINE RESIDUAL mg/l	NUMBER OF SAMPLES HAVING TOTAL COLIFORMS (per 100 ml) OF: RAW WATER 0	1-3	4-32	33-320	>320	LEAVING PLANT 0	>1	IN DISTRIBN SYSTEM 0	>1
Region I - Southwestern										
Amherstburg	.5	0	0	1	15	36	52	0	160	2
Belle River	.5	1	2	0	3	5	8	0	15	0
Blenheim Twp. (Blandford)	.7	39	5	2	0	0	49	0	98	0
Comber Twp.	N/A									
Dresden	.8	3	0	0	6	8	22	0	0	0
Elgin Area WSS	.9	56	31	8	7	0	198	0	185	0
Goderich	.9	12	9	9	16	3	49	0	230	0
Harrow		9	3	7	3	4	26	0	52	0
Kent County WSS	N/S									
Lake Huron	.7	198	6	5	1	0	202	0	1073	0
Lambton Area WSS	.6	86	2	8	3	0	501	0	20	0
Meaford	.3	19	10	13	4	1	47	0	140	0
Southampton	.8	63	7	13	2	6	132	0	263	2
Union WSS	.5	13	2	23	13	1	62	0	642	6
Watford, Wyoming, Plympton WS		0	0	0	0	0	0	0	3	1
Region II - West Central										
Dunnville	.5	0	0	6	19	15	0	0	123	1
Region III - Central										
Bobcaygeon	.6	4	3	16	13	0	36	0	142	0
Fenelon Falls	.7	3	6	21	8	5	27	1	252	3
Hastings		0	0	0	0	0	0	0	227	7
South Peel (Lakeview)	.6	11	12	35	36	9	100	2	958	18
Warkworth - Percy Twp.	.7	0	2	0	0	0	0	0	6	0
Region IV - Southeastern										
Bancroft	.9	19	10	2	0	1	38	1	280	1
Chalk River	.5	10	2	7	8	0	27	1	111	6
Eganville	.5	32	1	2	4	0	0	0	153	0
Marmora		5	1	12	14	7	39	1	75	2
Renfrew	.5	4	0	0	3	0	7	0	14	0
Rockland	.5	0	0	7	42	53	0	0	109	0
Region V - Northeastern										
Bruce Mines		2	0	0	3	0	0	0	10	2
Cache Bay	.6	13	5	18	2	0	48	0	1	0
Caldwell Twp. (Verner)	.5	N/A								
Espanola	.5	16	3	15	8	3	46	0	184	1
Haileybury	.7	10	4	17	15	1	7	0	50	0
Latchford	.6	9	2	1	0	0	13	0	13	0
Michipicoten Twp. (Wawa)		0	0	0	0	0	64	0	0	0
Moosonee	.5	11	2	7	2	0	21	0	42	1
Shackleton - Machin Twp.	.5	9	3	15	5	0	37	0	45	3
Wanapitei	.5	14	8	19	9	0	50	0	0	0
Region VI - Northwestern										
Ear Falls	.7	14	2	11	5	3	0	0	67	7
Emo Twp.	.8	0	0	1	3	24	12	0	151	0
Geraldton	.9	22	0	0	0	0	21	0	130	3
Machin Twp. (Vermillion Bay)	.7	3	0	0	1	0	0	0	12	0
Red Lake Twp.	.7	18	3	28	2	0	50	0	56	2

TABLE III

BACTERIOLOGICAL QUALITY

GROUND WATER SUPPLIES

PROJECT	AVG CHLORINE RESIDUAL mg/l	NUMBER OF SAMPLES HAVING TOTAL COLIFORMS (per 100 ml) OF: RAW WATER 0	1-3	4-32	33-320	>320	LEAVING PLANT 0	5|	IN DISTRIB^{n} SYSTEM 0	5|
Region I - Southwestern										
Hanover		5	1	2	0	0	4	0		
Milverton										
Mitchell		59	0	1	0	0	31	0	80	3
Thedford		14	0	0	0	0	16	0	31	0
Van Astra	.2	0	0	0	0	0	27	0	64	0
Zurich		8	1	0	0	0	6	0	13	0
Region II - West Central										
Brantford Twp.	.2	N/A								
Cambridge (Preston)		N/A								
Orangeville		N/A								
Woolwich Twp. (St. Jacobs)	.2	42	0	0	0	0	23	0	94	0
Region III - Central										
Anson, Hindon & Minden	.3								64	0
Bradford	.9						22	0	56	4
Caledon (Bolton)		N/A								
Caledon (Caledon East)		N/A								
Cookstown		N/A								
Elmvale		36							120	5
Havelock	.4	20	0	2	5	0	27	0	48	1
King Twp. - Schomberg	.5	23	0	1			23	0	47	0
Markham		92					38	0	194	3
Richmond Hill		2	0	1	1	0	3	0	38	0
Richmond Hill - Oak Ridges	.4	9	3	2	5	20	18	2	350	14
Stayner		7					1	0	11	0
Woodville Twp.	.2									
Region IV - Southeastern										
Alfred	.4	5	0	8	13	5	47	1	46	1
Bourget		N/A								
Chesterville	.7	5	1				8	1	105	0
Frankford	.2						10	0	35	2
L'Orignal	.4	3	1						13	0
Merrickville		N/A								
Plantagenet		N/A								
Vankleek Hill	.4	17	1				16	0	26	0
Wellington	.8	28	3	0	1	0	38	1	97	2
Westport	.4	2					2		4	
Winchester	.6	80					0	0	183	2
Region V - Northeastern										
Black River Twp. Matheson, Ramore		1	0	1			1	0	5	0
Blezard Valley Area		65	0				0	0	11	0
Blind River		N/A								
Fauquier Twp. (Moonbeam)	.4	23	0	1			24	1	42	1
North Himsworth (Callander)	.5									
Warren-Ratter-Dunnet		32	0	1					12	0

TABLE IV

CHEMICAL CHARACTERISTICS

SURFACE WATER SUPPLIES

NOTE Data shown as RAW/TREATED or as average of all samples (see text)

PROJECT	HARDNESS mg/l $CaCO_3$	ALKALINITY mg/l $CaCO_3$	IRON mg/l Fe	CHLORIDE mg/l Cl^-	pH pH units	FLUORIDE mg/l F^-	AMMONIA mg/l N	KJELDAHL NITROGEN mg/l N	NITRATE +NITRITE mg/l N	TOTAL PHOSPHORUS mg/l P	PHENOL µg/l C_6H_5OH	SULFATE mg/l SO_4^{-2}	ALUMINUM mg/l Al	COPPER mg/l Cu	CALCIUM mg/l Ca	CONDUCTIVITY micromhos per cubic centimeter
Region I - Southwestern																
Amherstburg	110/113	85/72	1.5/<.05	14/16	8.1/7.4	<.1/.9										
Belle River	122/117	88/84	1.0/.11	11/10	8.2/7.4		.04/.01									237
Blandford-Blenheim Twp.	125/126	93/80	.59/<.05	19/21	8.1/7.4	.1/.8										
Comber Twp.	N/A															
Dresden	238/230	184/108	5.8/<.05	19/22	7.9/8.0											520
Elgin Area WSS	130/131	99/88	1.1/<.05	21/23	8.1/7.6	.1/.6	.04/01	.29/.13	.23/.12	.061.01			.381.11			316
Goderich	117/112	98/83	1.0/<.05	7/8	8.1/7.5	.1/.9			.24/.56							250
Harrow	122	84	.8	25	7.8											289
Kent County WSS	N/A															
Lake Huron	101/100	83/78	.8/<.04	7	8.1	<.1	.01	.18/.10	.21/<.21	.04/.01						212
Lambton Area WSS	97/103	81/79	.1/<.01	6/7	8.1/7.9	<.1/<.1	.01/.01	.20/.14	.21	.01						214
Meaford	94/91	73/72	.06/.03	5	8.2/8.1	.1/<.1			.23							194
Southampton	111/114	82/90	.8/.2	6/7	8.1	.1/<.1			.3			15				224
Union WSS	116/120	85/72	.8/<.05	18/20	8.0/7.4											270
Watford, Wyoming, Plympton WSS	N/A															
Region II - West Central																
Dunnville	133/135	99/95	.8/.4	23	8.2	.1										319
Region III - Central																
Bobcaygeon	75/73	64/57	.21/.08	5/8	7.8/7.5											165/163
Fenelon Falls	56/54	45/39	.23/.14	3/5	7.6/7.4											124/106
Hastings	N/A															
South Peel - Lakeview	129/124	96/90	.6/08	32	8.3/7.6	.2/.9	.13/<1	.7/.5	<.3/<4		<1					355/340
Warkworth - Percy Twp.	207/205	196/195	.29/.15	11/10	8.2/8.0											396/400
Region IV - Southeastern																
Bancroft	38	31	.06	2	7.3											84
Chalk River	18/21	9	.25/.30	5	6.8											52
Eganville	58/56	47/43	.14/<.07	11	7.5/7.2											134
Marmora	N/A															
Renfrew	78/86	69/64	.23/<.05	8/9	7.8/7.5											164/195
Rockland	48				6.4/7.2											
Region V - Northeastern																
Bruce Mines	N/A															
Cache Bay	19	14	.3	<2	7.0											61
Caldwell Twp. (Vener)	53/56	17/26	.26/.07		6.8				.02/<.02							
Espanola	30/29	21/17	.12/.11	6/7	7.4/7.0	<.2/.8										89/87
Haileybury	26/38	18/20	1.1/.15	4	7.4/8.0	<.1/<.1	.55/.38		.03/.02							69/110
Latchford	35/36	29/28	.12/.07	3/4	7.8/7.6				.02/.02				.07/.04			90/122
Michipicoten Twp. (Wawa)	73	41	.08	3	7.4											160
Moosonee	145/149	129/145	1.1/.21	116/129	7.7	.2/.9										618/831
Machin Twp. (Shackleton)	82/91	55/63	.4/16	4/8	7.9/7.6											131/214
Wanapitei - Sudbury	37/53	15	.21/.08	2/4	7.1/7.3		<.1/.2		<.37/.22	.03/.02						100/137
Region VI - Northwestern																
Ear Falls	36	34/36	.38/.33	<1/3	6.6/6.8											71/81
Emo Twp.	29/30	25/51	.15/.08	<1/7	6.4/6.8											
Geraldton	116/123	106/118	.10/.08	1/3	8.2/7.6											224
Machin Twp. (Vermillion Bay)																
Red Lake Twp.	25/24	22/19	.15/.14	<1/2	6.6/6.4											54/55

TABLE V

CHEMICAL CHARACTERISTICS

GROUND WATER SUPPLIES

NOTE: Data shown as RAW/TREATED or as average of all samples (see text).

PROJECT	HARDNESS mg/l $CaCO_3$	ALKALINITY mg/l $CaCO_3$	IRON mg/l Fe	CHLORIDE mg/l Cl^-	pH pH units	FLUORIDE mg/l F^-	AMMONIA mg/l N	KJELDAHL NITROGEN mg/l N	NITRATE +NITRITE mg/l N	TOTAL PHOSPHORUS mg/l P	PHENOL µg/l C_6H_5OH	SULFATE mg/l SO_4^{-2}	ALUMINUM mg/l Al	COPPER mg/l Cu	CALCIUM mg/l Ca	CONDUCTIVITY micromhos per cubic centimeter
Region I - Southwestern																
Hanover																
Milverton																
Mitchell	266/247	198/196	.80/.49	7/6	7.7											557/570
Thedford	87	210	.39	28	8.2	2.2										
Van Astra	306	259	<.05	12	7.6	1.0										580
Zurich																
Region II - West Central																
Brantford Twp.																
Cambridge (Preston)																
Orangeville																
Woolwich Twp. (St. Jacobs)	858/880	190/182	.45/.05	3	7.6/7.5				$2/$2			660/680			258	1177/1480
Region III - Central																
Anson, Hindon & Minden																
Bradford																
Caledon (Bolton)																
Caledon (Caledon East)																
Cookstown																
Elmvale	172	177	.07	2	8.0											363
Havelock	315/262	260/252	.09/.09	35/31	7.5/7.6				2.7/1.9	.02		32/33			108	678/625
King Twp. - Schomberg	267/57	322/356	1.8/.53	2/3	7.7/8.7											576/652
Markham - Don Mills	326	266	.65	38	7.6		.2	.4	<.2	<1						684
Richmond Hill																
Richmond Hill - Oak Ridges	256/256	243/243	.9/.7	2/2	7.7/7.7											482/480
Stayner																
Woodville Twp.																
Region IV - Southeastern																
Alfred	298	238	.10	225	7.4		<.1	.48							100	1237
Bourget	55	184	<.20	35	7.8		.1	.54							14	471
Chesterville	320	267	.67	99	7.8											912
Frankford																
L'Orignal	178/180	359/400	.61/.35	129/226	8.1/7.9											1111/1663
Merrickville																
Plantagenet	448	404	1.2	230	7.4		.3	.2							141	1620
Vankleek Hill																
Wellington																
Westport	313	234	.17	59	7.7											691
Winchester	344	322	.16	93	7.6											1030
Region V - Northeastern																
Black River Twp. - Matheson, Ramore																
Blezard Valley Area	129	82	<.08	13	8.1	<.01	<.1	<.2	<.5	.02	<1					283
Blind River	152	129	.09	11	7.8		.1	.4	1.2			11			45	330
Fauquier Twp. (Moonbeam)	324/330	320/322	1.2/.42	10/10	7.6/7.8											646/640
North Himsworth (Callander)	140	93	.25	31	6.6											360
Warren - (Ratter-Dunnet)	307/294	227/228	.19/.09	29/29	7.5/7.5				5.6/3.4							614/612

TABLE VI

PHYSICAL CHARACTERISTICS

SURFACE WATER SUPPLIES

PROJECT	TURBIDITY					APPARENT COLOUR					TEMPERATURE	
	RAW WATER		TREATED WATER			RAW WATER		TREATED WATER			AVERAGE	MAXIMUM
	AVERAGE FTU	MAXIMUM FTU	AVERAGE FTU	MAXIMUM FTU	% of samples >1.0 FTU	AVERAGE units	MAXIMUM units	AVERAGE units	MAXIMUM units	% of samples > 5 units	°C	°C
Region I - Southwestern												
Amherstburg	17	95	.6	3.8	15	-	-	-	-	-	12	24
Belle River	19	27	1.5	5.9	38	18	40	<5	10	13	14	24
Blandford - Blenheim Twp.	12	65	.9	3.9	23	9	40	<5	<5	0	9	22
Comber Twp.		N/A										
Dresden		N/A										
Elgin Area WSS	37	188	.11	1.5	1	14	50	<5	<5	0	10	21
Goderich	19	300	.7	2.3	30	25	30	<5	<5	0	9	24
Harrow			12.6	73.0	89							
Kent County WSS		N/A										
Lake Huron	11	155	.7	2.1	29	10	10	<5	<5	0	11	23
Lambton Area WSS	5	70	1.4	32.0	50	<5	<5	<5	<5	0	9	22
Meaford	1.6	15	.7	7.5	12	<5	<5	<5	<5	0	8	19
Southampton	9	72	3.2	36.0	17	11	100	<5	50	8	9	24
Union WSS	20	70	.8	3.3	1	9	18	<5	<5	0	11	27
Watford, Wyoming, Plympton WSS		N/A										
Region II - West Central												
Dunnville			22	127	100	24	70	18	50	22	10	22
Region III - Central												
Bobcaygeon	2.4	5	.7	1.7	29	23	30	10	15	14	-	-
Fenelon Falls	1.2	2.3	.6	.9	0	12	30	<5	20	41	10	25
Hastings		N/A										
South Peel - Lakeview	6.8	86	.4	2.0	1	7	150	6	15	14	8	22
Warkworth - Percy Twp.	1.9	2.1	2.2	3.4	50	15	30	12	25	60	-	-
Region IV - Southeastern												
Bancroft	.7	1.3				17	20					
Chalk River	1.8	3.5	1.8	1.8	100	18	50	8	10	33		
Eganville	3.3	3.3	2.8	3.2	100	10	10	7	10	100	8	24
Marmora		N/A										
Renfrew	2.0	4.3	.26	1.0	1	13	20	<4	<5	0	6	11
Rockland	4.6	25	.10	.8	0	36	70	<5	30	1	11	25
Region V - Northeastern												
Bruce Mines		N/A										
Cache Bay			1.9	2.9	75	-	-	35	50	100	-	-
Caldwell Twp. (Verner)	5.8	28	1.3	5.3	47	51	80	5	15	100	3	6
Espanola	1.6	8.2	1.3	8.5	58	15	30	11	18	83	-	-
Haileybury	9	21	2.4	10	63	73	125	5	70	50	8	18
Latchford	1.0	1.4	.5	1.4	5	21	30	5	20	2	8	14
Michipicoten Twp. (Wawa)	.4	.5				5	5					
Moosonee	2.9	4.6	2.2	5.0	75	116	200	16	18	59	5	19
Shackleton - Machin Twp.	3.9	18	1.1	11	24	71	150	10	85	68	-	23
Wanapitei	3.5	38	.24	2.0	2	20	35	<5	40	1	10	25
Region VI - Northwestern												
Ear Falls	4.6	13	4.7	13	100	43	70	37	70	100		
Emo Twp.	5.3	60	1.6	2.7	90	43	70	6	10	11	10	23
Geraldton	.9	.9	1.0	1.0	50	5	5	5	5	0	-	-
Machin Twp. (Vermillion Bay)		N/A										
Red Lake Twp.	.4	.7	.5	.7	0	27	30	25	40	100	-	-

TABLE VII

PHYSICAL CHARACTERISTICS

GROUND WATER SUPPLIES

PROJECT	TURBIDITY					APPARENT COLOUR				
	RAW WATER		TREATED WATER			RAW WATER		TREATED WATER		
	AVERAGE FTU	MAXIMUM FTU	AVERAGE FTU	MAXIMUM FTU	% of samples >10 FTU	AVERAGE units	MAXIMUM units	AVERAGE units	MAXIMUM units	% of samples >5 units
Region I - Southwestern										
Mitchell	4.8	4.8	.3	.3	0	30	30	5	5	0
Region II - Central										
Havelock	1.3	4.4	.5	.8	0	7	10	7	10	33
King Twp - Schomberg	14.2	42.0	2.6	7.9	50	40	85	45	125	100
Region IV - Southeastern										
Alfred			1.4	1.4	100			5	5	0
Bourget			2.0	2.1	100			17	20	100
Plantagenet	10	10				20	20			
Westport	.5	.5				<5	<5			
Winchester	1.1	1.2				<5	<5			
Region V - Northeastern										
Fauquier Twp. (Moonbeam)	2.5	14.0	.8	1.3	44	27	50	11	20	75
Warren (Ratter - Dunnet)	.5	.7	.4	.3	0	5	5	<5	<5	0

PROCESS DATA

The results of raw water algae enumeration are summarized in Table VIII tabulating weighted average monthly values of total algae.

The quantities of chemicals used in the treatment processes including disinfection are presented in Table X for both surface water and ground water projects. Sodium silicate is used as a flocculant aid in the surface water projects as "activated silica". Its use in ground water projects is for sequestering iron.

The data available on filter operation is summarized in Table XI. Since many of these plants are not staffed 24 hours per day, the filters are washed at regular intervals rather than on the basis of head loss.

Since there is a move to require treatment of process wastes rather than discharging these streams to the raw water source, data has been collected on volumes and chemical characteristics of filter wash water and of sludge from clarifiers and settling basins.

TABLE VIII

TOTAL ALGAE - RAW WATER

NOTE:

PROJECT	* AVERAGE A.S.U./ml	TOTAL ALGAE - in Areal Standard Units per milliliter											
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
Region I - Southwestern													
Amherstburg	770	310	360	580	1200	770	610	310	320	2400	960	630	550
Blandford - Blenheim Twp.	580	930	1450	1030	220	90	140	130	390	650	580	410	770
Goderich	500	840	300	200	-	-	220	1100	-	190	160	390	-
Lake Huron	770	260	290	440	180	440	1530	1010	930	1040	1130	1050	990
Union W. S. S.	3000	2840	2700	3500	3500	1020	5320	2130	3270	4580	3220	2020	2050
Region II - West Central													
Dunnville	1200	1390	1050	1350	1000	1020	550	-	970	1620	1480	1710	1390
Region III - Central													
South Peel - Lakeview	220	220	170	70	190	420	650	190	100	150	170	130	190

* Averages are weighted.

TABLE IX

MICROSTRAINER PERFORMANCE

PROJECT	TOTAL			BLUE-GREEN			GREEN			FLAGELLATES			DIATOMS		
	ASU/ml		%	ASU/ml		%	ASU/ml		%	ASU/ml		%	ASU/ml		%
	applied	eff	redn	applied	eff	redn	applied	eff	redn	applied	eff	redn	applied	eff	redn
Region I - Southwestern															
Union	3000	1440	52	272	192	29	361	148	59	96	31	68	2350	1106	53
Region II - West Central															
Dunnville	1200	245	80	68	8	88	321	21	93	111	52	53	741	164	78

TABLE X **CHEMICALS USED**

PROJECT	CHLORINE 10^3 lb	SODIUM HYPOCHLORITE gallons	ALUM LIQUID 10^3 gal	ALUM DRY 10^3 lb	SODIUM SILICATE 10^3 lb	SODIUM BICARBONATE 10^3 lb	POLYMER lb.	LIME $Ca(OH)_2$ 10^3 lb	SODA ASH 10^3 lb	ACTIVATED CARBON 10^3 lb	SODIUM CHLORITE 10^3 gal	POT. PERMANG. lb.	D. E. 10^3 lb	SODIUM CHLORIDE 10^3 lb	FLUORIDE H_2SiF_6 gallons	FLUORIDE Na_2SiF_6 10^3 lb
SURFACE WATER SUPPLIES																
Region I - Southwestern																
Amherstburg	12		18		24										18.2	
Belle River	4.3		22		5	1.0										
Blandford-Blenheim Twp.	3.3		6.4		12	3.0										1.7
Comber Twp.	N/A															
Dresden	4.6			82	38	8.0		114				590				
Elgin Area WSS	29			232												16.7
Goderich	6.1		9.2		7	1.7										3.3
Harrow		N/A														
Kent County WSS	4.0															
Lake Huron	137		62													
Lambton Area WSS	51			52												14.6
Meaford	3.3															
Southampton	2.2												47			
Union WSS	52		81		29	6.6				4.6						
Watford, Wyoming, Plympton WSS		N/A														
Region II - West Central																
Dunnville	33															
Region III - Central																
Bobcaygeon	1.1									.37			17			
Fenelon Falls	1.9															
Hastings	2.2															
South Peel - Lakeview	146		124								45					413
Warkworth - Percy Twp.		605		1.6												
Region IV - Southeastern																
Bancroft		436														
Chalk River	.93															
Eganville		910		1.9												
Marmora	.93												15.4			
Renfrew	1.1															
Rockland	8.4			93			925	45								
Region V - Northeastern																
Bruce Mines	.04															
Cache Bay		237														
Caldwell Twp. - Verner	.09			3.5	.7	.2			1.6							
Espanola	3.6															3.5
Haileybury	4.6			89	2.1		604	8	12		.5					
Latchford	.10			1.7	314	110			.16							
Michipicoten Twp. (Wawa)	1.2															
Moosonee		1412		43	10	2.5	157		15						.4	
Shackleton-Machin Twp.		688		12			79	.6	4							
Wanapitei - Sudbury WSS	44		63				2359	178	1.6		8.6					20
Region VI - Northwestern																
Ear Falls	.8															
Emo Twp.	1.2		2.7				79		13							
Geraldton	3.9															
Machin Twp. (Vermillion Bay)		11														
Red Lake Twp.	3.6															
GROUND WATER SUPPLIES																
Region I - Southwestern																
Hanover																
Milverton																
Mitchell																
Thedford																
Van Astra	.2															
Zurich																
Region II - West Central																
Brantford Twp.		122														
Cambridge (Preston	N/A															
Orangeville	N/A															
Woolwich Twp. (St. Jacobs)		233														
Region III - Central																
Anson, Hindon & Minden		138														
Bradford		480														
Caledon (Bolton)		N/A														
Caledon (Caledon East)		N/A														
Cookstown		N/A														
Elmvale		N/A														
Havelock		168														
King Twp. - Schomberg		1752												126		
Markham - Don Mills	3.2															
- German Mills	-															
- Steeles Ave.	2.3															
- Pharmacy	.1				5.5											
Richmond Hill																
Richmond Hill - Oak Ridges																
Stayner																
Woodville Twp.		73														
Region IV - Southeastern																
Alfred		661														
Bourget																
Chesterville		433			4.6											
Frankford		142														
L'Orignal		70														
Merrickville																
Plantagenet																
Vankleek Hill		369														
Wellington		629														
Westport		80														
Winchester		347														
Region V - Northeastern																
Black River Twp. - Matheson, Ramore																
Blezard Valley Area	1.5															
Blind River																
Fauquier Twp. (Moonbeam)		479														
North Himsworth (Callander)		27														
Warren-Ratter-Dunnet																

TABLE XI

FILTER OPERATION

PROJECT	TYPE OF FILTER	NUMBER and SIZE OF FILTERS n x sq. ft.	AVERAGE TURBIDITY FORMAZIN UNITS		FILTER RUN hours		FILTER WASH WATER USED
			APPLIED	FILTERED	AVERAGE	MINIMUM	% of output
SURFACE WATER PROJECTS							
Region I - Southwestern							
Amherstburg	Gravity, dual media	4 x 416	3.5	.6	68	48	6
Belle River	Gravity, dual media	3 x 29	19.0	1.5			3
Blandford Twp. - Blenheim	Gravity, dual media	3 x 79	11.8	.9	13	8	4
Elgin Area W. S. S.	Gravity, dual media	2 x 1040	37.0	.1	65	37	4
Goderich	Gravity, dual media	4 x 144	3.7	.7	41	14	4
Lake Huron W. S. S.	Gravity, dual media	12 x 1100	11.3	.7	42	4	7
Lambton			3.1	1.4	40	13	6
Meaford	Gravity, anthracite	2 x 625	1.6	.7	24	23	3
Southampton	Pressure, D. E.	2 x 206	9.4	3.2	-	-	2
Union W. S. S.	Gravity, dual media	4 x 650	1.5	.8	-	-	2
Region III - Central							
Bobcaygeon	Vacuum, D. E.	1 x 180	2.4	.7	96	24	2
Fenelon Falls	Pressure, sand	2 x 50	1.2	.6	47	18	1
South Peel (Lakeview)	Gravity, dual media	18 x 1000	6.8	.4	44	17	2
Warkworth- Percy Twp.	Gravity, sand	1 x 35	N/A				
Region IV - Southeastern							
Eganville	Pressure, sand	2 x 38	3.3	2.8	11	4	
Marmora	Vacuum D. E.	8 x 16	N/A				
Rockland	Gravity, dual media	2 x 113	4.6	.1			
Region V - Northeastern							
Caldwell Twp (Verner)			5.8	1.3	-	-	12
Haileybury	Gravity, dual media	3 x 140	2.6	2.4	82	50	2
Latchford			2.8	.5	6	2	11
Moosonee	Gravity, sand	2 x 28	2.9	2.2	16	16	1
Shackleton - Machin Twp.	Gravity	1 x 20	3.9	1.1	-	-	7
Wanapitae	Reactivators (2)		.5	.2	53	12	2
Region VI - Northwestern							
Emo Twp.	Gravity, multi media	1 x 23	5.3	1.6	-	-	13
GROUND WATER PROJECTS (IRON REMOVAL PLANTS)							
Region I - Southwestern							
Mitchell	Pressure, anthracite	1 x 200	4.8	.3	-	-	2
Region II - West Central							
Woolwich Twp.	Pressure	2 x 13					5
Region III - Central							
Markham - John Street	Pressure	2 x 78					
- Steeles Avenue	Gravity, sand	1 x 182	N/A				
Richmond Hill - Oak Ridges	Pressure, anthracite	4 x 33					
Region V - Northeastern							
Fauquier Twp. (Moonbeam)	Pressure, sand	2 x 13	2.5	1.3			

TABLE XII

WASTE STREAMS-CHARACTERISTICS

PROJECT	FILTER WASH WATER					SLUDGE FROM CLARIFIER/SETTLING BASIN				
	TOTAL VOLUME 10^6 gallons	BOD mg/l	S.S. mg/l	TOTAL PHOSPHORUS mg/l P	KJELDAHL NITROGEN mg/l N	TOTAL VOLUME 10^6 gallons	BOD mg/l	S.S. mg/l	TOTAL PHOSPHORUS mg/l P	KJELDAHL NITROGEN mg/l N
Region I - Southwestern										
Amherstburg	19.63	3.6	270	.3	-	3.05	8.0	6800	4.0	
Dresden							-	3800	4.3	
Goderich	13.30									
Lake Huron WSS	603.5									
Union WSS	28.95									
Region II - West Central										
Woolwich Twp.	1.12	2.3	254	.3	.5					
Region III - Central										
Bobcaygeon	.61	116.0	18000	8.9	.8		4.2	17	.09	.06
King Twp. - Schomberg	.66	2.7	24	1.0	4.1		4.2	29	.40	3.9
South Peel - Lakeview	283.2	12.0	567	1.7	-					
Warkworth Twp.		.8	22	.10	.9					
Region IV - Southeastern										
Marmora										
Rockland		4.4	291	.8	6		15.4	1700	3.1	14.5
Region V - Northeastern										
Haileybury	3.02	5.5	770	.5			11.0	4140	-	2.0
Latchford	.16	3.6	420	-			-	-	.02	-
Moosonee	.45									
Wanapitei	31.03					2.1	-	9046	-	-

Table XIII

PROJECT STAFF

PROJECT	SUPERINTENDENT	ASS'T SUP'T.	CHIEF OPERATOR	SENIOR OPERATOR	OPERATOR	FOREMAN	MECHANIC	ELECTRICIAN	CONTROLS TECH.	LABORATORY TECH.	GROUNDSMAN/JANITOR	LABOURER	CASUAL	PART-TIME	OTHER	TOTAL
SURFACE WATER																
Region I - Southwestern																
Amherstburg	1				5		1									7
Belle River			1		2		1									4
Blenheim			1		2		1									4
Dresden e																
Elgin Area WSS	1	1			6		1	2	1		1	1	1.5			15.5
Goderich			1		4								.75			5.7
Harrow	1				3											4
Kent Area WSS b																
Lake Huron WSS c	1	1			10	2		1	1		1		1	2	1	21
Lambton Area WSS c	1	1			6	3	2	1								14
Meaford			1		1											2
Southampton a			.5		.5											1
Union WSS	1	1			5		2				2					11
Watford, etc.															.25	.25
Region II - West Central																
Dunnville	1				5		2									8
Region III - Central																
Bobcaygeon			1													1
Fenelon Falls			1										.25			1.25
Hastings															.5	.5
Percy Twp. (Warkworth)															.5	.5
South Peel WSS	1		1		16		5		2		2		2			.29
Region IV - Southeastern																
Bancroft e																
Chalk River a			.2		.4											.6
Eganville			.33		.33											.66
Marmora e																
Renfrew	1				3		1									5
Rockland			.88		.86											1.75
Region V - Northeastern																
Bruce Mines g	.1				.5								.5			1.1
Cache Bay e																
Caldwell Twp. (Verner)	.05				.75								.75			1.55
Espanola a	.5				.5								.12			1.12
Haileybury a	.59				1.32		.66						.33			2.9
Latchford g	.05				.5								.25			.8
Michipicoten Twp. e																
Moosonee e	.5				.5								.12			1.12
Shackleton - Machin Twp g	.45												.17			.62
Wanapitei WSS h	.8				6		1		1				.5			9.3
Region VI - Northwestern																
Ear Falls a			.5													.5
Emo Twp. a			.5													.5
Geraldton			.5													.5
Machin Twp.															.4	.4
Red Lake a			.5		.5											1

PROJECT	SUPERINTENDENT	ASS'T. SUP'T.	CHIEF OPERATOR	SENIOR OPERATOR	OPERATOR	FOREMAN	MECHANIC	ELECTRICIAN	CONTROLS TECH.	LABORATORY TECH.	GROUNDSMAN/JANITOR	LABOURER	CASUAL	PART-TIME	OTHER	TOTAL
GROUND WATER																
Region I - Southwestern																
Hanover														.25		.25
Milverton														.25		.25
Mitchell															.25	.25
Thedford															.25	.25
Van Astra a			.5		.5											1
Region II - West Central																
Brantford Twp e																
Orangeville e																
Shelburne a															1	1
Woolwich Twp. (St. Jacobs)			.33		.33							.2				.86
Region III - Central																
Anson Hinden and Minden														.5		.5
Bradford															.25	.25
Caledon (Bolton)															.25	.25
Caledon (Caledon East)														.33		.33
Cookstown															.5	.5
Elmvale															.5	.5
Havelock															.5	.5
King Twp. - Schomberg														.5		.5
Markham			1		2											.3
Richmond Hill															.33	.33
Richmond Hill - Oak Ridges															.33	.33
Stayner															.5	.5
Woodville															.25	.25
Region IV - Southeastern																
Alfred e																
Bourget e																
Chesterville a			.4													.4
Frankford a			.25		.5											.75
L'Orignal a			.5		.5											1
Merrickville a			.25		.25								.25			.75
Plantagenet					.5											.5
Vankleek Hill			.5													.5
Wellington													.5			.5
Westport a			.5		.5								.25			.75
Winchester a			.5		.5											1
Region V - Northeastern																
Blezard Valley f	.2			1	1											2.2
Blind River e																
Fauquier Twp.	.15															.15
Black R. - Matheson e (Ramore)																
North Himsworth (Callendar)														.4		.4
Warren														.25		.25

a: operates sewage project (s) also
b: jointly operated with Blenheim WTP
c: foreman is maintenance foreman
maintenance assistant is also shown
d: electrician is maintenance foreman
e: operated by the municipality
f: senior operator
g: supervised by Sault Ste Marie WPCP superintendent
h: controls technician is instrumentation technician

OPERATING EXPENDITURES

The cost of operation of the water supply projects during 1973 are tabulated in Tables XIV and XV for surface water and ground water projects respectively. The cost of head office supervision, including travel, accounting, purchasing and inspection, is not charged against the projects.

An explanation of items included in each of the budget categories follows:

	EXPLANATION
SALARIES & WAGES	
Regular & Probationary	includes overtime, call-in, standby, etc.
Unclassified	includes casual, part-time
EMPLOYEE BENEFITS	includes employers share Canada Pension Plan, Superannuation, Unemployment Insurance, Workman's Compensation, etc.
TRANSPORTATION & COMMUNICATION	includes travel, telephone, telemetering, accommodation, etc.
SERVICES	includes easements, insurance, sludge haulage, maintenance and repair, leases.
SUPPLIES & EQUIPMENT	includes new vehicles, chemicals, power, fuel, water, treatment chemicals, small tools, petty cash.

ACQUISITION/CONSTRUCTION OF PHYSICAL ASSETS	includes new sewer or water connections.
TRANSFER PAYMENTS	includes grants in lieu of taxes (provincial).
OTHER TRANSACTIONS	includes municipal taxes.

Unit costs are shown in Tables XIV and XV only for those plants for which the entire cost of operation is charged to the project. Many of the smaller projects are operated by municipal staff whose salaries are not included in the cost shown here.

Graph no. 2 relates the total cost of operation to plant size, considering two separate groups of plants: those providing "complete treatment and those providing microstraining only, iron removal or chemical treatment only. Graph no. 3 displays the relation of unit, cost of operation to plant size for the same two groups of plants.

TABLE XIV
SURFACE WATER SUPPLIES

OPERATING EXPENDITURES

PROJECT	UNIT COST ¢/1000 gallons	GRAND TOTAL	Regular Staff	Casual (Unclassified) Staff	TOTAL SALARIES AND WAGES	TOTAL EMPLOYEE BENEFITS	TOTAL TRANSPORTATION AND COMMUNICATIONS	Insurance	Repairs and Maintenance
SURFACE WATER SUPPLIES									
Region I - Southwestern									
Amherstburg	47	168,188	96,594	3,045	99,639	10,773	2,368	2,330	3,687
Belle River		1,561	593	-	593	-	40	790	-
Blandford-Blenheim Twp.	43	71,239	41,543	10,994	52,537	6,805	1,579	224	448
Comber Twp.		5,408	881	2,825	3,706	78	213	95	50
Dresden		7,206	91	-	91	438	52	448	-
Elgin Area WSS	28	395,718	155,214	23,061	178,275	23,071	6,219	9,177	7,135
Goderich	34	113,045	70,085	8,301	78,386	8,040	2,202	1,253	23
Harrow		58,238	27,308	-	27,308	1,879	5,787	410	1,149
Kent County WSS		57,254	15,685	-	15,685	-	2,264	1,808	629
Lake Huron	8	754,095	220,921	18,887	239,808	35,922	4,323	15,340	13,467
Lambton Area WSS		428,011	169,232	2,081	171,313	18,566	4,092	2,679	174
Meaford	9	30,411	-	-	-	-	-	643	4,915
Southampton	14	22,560	12,290	195	12,485	-	757	530	1,214
Union WSS	16	294,883	136,216	-	136,216	16,229	7,338	4,105	11,489
Watford, Wyoming, Plympton WSS		49,776	1,857	-	1,857	-	244	171	255
Region II - West Central									
Dunnville	7	207,821	109,456	1,049	110,505	12,106	1,522	2,853	2,711
Region III - Central									
Bobcaygeon	100	27,905	14,871	2,235	17,106	1,621	679	393	2,041
Fenelon Falls		41,965	29,411	1,286	30,697	2,555	1,789	190	207
Hastings		5,892	-	-	-	-	322	119	2,726
South Peel - Lakeview	10	1,373,586	434,942	12,660	447,602	48,835	8,536	27,030	10,704
Warkworth - Percy Twp.		9,078	-	6,081	6,081	166	126	99	203
Region IV - Southeastern									
Bancroft		193	-	-	-	-	-	(1)	1
Chalk River		12,455	7,047	-	7,047	-	660	108	357
Eganville	42	14,201	8,544	-	8,544	-	628	205	2,849
Marmora		3,153	249	-	249	401	69	203	-
Renfrew		75,144	47,580	-	47,580	3,274	942	1,496	440
Rockland	27	54,759	23,272	686	23,958	3,179	1,680	447	399
Region V - Northeastern									
Bruce Mines		5,091	3,746	-	3,746	-	192	-	-
Cache Bay		329	79	-	79	-	-	30	-
Caldwell Twp. - Verner		12,860	5,365	1,645	7,010	-	48	-	-
Espanola	14	25,133	14,452	-	14,452	944	358	131	231
Haileybury	55	100,892	36,805	5,445	42,250	2,820	3,808	1,304	6,824
Latchford		9,070	4,254	330	4,584	199	21	-	-
Michipicoten Twp. (Wawa)		663	233	-	233	-	-	38	360
Moosonee		36,510	13,617	785	14,402	1,032	644	543	800
Shackleton - Machin Twp.		30,277	8,991	1,884	10,875	663	1,856	217	3,818
Wanapitei	17	249,190	119,567	4,628	124,195	12,975	4,102	2,433	1,450
Region VI - Northwestern									
Ear Falls		14,669	4,772	-	4,772	341	763	215	260
Emo Twp.	184	31,341	14,897	2,448	17,345	1,396	1,226	253	664
Geraldton		18,592	15,671	828	16,499	1,265	-	237	-
Machin Twp. (Vermillion Bay)		179	-	-	-	-	134	-	-
Red Lake Twp	18	32,646	20,630	-	20,630	1,605	367	275	2,603

Note: Brackets indicate credit.

TABLE XIV

OPERATING EXPENDITURES

PROJECT	Other Services	TOTAL SERVICES	Machinery and Equipment	Chemicals	Utilities	Other Supplies and Equipment	TOTAL SUPPLIES AND EQUIPMENT	TOTAL AQUISITION/ CONSTRUCTION OF PHYSICAL ASSETS	TOTAL TRANSFER PAYMENTS	OTHER TRANSACTIONS
Region I - Southwestern										
Amherstburg	256	6,273	1,342	10,083	25,055	5,992	42,472	-	-	6,663
Belle River	138	928	-	-	-	-	-	-	-	-
Blandford - Blenheim Twp.	1,265	(593)	322	5,145	1,687	1,961	9,115			1,796
Comber Twp.	483	628	-	-	339	388	727	-	-	56
Dresden	7	455	802	3,600	1,064	-	5,466	-	-	704
Elgin Area WSS	8,124	24,436	9,528	15,893	83,154	28,505	137,080	4,940	20	21,677
Goderich	404	1,680	195	7,042	10,136	2,603	19,976	-	-	2,761
Harrow	1,019	2,578	6,607	3,980	4,765	5,334	20,686	-	-	-
Kent County WSS	2,878	5,315	299	193	28,878	324	29,694	-	-	4,296
Lake Huron	5,812	34,619	11,076	67,673	315,115	26,183	420,047	991	-	18,385
Lambton Area WSS	2,331	5,184	16,067	20,079	156,923	35,626	228,695	-	-	161
Meaford	24,558	30,116	295	-	-	-	295			
Southampton	780	2,524	289	891						
Union WSS	5,786	21,362	2,274	35,038	51,043	9,719	98,074	-	-	15,664
Watford, Wyoming, Plympton WSS	84	510	-	56	46,941	168	47,165	-	-	-
Region II - West Central										
Dunnville	423	5,987	3,188	4,575	60,573	5,143	73,479	-	-	4,222
Region III - Central										
Bobcaygeon	225	2,659	-	2,279	2,067	1,321	5,667	-	-	173
Fenelon Falls	324	721	114	714	3,285	2,085	6,198	-	-	5
Hastings	80	2,925	-	616	2,017	7	2,640	-	-	5
South Peel - Lakeview	42,228	79,962	19,275	92,552	535,374	25,975	673,176	-	-	115,475
Warkworth - Percy Twp.	-	302	136	1,101	1,161	5	2,403	-	-	-
Region IV - Southeastern										
Bancroft	-	-	-	169	(1)	-	168	-	-	25
Chalk River	1,581	2,046	74	-	1,296	1,332	2,702	-	-	-
Eganville	363	3,417	-	1,451	3	158	1,612	-	-	-
Marmora	-	203	-	2,185	-	-	2,185	-	-	46
Renfrew	110	2,046	2,281	9,297	7,707	1,992	21,277	-	-	25
Rockland	306	1,152	5,918	7,971	9,246	1,655	24,790	-	-	-
Region V - Northeastern										
Bruce Mines	28	28	111	243	656	115	1,125	-	-	-
Cache Bay	-	30	-	220	-	-	220			
Caldwell Twp. - Verner	122	122	1,612	2,666	875	527	5,680	-	-	-
Espanola	53	415	329	2,181	5,288	1,166	8,964	-	-	-
Haileybury	926	9,054	5,539	10,478	16,184	2,917	35,118	-	-	7,842
Latchford	-	-	1,266	1,294	-	1,706	4,266	-	-	-
Michipicoten Twp. (Wawa)	-	398	32	-	-	-	32			
Moosonee	14	1,357	67	9,198	9,488	322	19,075	-	-	-
Shackleton - Machin Twp.	5,362	9,397	375	2,140	3,205	1,516	7,236	250	-	-
Wanapitei	2,538	6,421	13,441	28,443	51,100	8,513	101,497			
Region VI - Northwestern										
Ear Falls	232	707	590	1,674	3,448	1,029	6,740	-	-	1,346
Emo Twp.	434	1,351	692	4,238	15	4,878	9,823	200	-	-
Geraldton	-	237	-	450	-	141	591	-	-	-
Machin Twp. (Vermillion Bay)	-	-	-	-	-	45	45	-	-	-
Red Lake Twp.	24	2,902	332	1,377	4,208	1,225	7,142	-	-	-

Note: Brackets indicate credit.

TABLE XV
GROUND WATER SUPPLIES

OPERATING EXPENDITURES

PROJECT	UNIT COST ¢/1000 gallons	GRAND TOTAL	Regular Staff	Casual (Unclassified) Staff	TOTAL SALARIES AND WAGES	TOTAL EMPLOYEE BENEFITS	TOTAL TRANSPORTATION AND COMMUNICATIONS	Insurance	Repairs and Maintenance
Region I - Southwestern									
Hanover		2,706	-	-	-	-	-	36	-
Milverton		212	17	-	17	-	-	130	-
Mitchell		1,107	53	-	53	732	3	149	-
Thedford		3,119	304	-	304	-	122	97	472
Van Astra	51	25,000	14,622	-	14,622	1,366	657	29	649
Region II - West Central									
Brantford Twp.		(1,202)	(1,723)	-	(1,723)	-	325	196	-
Cambridge (Preston)			147	-	-	-	-	142	-
Orangeville		4,512	-	-	-	-	-	119	-
Woolwich Twp. (St. Jacobs)		25,112	10,731	3,723	14,454	113	613	266	958
Region III - Central									
Anson, Hindon & Minden		5,616	-	2,969	2,969	97	-	38	-
Bradford		3,925	-	-	-	-	-	42	-
Caledon (Bolton)		3,852	-	-	-	-	-	38	-
Caledon (Caledon East)		4,993	-	2,089	2,089	42	-	54	-
Cookstown		545	-	-	-	-	37	65	-
Elmvale		6,126	-	-	-	-	-	28	3,327
Havelock		2,503	-	-	-	-	39	92	-
King Twp. - Schomberg		9,314	-	3,390	3,390	72	332	108	87
Markham	14	134,321	46,364	-	46,364	4,453	2,536	987	9,297
Richmond Hill		1,496	-	-	-	-	-	352	-
Richmond Hill - Oak Ridges		4,746	-	-	-	-	-	-	-
Stayner		90						67	
Woodville Twp.		6,779	-	-	-	-	-	116	5,873
Region IV - Southeastern									
Alfred		4,210	549	462	1,011	-	99	81	-
Bourget		264	225	-	225	-	22	9	-
Chesterville		9,969	8,147	-	8,147	-	202	144	61
Frankford		10,311	5,369	-	5,369	-	197	12	481
L'Orignal		9,721	306	-	306	-	505	40	-
Merrickville		898		-	-	-	-	-	-
Plantagenet		1,668	(2,887)	4,019	1,132	129	147	21	-
Vankleek Hill		21,792	13,271	1,407	14,678	1,132	497	178	6
Wellington		8,632	-	5,350	5,350	160	67	100	-
Westport		11,717	8,471	124	8,595	-	665	94	329
Winchester		13,139	7,290	-	7,290	-	-	194	1,035
Region V - Northeastern									
Black River Twp. - Matheson, Ramor		1,264	-	-	-	-	-	-	-
Blezard Valley Area WSS	19	79,064	42,500	-	42,500	4,798	3,313	1,650	1,376
Blind River		4,335	-	-	-	-	-	19	800
Fauquier Twp. (Moonbeam)		8,233	1,741	823	2,564	346	454	92	-
North Himsworth (Callander)		1,586	1,450	-	1,450	29	-	-	-
Warren - (Ratter-Dunnet)		3,221	2,378	-	2,378	70	-	34	-

Note: Brackets indicate credit.

TABLE XV

OPERATING EXPENDITURES

PROJECT	Other Services	TOTAL SERVICES	Machinery and Equipment	Chemicals	Utilities	Other Supplies and Equipment	TOTAL SUPPLIES AND EQUIPMENT	TOTAL AQUISITION/ CONSTRUCTION OF PHYSICAL ASSETS	TOTAL TRANSFER PAYMENTS	OTHER TRANSACTIONS
Region I - Southwestern										
Hanover	-	36	-	-	2,670	-	2,670	-	-	-
Milverton	10	140	55	-	-	-	55	-	-	-
Mitchell	11	160	-	-	-	153	153	-	-	-
Thedford	37	606	-	118	1,950	19	2,087	-	-	-
Van Astra	-	678	855	6	4,862	1,527	7,250	-	-	483
Region II - West Central										
Brantford Twp.	-	196	-	-	-	-	-	-	-	-
Cambridge (Preston)	5	147	-	-	-	-				
Orangeville	-	119	-	-	-	-				
Woolwich Twp. (St. Jacobs)	(252)	972	658	494	4,393 (110)	3,716	4,393 4,758	204	-	3,998
Region III - Central										
Anson, Hindon I Minden	-	38	16	170	2,276	50	2,512	-	-	-
Bradford	2,615	2,657	-	-	-	-	-	-	-	-
Caledon (Bolton)		38	-	528	3,230	56	3,814	-	-	1,268
Caledon (Caledon East)	-	54	-	-	2,805	3	2,808			
Cookstown	5	70	-	15	-	-	15	-	-	423
Elmvale	2,771	6,126	-	-	-	-	-	-	-	-
Havelock	-	92	59	-	2,313	-	2,372	-	-	-
King Twp. - Schomberg	-	195	64	2,826	1,687	105	4,682	-	-	643
Markham	1,517	11,801	3,661	9,371	53,770	2,365	69,167	-	-	-
Richmond Hill	5	357	-	-	-	-	-	-	-	1,139
Richmond Hill - Oak Ridges	244	244	-	-	3,732	-	3,732	-	-	770
Stayner		67	-	-	-	-	-	-	-	23
Woodville Twp.	355	6,344	-	-	364	71	435	-	-	-
Region IV - Southeastern										
Alfred	8	89	310	-	2,423	-	2,733	-	-	278
Bourget	8	17	-	-	-	-	-	-	-	-
Chesterville	15	220	1,031	361	-	-	1,400	-	-	-
Frankford	62	555	52	183	3,498	47	3,780	-	-	410
L'Orignal	20	60	4,496	264	1,011	3,063	8,834	-	-	16
Merrickville	723	723	-	107	-	68	175	-	-	-
Plantagenet	37	58	21	-	-	181	202	-	-	-
Vankleek Hill	15	199	88	397	3,009	156	3,650	1,428	-	208
Wellington	-	100	352	824	1,120	45	2,341	-	-	614
Westport	118	541	75	199	1,144	498	1,916	-	-	-
Winchester	-	1,229	-	548	4,018	21	4,587	-	-	33
Region V - Northeastern										
Black River Twp.-Matheson, Ramor	67	67	-	-	1,197	-	-	-	-	-
Blezard Valley Area WSS	3,184	6,210	1,555	1,067	15,100	3,715	21,437	-	-	806
Blind River	-	819	-	-	3,516	-	3,516	-	-	-
Fauquier Twp. (Moonbeam)	-	136	836	576	2,812	509	4,733	-	-	-
North Himsworth (Callander)	-	-	-	107	-	-	107	-	-	-
Warren (Ratter-Dunnet)	-	34	-	-	739	-	739	-	-	-

Note: Brackets indicate credit.

APPENDIX - MONTHLY OPERATING DATA

GROUND WATER -

MONTHLY FLOWS

REGION I

SOUTHWESTERN

FLOWS

PROJECT HANOVER

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	7.725	.249	-	-
FEB	5.154	.184	-	-
MAR	6.496	.210	-	-
APR	6.486	.216	-	-
MAY	7.725	.249	-	-
JUN	8.360	.279	-	-
JUL	13.420	.433	-	-
AUG	11.380	.367	-	-
SEP	8.460	.282	-	-
OCT	8.580	.277	-	-
NOV	7.340	.245	-	-
DEC	8.060	.260	-	-
TOTAL	99.186	/////	/////	/////
AVG.	/////	.272	/////	/////
MAX.	/////	/////	-	-

PROJECT THEDFORD

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.531	.049	.055	
FEB	1.242	.043	.055	
MAR	1.310	.042	.062	
APR	1.339	.045	.056	
MAY	1.541	.050	.078	
JUN	1.618	.054	.098	
JUL	2.451	.079	.110	
AUG	1.736	.056	.098	
SEP	1.352	.045	.072	
OCT	1.733	.056	.080	
NOV	1.523	.051	.090	
DEC	1.632	.053	.083	
TOTAL	19.008	/////	/////	/////
AVG.	/////	.052	/////	/////
MAX.	/////	/////	.110	

FLOWS

PROJECT VAN ASTRA

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	4.187	.135	.154	-
FEB	3.860	.138	.172	-
MAR	4.503	.145	.186	-
APR	4.302	.143	.201	-
MAY	4.107	.132	.188	-
JUN	3.766	.126	.166	-
JUL	4.087	.132	.164	-
AUG	3.818	.123	.159	-
SEP	3.390	.113	.186	-
OCT	4.113	.133	.175	-
NOV	4.479	.137	.255	-
DEC	4.199	.135	.177	-
TOTAL	48.811	/////	/////	/////
AVG.	/////	.134	/////	/////
MAX.	/////	/////	.255	-

PROJECT MITCHELL

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	15.974	.515	.609	1.008
FEB	14.320	.511	.599	.749
MAR	15.749	.508	.584	.806
APR	15.745	.525	.609	.979
MAY	15.454	.499	.607	1.152
JUN	15.513	.517	-	1.065
JUL	16.991	.548	1.065	1.154
AUG	14.795	.477	.600	1.353
SEP	14.667	.489	.535	1.008
OCT	14.374	.464	.530	.893
NOV	13.380	.446	.525	1.440
DEC	14.071	.454	.509	.835
TOTAL	165.733	/////	/////	/////
AVG.	/////	.454	/////	/////
MAX.	/////	/////	1.065	1.440

REGION 2

WEST CENTRAL

FLOWS

PROJECT BRANTFORD

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	3.500	.113	.220	
FEB	2.877	.103	.155	
MAR	3.550	.114	.173	
APR	3.060	.102	.163	
MAY	4.200	.135	.197	
JUN	4.010	.134	.202	
JUL	4.580	.147	-	
AUG	3.935	.127	.254	
SEP	3.124	.104	.169	
OCT	3.197	.103	.155	
NOV	3.216	.107	.168	
DEC	3.113	.100	.159	
TOTAL	42.362	/////	/////	/////
AVG.	/////	.116	/////	/////
MAX.	/////	/////	.254	

PROJECT ORANGEVILLE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	29.280	.94		-
FEB	24.860	.89		-
MAR	26.930	.87	-	
APR	27.319	.91		-
MAY	36.215	1.168	-	
JUN	32.851	1.095	-	
JUL	40.838	1.317	-	-
AUG	36.246	1.169	-	
SEP	29.703	.990	-	-
OCT	30.203	.974	-	-
NOV	28.330	.944	-	-
DEC	29.783	.961	-	-
TOTAL	372.558	/////	/////	/////
AVG.	/////	1.021	/////	/////
MAX.	/////	/////	-	

FLOWS

PROJECT WOOLWICH

MONTH	TOTAL FLOW Mil. Gal	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	2.146	.069	.102	-
FEB	1.819	.065	.113	-
MAR	1.152	.037	.069	-
APR	2.446	.082	-	
MAY	meter O/S	-		-
JUN	1.493	.050	.081	-
JUL	2.970	.096	-	-
AUG	2.083	.067	.105	-
SEP	1.399	.047	.080	
OCT	2.680	.086	-	-
NOV	2.287	.070	.131	
DEC	1.949	.063	.151	
11 month TOTAL	22.424	/////	/////	/////
AVG.	/////	.067	/////	/////
MAX.	/////	/////	.151	

PROJECT _____

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

REGION 3

CENTRAL

FLOWS

PROJECT ANSON, HINDON and MINDEN

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.688	.054	.064	-
FEB	1.535	.054	.066	-
MAR	1.743	.056	.067	-
APR	1.488	.050	.062	-
MAY	1.935	.062	.081	-
JUN	1.952	.065	.092	-
JUL	2.148	.069	.094	-
AUG	1.872	.060	.072	-
SEP	N/A			
OCT	N/A			
NOV	N/A			
DEC	N/A			
TOTAL	est 22.000	/////	/////	/////
AVG.	/////	.059	/////	/////
MAX.	//////	/////		

PROJECT BRADFORD

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.952	.063	.167	-
FEB	1.728	.062	.143	-
MAR	1.964	.063	.157	-
APR	2.499	.083	.240	-
MAY	4.750	.153	.268	-
JUN	5.976	.199	.387	-
JUL	6.340	.205	.431	-
AUG	4.409	.142	.349	-
SEP	2.901	.097	.209	-
OCT	4.936	.159	.505	-
NOV	19 days 1.923	.101	.169	-
DEC	1.669	.054	-	-
TOTAL	39.290	/////	/////	/////
AVG.	/////	.108	/////	/////
MAX.	//////	/////	.431	

FLOWS

PROJECT CALEDON (BOLTON)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	N/A			
FEB	N/A			
MAR	N/A			
APR	N/A			
MAY	N/A			
JUN	N/A			
JUL	N/A			
AUG	N/A			
SEP	N/A			
OCT	N/A			
NOV	N/A			
DEC	N/A			
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

PROJECT CALEDON (CALEDON EAST)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.235	.040	.066	
FEB	1.087	.039	.056	
MAR	1.168	.038	.051	-
APR	1.445	.048	.071	
MAY	2.387	.077	* .223	-
JUN	2.574	.083	.243	-
JUL	4.055	.131	.311	-
AUG	2.788	.090	.224	-
SEP	1.408	.047	.086	-
OCT	1.433	.046	.070	-
NOV	1.166	.039	.054	-
DEC	1.218	.039	.060	-
TOTAL	21.964	/////	/////	/////
AVG.	/////	.060	/////	/////
MAX.	/////	/////	.311	

*flushing water mains.

FLOWS

PROJECT COOKSTOWN

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	11.786	.380	.491	-
FEB	10.393	.371	.465	-
MAR	11.672	.377	.505	-
APR	11.638	.388	.545	-
MAY	14.671	.473	.667	-
JUN	14.664	.489	.613	-
JUL	16.300	.526	.708	-
AUG	15.221	.491	.619	-
SEP	13.220	.441	.509	-
OCT	13.221	.426	.555	-
NOV	12.928	.431	.603	-
DEC	13.031	.420	.519	-
TOTAL	158.745	/////	/////	/////
AVG.	/////	.435	/////	/////
MAX.	/////	/////	.708	-

PROJECT ELMVALE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	3.790	.122	.205	-
FEB	3.368	.120	.167	
MAR	4.046	.131	.208	-
APR	4.201	.140	.221	-
MAY	4.551	.147	.257	-
JUN	4.917	.164	.327	-
JUL	6.613	.220	.381	-
AUG	4.421	.143	.234	-
SEP	3.626	.121	.199	-
OCT	3.710	.120	.169	
NOV	3.636	.121	.202	-
DEC	3.740	.121	.173	-
TOTAL	50.619	/////	/////	/////
AVG.	/////	.139	/////	/////
MAX.	/////	/////	.381	-

FLOWS

PROJECT HAVELOCK

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	3.985	.129	-	-
FEB	3.447	.123	-	-
MAR	4.194	.135	-	
APR	3.461	.115	-	-
MAY	3.577	.115	-	-
JUN	3.110	.104	-	-
JUL	3.991	.129	-	-
AUG	3.402	.110	-	
SEP	2.356	.079	-	-
OCT	2.356	.079	-	-
NOV	2.696	.090	-	-
DEC	3.178	.102	-	-
TOTAL	39.753	/////	/////	/////
AVG.	/////	.109	/////	/////
MAX.	//////	/////	-	

PROJECT KING TOWNSHIP (SCHOMBURG)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1,324	.043	.055	-
FEB	1.212	.043	.049	-
MAR	1.315	.042	.059	-
APR	1.272	.042	.056	-
MAY	1.768	.057	.091	-
JUN	1.824	.061	.094	-
JUL	2.367	.076	.133	-
AUG	1.470	.047	.075	-
SEP	1.232	.041	.052	-
OCT	1.579	.051	.064	-
NOV	1.541	.051	.061	-
DEC	1.521	.049	.061	-
TOTAL	18.425	/////	/////	/////
AVG.	/////	.050	/////	/////
MAX.	//////	/////	.133	-

FLOWS

MARKHAM TOWNSHIP

PROJECT #1 GERMAN MILLS WELL

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	0			
FEB	13.28	.63	.86	
MAR	22.65	.73	1.00	
APR	21.84	.70	1.00	
MAY	30.78	1.03	1.62	
JUN	22.32	.74	1.00	
JUL	20.87	.67	.93	
AUG	19.68	.68	.97	
SEP	13.95	.47	.86	
OCT	14.36	.55	.71	
NOV	9.34	.47	.74	
DEC	N/A			
11 mo. flow TOTAL	189.07	/////	/////	/////
AVG.	/////	.68	/////	/////
MAX.	/////	/////	1.62	

MARKHAM TOWNSHIP

PROJECT SABISTON WELL or #2 GERMAN MILLS

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	39.72	1.28	1.62	
FEB	31.08	1.11	1.56	
MAR	19.74	.73	1.50	
APR	25.26	.94	1.38	
MAY	19.12	.74	.93	
JUN	29.70	1.02	1.56	
JUL	29.10	.97	1.56	
AUG	27.60	.99	1.56	
SEP	22.98	.77	1.56	
OCT	32.04	1.03	1.50	
NOV	25.62	.88	1.32	
DEC	N/A			
TOTAL	301.96	/////	/////	/////
AVG.	/////	.96	/////	/////
MAX.	/////	/////	1.62	

FLOWS

PROJECT MARKHAM STEELES AVENUE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	0	-	-	-
FEB	0		-	-
MAR	12.22	.87	-	-
APR	5.70	.95	-	-
MAY	29.46	.95	-	
JUN	20.94	.91	-	
JUL	28.44	.92	-	-
AUG	29.46	.98	-	
SEP	29.51	.98	-	-
OCT	29.46	.95		
NOV	28.39	.95	-	
DEC	N/A			
TOTAL	213.58	/////	/////	/////
AVG.	/////	.93	/////	/////
MAX.	/////	/////	-	-

PROJECT MARKHAM - PHARMACY

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	-		-	
FEB	-	-		-
MAR			-	-
APR	-	-	-	-
MAY		-	-	-
JUN	24.87	.89	.97	
JUL	13.98	.82	1.12	-
AUG	9.02	.82	1.04	-
SEP	0	-	-	-
OCT	0	-	-	
NOV	0			
DEC	N/A			
TOTAL	47.87	/////	/////	/////
AVG.	/////	.85	/////	/////
MAX.	/////	/////	1.12	

FLOWS

PROJECT MARKHAM AREA TOTAL

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	65.01	2.10		
FEB	68.74	2.46		
MAR	77.00	2.48		
APR	78.47	2.62		
MAY	106.94	3.45		
JUN	108.24	3.61		
JUL	113.88	3.67		
AUG	106.95	3.45		
SEP	86.72	2.89		
OCT	91.63	2.96		
NOV	70.48	2.35		
DEC	N/A	-		
TOTAL	974.06	/////	/////	/////
AVG.	/////	2.92	/////	/////
MAX.	/////	/////		

PROJECT DON MILLS

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	25.29	.83	1.022	1.040
FEB	24.38	.87	1.037	1.120
MAR	22.39	.72	.924	1.120
APR	25.67	.86	.983	1.180
MAY	27.58	.89	1.171	1.560
JUN	10.41	.45	.832	1.500
JUL	21.50	.74	1.151	1.460
AUG	21.19	.82	1.339	1.650
SEP	20.28	.68	.993	1.500
OCT	15.77	.66	.856	1.100
NOV	7.13	.55	.609	.800
DEC	N/A			
11 month TOTAL	221.59	/////	/////	/////
AVG.	/////	.66	/////	/////
MAX.	/////	/////	1.339	1.650

FLOWS

PROJECT RICHMOND HILL

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	6.699	.216	.431	
FEB	5.823	.208	.312	
MAR	N/A			
APR	N/A			
MAY	N/A			
JUN	N/A			
JUL	N/A			
AUG	N/A			
SEP	N/A			
OCT	N/A			
NOV	N/A			
DEC	N/A			
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	//////	/////		

PROJECT RICHMOND HILL (OAK RIDGES)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	3.253	.104	.140	
FEB	2.760	.099	.123	
MAR	N/A			
APR	N/A			
MAY	N/A			
JUN	N/A			
JUL	N/A			
AUG	N/A			
SEP	N/A			
OCT	N/A			
NOV	N/A			
DEC	N/A			
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	//////	//////		

FLOWS

PROJECT STAYNER

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	6.285	.203	.353	-
FEB	5.843	.209	.333	-
MAR	5.870	.189	.289	-
APR	6.050	.201	.308	
MAY	9.090	.293	.376	-
JUN	7.112	.237	.459	
JUL	est. 12.425	.401	.925	-
AUG	est. 9.510	.307	-	-
SEP	est. 6.390	.213	.213	-
OCT	est. 8.248	.266	-	-
NOV	8.063	.269	-	-
DEC	6.831	.220	.337	-
TOTAL	91.717	/////	/////	/////
AVG.	/////	.251	/////	/////
MAX.	/////	/////	.459	-

PROJECT WOODVILLE TOWNSHIP

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	.321	.010	.036	
FEB	.298	.010	.033	-
MAR	.363	.012	.035	
APR	.344	.011	.044	
MAY	.508	.016	.066	-
JUN	.551	.018	.088	
JUL	.612	.020	.086	-
AUG	16 days .482	.016	.074	-
SEP	.440	.015	.067	-
OCT	.550	.018	.083	-
NOV	.564	.019	.078	-
DEC	.586	.019	.042	-
TOTAL	5.619	/////	/////	/////
AVG.	/////	.015	/////	/////
MAX.	/////	/////	.088	

REGION 4

SOUTHEASTERN

FLOWS

PROJECT ALFRED

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.395	.045		-
FEB	1.495	.053	-	-
MAR	1.693	.054	-	
APR	1.612	.054	-	-
MAY	2.360	.076		-
JUN	1.628	.054	-	-
JUL	2.061	.066		-
AUG	1.204	.039	-	-
SEP	.804	.027	-	-
OCT	1.675	.054	-	-
NOV	1.823	.061	-	-
DEC	3.079	.099	-	-
TOTAL	20.829	/////	/////	/////
AVG.	/////	.057	/////	/////
MAX.	/////	/////	-	-

PROJECT CHESTERVILLE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	2.54	.082	.131	-
FEB	2.31	.082	.112	
MAR	2.62	.084	.115	
APR	N/A			-
MAY	2.51	.081	.146	-
JUN	2.87	.096	.156	
JUL	2.86	.092	.136	
AUG	2.52	.081	.112	
SEP	2.25	.075	.110	
OCT	2.44	.079	.132	-
NOV	2.36	.079	.132	-
DEC	2.79	.090	.107	-
TOTAL	28.07	/////	/////	/////
AVG.	/////	.084	/////	/////
MAX.	/////	/////	.156	

FLOWS

PROJECT FRANKFORD

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	3.620	.120	.32	-
FEB	3.000	.110	.14	-
MAR	3.276	.106	.13	-
APR	3.345	.112	.14	-
MAY	4.895	.158	.33	-
JUN	4.263	.142	.28	-
JUL	8.196	.264	.52	-
AUG	7.672	.247	.35	-
SEP	6.004	.200	.23	-
OCT	5.968	.193	.23	-
NOV	6.896	.230	.36	-
DEC	7.646	.247	.28	-
TOTAL	64.781	/////	/////	/////
AVG.	/////	.177	/////	/////
MAX.	/////	/////	.52	-

PROJECT L'ORIGINAL

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL	*1.996	.117	.156	-
AUG	1.045	.034	.087	-
SEP	1.334	.044	.067	-
OCT	1.458	.047	.070	-
NOV	1.079	.051	.109	-
DEC	1.768	.057	.074	-
TOTAL	8.680	/////	/////	/////
AVG.	/////	.051	/////	/////
MAX.	/////	/////	.156	-

*Started July 15th.

FLOWS

PROJECT EGANVILLE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	2.260	.075	.103	-
FEB	1.950	.070	.111	-
MAR	2.133	.069	.111	-
APR	2.100	.072	.106	-
MAY	2.770	.089	.162	-
JUN	3.420	.114	.177	-
JUL	2.990	.096	.190	-
AUG	3.280	.106	.149	-
SEP	2.310	.077	.098	-
OCT	2.510	.090	.187	-
NOV	2.270	.076	.112	-
DEC	2.460	.079	.129	-
TOTAL	30.45	/////	/////	/////
AVG.	/////	.083	/////	/////
MAX.	/////	/////	.190	-

PROJECT MARMORA

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	5.43	.175	.212	-
FEB	4.84	.172	.209	-
MAR	5.85	.189	.220	-
APR	5.66	.189	.226	-
MAY	4.56	.146	.239	-
JUN	3.27	.109	.193	-
JUL	4.85	.156	.220	-
AUG	3.80	.127	.201	-
SEP	2.55	.085	.117	-
OCT	2.67	.086	.151	-
NOV	2.86	.095	.150	-
DEC	3.30	.107	.176	-
TOTAL	49.64	/////	/////	/////
AVG.	/////	.140	/////	/////
MAX.	/////	/////	.239	-

FLOWS

PROJECT VANKLEEK HILL

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	2.180	.070	.112	-
FEB	1.806	.064	.093	-
MAR	2.015	.065	.070	-
APR	2.439	.081	.108	-
MAY	3.897	.126	.137	
JUN	3.469	.115	.142	-
JUL	3.723	.120	.204	-
AUG	N/A			
SEP	2.275	.076	.092	-
OCT	2.045	.066	.151	
NOV	O/S			
DEC	O/S			
TOTAL	est. 31.755	/////	/////	/////
AVG.	/////	.087	/////	/////
MAX.	/////	/////	.204	

PROJECT WELLINGTON

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.930	.062	.137	-
FEB	1.868	.067	.126	-
MAR	1.959	.063	.097	-
APR	1.876	.063	.093	-
MAY	2.415	.078	.134	-
JUN	2.339	.078	.157	
JUL	3.988	.129	.227	-
AUG	3.435	.111	.295	-
SEP	2.170	.070	.120	-
OCT	2.181	.070	.101	-
NOV	N/A			
DEC	N/A			
TOTAL	28.835	/////	/////	/////
AVG.	/////	.079	/////	/////
MAX.	/////	/////	.295	

FLOWS

PROJECT WESTPORT

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.094	.035	.043	-
FEB	1.079	.039	.052	-
MAR	1.234	.040	.046	-
APR	1.059	.035	.081	-
MAY	1.376	.044	.066	-
JUN	1.317	.044	.065	-
JUL	2.072	.067	.097	-
AUG	1.986	.064	.096	-
SEP	1.369	.046	.068	
OCT	1.595	.051	.065	
NOV	1.513	.050	.059	
DEC	1.532	.049	.064	
TOTAL	17.226	/////	/////	/////
AVG.	/////	.047	/////	/////
MAX.	/////	/////	.097	

PROJECT WINCHESTER

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	5.89	.19	.24	-
FEB	5.11	.18	.21	-
MAR	5.29	.17	.22	-
APR	4.64	.15	.19	-
MAY	5.81	.19	.22	-
JUN	5.65	.19	.24	
JUL	6.37	.21	.25	
AUG	6.16	.20	.24	-
SEP	5.45	.18	.23	
OCT	6.02	.19	.25	-
NOV	6.44	.21	.25	-
DEC	6.48	.21	.25	-
TOTAL	69.31	/////	/////	/////
AVG.	/////	.19	/////	/////
MAX.	/////	/////	.25	

REGION 5

NORTHEASTERN

FLOWS

PROJECT BLEZARD VALLEY W.S.S.

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	24.676	.779	-	-
FEB	23.721	.847		-
MAR	24.304	.784	-	
APR	27.807	.927	-	-
MAY	34.718	1.120		
JUN	35.390	1.180	-	
JUL	47.027	1.517	-	
AUG	43.217	1.394		-
SEP	42.350	1.412	-	-
OCT	35.956	1.160	-	
NOV	33.724	1.124		
DEC	33.960	1.095		
TOTAL	406.850	/////	/////	/////
AVG.	/////	1.115	/////	/////
MAX.	/////	/////		-

PROJECT BLIND RIVER

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	4.763	.154	.283	-
FEB	4.040	.144	.183	
MAR	4.096	.132	.164	-
APR	3.715	.124	.185	
MAY	4.007	.129	.168	-
JUN	3.746	.125	.182	
JUL	3.354	.108	.189	-
AUG	2.874	.093	.173	-
SEP	4.520	.150	.178	-
OCT	4.174	.135	.171	-
NOV	3.395	.113	.144	
DEC	3.649	.118	.166	
TOTAL	46.333	/////	/////	/////
AVG.	/////	.127	/////	/////
MAX.	/////	/////	.283	-

FLOWS

PROJECT FAUQUIER TOWNSHIP (MOONBEAM)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.404	.045	.053	
FEB	1.230	.044	.054	-
MAR	1.360	.044	.080	-
APR	1.310	.044	.063	-
MAY	1.546	.050	.071	
JUN	1.499	.050	.065	-
JUL	1.583	.051	.073	-
AUG	1.667	.054	.074	-
SEP	1.580	.053	.067	
OCT	1.646	.053	.067	-
NOV	1.545	.051	.063	-
DEC	1.726	.055	.074	-
TOTAL	18.096	/////	/////	/////
AVG.	/////	.050	/////	/////
MAX.	/////	/////	.080	-

PROJECT BLACK RIVER MATHESON (RAMORE)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	N/A			
FEB	N/A			
MAR	N/A			
APR	N/A			
MAY	N/A			
JUN	N/A			
JUL	N/A			
AUG	N/A			
SEP	N/A			
OCT	N/A			
NOV	N/A			
DEC	N/A			
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

FLOWS

PROJECT NORTH HIMSWORTH (CALLANDER)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL	.211	.026	.048	
AUG	.255	.008	.115	-
SEP	est. 1.312	.044	.226	
OCT	.642	.021	.040	-
NOV	.616	.021	.023	
DEC	.752	.024	.031	
TOTAL	3.788	/////	/////	/////
AVG.	/////	.029	/////	/////
MAX.	/////	/////	.226	

Started 22/7

PROJECT WARREN (RATTER and DUNNET)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	.992	.032	.042	-
FEB	.942	.034	.045	
MAR	1.024	.033	.052	-
APR	1.092	.036	.044	-
MAY	1.138	.037	.064	-
JUN	1.241	.041	.068	-
JUL	1.727	.056	.092	-
AUG	1.488	.048	.072	-
SEP	1.036	.034	.053	-
OCT	1.275	.041	.053	
NOV	1.084	.036	.051	
DEC	1.065	.034	.044	
TOTAL	14.104	/////	/////	/////
AVG.	/////	.039	/////	/////
MAX.	/////	/////	.092	

SURFACE WATER - MONTHLY FLOWS

REGION I

SOUTHWESTERN

FLOWS

PROJECT AMHERSTBURG DETROIT RIVER

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	27.240	.878	.950	2.5
FEB	25.550	.912	1.010	2.5
MAR	27.190	.877	1.110	2.5
APR	27.040	.901	1.030	2.5
MAY	32.310	1.077	1.270	2.5
JUN	30.920	1.030	1.220	2.5
JUL	37.210	1.200	1.500	2.5
AUG	37 930	1 224	1 540	2.5
SEP	32 560	1 085	1 280	2 5
OCT	28 030	.904	1 040	2 5
NOV	26 330	.877	1.050	2.5
DEC	26.420	.852	1.042	2.5
TOTAL	358.730	/////	/////	/////
AVG.	/////	.983	/////	/////
MAX.	/////	/////	1.540	2.5

PROJECT BELLE RIVER

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN				
FEB				
MAR				
APR	24.720	.824	1.00	
MAY	34.500	1.113	1.68	
JUN	31.830	1.061	1.42	
JUL	45 690	1 474	2 48	
AUG	35 470	1 144	2.37	
SEP	27 920	931	1 06	
OCT	26 429	852	95	
NOV	24 605	.817	.97	
DEC	26 198	.845	1.07	
TOTAL	277.362	/////	/////	/////
AVG.	/////	1.009	/////	/////
MAX.	/////	/////	2.48	

FLOWS

PROJECT BLENHEIM

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	11.7	.378	.481	.901
FEB	10.6	.377	.448	.908
MAR	11.9	.383	.481	.908
APR	11.9	.397	.572	1.300
MAY	14.3	.463	.594	1.090
JUN	14.0	.466	.576	.922
JUL	14.6	.540	.692	1.010
AUG	15.4	.517	.638	1.010
SEP	13.7	.540	.621	.865
OCT	12.7	.466	.562	.865
NOV	12.9	.431	.514	.865
DEC	13.0	.419	.512	.864
TOTAL	156.7	/////	/////	/////
AVG.	/////	.43	/////	/////
MAX.	/////	/////	.692	1.300

PROJECT DRESDEN

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	7.323	.236	.281	.440
FEB	6.666	.238	.285	.540
MAR	7.903	.255	.348	.460
APR	7.402	.247	.313	.730
MAY	11.066	.357	.475	.480
JUN	10.348	.345	.450	.580
JUL	13.500	.435	.521	.570
AUG	14.289	.461	.720	.730
SEP	13.230	.441	.680	.743
OCT	8.474	.273	.355	.620
NOV	7.871	.262	.407	.520
DEC	7.580		.328	.460
TOTAL	115.652	/////	/////	/////
AVG.	/////	.317	/////	/////
MAX.	/////	/////	.720	.743

FLOWS

PROJECT ELGIN AREA W.S.S.

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	102.00	3.29		
FEB	100.82	3.60		
MAR	107.06	3.45		
APR	119.44	3.98		
MAY	123.82	3.99		
JUN	124.87	4.16		
JUL	132.19	4.26		
AUG	127.86	4.12		
SEP	121.77	4.06		
OCT	138.21	4.46		
NOV	110.42	3.68		
DEC	110.78	3.57		
TOTAL	1419.3	/////	/////	/////
AVG.	/////	3.89	/////	/////
MAX.	/////	/////		

PROJECT GODERICH

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	25.75	.83	.93	1.5
FEB	24.10	.86	.94	1.5
MAR	26.29	.85	.93	1.5
APR	25.28	.84	.91	1.5
MAY	30.86	1.00	1.41	2.3
JUN	30.21	1.01	1.38	2.3
JUL	39.09	1.26	1.65	3.0
AUG	32.32	1.04	1.53	2.4
SEP	26.05	.87	.94	1.5
OCT	25.63	.83	.90	1.5
NOV	24.20	.81	.94	1.5
DEC	24.96	.80	.92	1.6
TOTAL	333.7	/////	/////	/////
AVG.	/////	.92	/////	/////
MAX.	/////	/////	1.65	3.0

FLOWS

PROJECT HARROW

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

PROJECT KENT AREA W.S.S.

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT	136.6	4.4	5.4	-
NOV	137.9	4.6	8.9	-
DEC	127.8	4.1	5.3	
TOTAL	92 days 402.3	/////	/////	/////
AVG.	/////	4.4	/////	/////
MAX.	/////	/////	8.9	

Started Oct. 1

FLOWS

PROJECT LAKE HURON W.S.S.

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	663.8	21.4	23.8	
FEB	654.8	23.4	23.7	
MAR	617.9	19.9	24.4	
APR	674.7	22.5	29.9	
MAY	782.9	25.3	32.2	
JUN	801.1	26.7	33.4	
JUL	964.2	31.1	38.8	
AUG	847.4	27.3	38.3	
SEP	752.8	25.1	27.4	
OCT	752.0	24.3	26.7	
NOV	713.	23.7	26.6	
DEC	681.9	22.0	24.6	
TOTAL	8906.6	/////	/////	/////
AVG.	/////	24.40	/////	/////
MAX.	/////	/////	38.8	

PROJECT LAMBTON AREA W.S.S.

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	326.02	10.52	11.7	17.2
FEB	286.03	10.22	12.2	25.8
MAR	298.97	9.64	10.9	15.9
APR	292.20	9.74	10.5	15.6
MAY	423.36	13.66	20.6	37.0
JUN	374.31	12.48	17.9	32.0
JUL	631.06	20.36	28.9	41.0
AUG	459.62	14.83	28.5	37.5
SEP	323.23	10.77	11.9	17.7
OCT	321.41	10.37	11.2	17.5
NOV	291.32	9.71	10.5	15.0
DEC	294.80	9.51	10.1	14.5
TOTAL	4322.33	/////	/////	/////
AVG.	/////	11.84	/////	/////
MAX.	/////	/////	28.9	41.0

FLOWS

PROJECT MEAFORD

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	21.77	.702	.820	-
FEB	20.93	.747	.872	
MAR	22.77	.734	.864	
APR	24.37	.812	.939	
MAY	27.42	.884	1.119	
JUN	32.70	1.090	1.210	-
JUL	44.63	1.440	1.933	
AUG	31.81	1.026	1.500	-
SEP	24.52	.817	.954	-
OCT	25.82	.833	.959	-
NOV	24.93	.831	.988	
DEC	25.36	.818	.944	-
TOTAL	327.03	/////	/////	/////
AVG.	/////	.90	/////	/////
MAX.	/////	/////	1.93	

PROJECT SOUTHAMPTON

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	12.65	.408	.751	
FEB	10.16	.363	.388	
MAR	10.71	.345	.402	-
APR	9.40	.313	.383	-
MAY	13.30	.430	.644	
JUN	18.46	.615	1.323	-
JUL	28.78	.928	1.502	-
AUG	18.83	.608	1.109	
SEP	10.36	.345	.430	-
OCT	12.73	.411	.622	-
NOV	11.22	.374	.917	
DEC	11.33	.365	.424	-
TOTAL	167.93	/////	/////	/////
AVG.	/////	.46	/////	/////
MAX.	/////	/////	1.502	-

FLOWS

PROJECT UNION W.S.S.

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	123.08	3.97	5.02	7.49
FEB	99.47	3.55	4.28	6.48
MAR	104.47	3.37	4.19	6.91
APR	120.04	4.00	5.15	7.92
MAY	168.49	5.43	7.47	10.08
JUN	163.13	5.44	7.85	11.81
JUL	261.84	8.45	10.92	14.40
AUG	218.13	7.04	10.89	13.68
SEP	162.37	5.41	7.95	10.92
OCT	153.74	5.12	5.84	9.14
NOV	140.59	5.58	6.11	8.35
DEC	129.86	4.18	5.25	7.99
TOTAL	1845.21	/////	/////	/////
AVG.	/////	5.06	/////	/////
MAX.	/////	/////	10.92	14.40

PROJECT WATFORD WYOMING PLYMPTON

MONTH	TOTAL FLOW Mil. Gal	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	4.628	.149	-	-
FEB	4.131	.149	-	-
MAR	4.603	.148	-	-
APR	4.933	.164	-	-
MAY	6.269	.202	-	-
JUN	6.023	.201		
JUL	6.082	.196		
AUG	5.090	.164		
SEP	5.108	.170		-
OCT	5.225	.169	-	-
NOV	5.123	.171	-	-
DEC	4.851	.156	-	-
TOTAL	62.066	/////	/////	/////
AVG.	/////	.170	/////	/////
MAX.	/////	/////		

REGION 2

WEST CENTRAL

FLOWS

PROJECT DUNNVILLE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	258.61	8.34	9.77	
FEB	234.25	8.37	10.04	-
MAR	236.12	7.62	9.23	-
APR	219.75	7.33	9.05	-
MAY	283.26	9.14	11.23	-
JUN	179.69	5.99	10.61	-
JUL	168.14	5.42	7.63	-
AUG	323.28	10.43	13.43	-
SEP	357.45	11.91	13.67	-
OCT	239.71	7.73	11.87	-
NOV	254.19	8.47	10.52	
DEC	297.60	9.60	10,33	-
TOTAL	3052.05	/////	/////	/////
AVG.	/////	8.36	/////	/////
MAX.	/////	/////	13.67	

PROJECT _____

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

REGION 3

CENTRAL

FLOWS

PROJECT BOBCAYGEON

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	2.172	.070	.079	-
FEB	2.099	.074	.082	
MAR	2.346	.076	.081	
APR	2.338	.078	.096	
MAY	2.650	.085	.123	
JUN	2.898	.097	.174	
JUL	4.078	.132	.180	
AUG	3.831	.124	.069	
SEP	2.338	.078	.109	
OCT	1.392	.045	.060	
NOV	1.000	.033	.039	
DEC	28.146	.032	.036	
TOTAL	28.146	/////	/////	/////
AVG.	/////	.077	/////	/////
MAX.	/////	/////	.180	

PROJECT FENELON FALLS

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	7.179	.232	.259	.346
FEB	6.718	.240	.265	.338
MAR	7.844	.270	.292	.320
APR	7.263	.242	.285	.341
MAY	6.400	.206	.279	.397
JUN	6.142	.205	.302	.676
JUL	8.131	.262	.360	.475
AUG	6.815	.220	.270	.393
SEP	6.589	.213	.259	.402
OCT	6.924	.223	.254	.363
NOV	7.264	.242	.259	.359
DEC	7.834	.253	.479	1.001
TOTAL	85.103	/////	/////	/////
AVG.	/////	.233	/////	/////
MAX.	/////	/////	.479	1.001

FLOWS

PROJECT HASTINGS

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.825	.059	.090	-
FEB	1.067	.038	.087	-
MAR	1.194	.039	.063	
APR	1.865	.062	.099	
MAY	2.158	.070	.093	-
JUN	1.870	.062	.118	-
JUL	3.597	.116	.183	-
AUG	2.833	.091	.132	-
SEP	1.865	.062	.121	-
OCT	1.522	.049	.074	-
NOV	1.252	.042	.072	-
DEC	1.404	.045	.056	-
TOTAL	22.452	/////	/////	/////
AVG.	/////	.062	/////	/////
MAX.	/////	/////	.183	

PROJECT SOUTH PEEL (LAKEVIEW)

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	949.8	30.6	34.6	41.8
FEB	859.0	30.7	34.4	45.3
MAR	940.2	30.3	33.2	39.2
APR	959.4	39.3	39.3	44.7
MAY	1194.2	38.5	49.9	72.1
JUN	1226.6	40.9	54.4	63.2
JUL	1502.7	48.5	68.4	75.5
AUG	1291.7	41.6	65.8	70.3
SEP	1042.5	34.8	40.9	46.4
OCT	1058.2	34.1	39.9	37.7
NOV	1013.2	33.8	38.1	40.9
DEC	973.8	31.4	35.5	33.9
TOTAL	13011.3	/////	/////	/////
AVG.	/////	35.6	/////	/////
MAX.	/////	/////	68.4	75.5

FLOWS

PROJECT WARKWORTH

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.386	.045	.067	-
FEB	1.277	.046	.148	-
MAR	1.854	.060	.135	-
APR	2.471	.082	.117	-
MAY	2.559	.083	.108	-
JUN	1.799	.060	.096	-
JUL	2.864	.092	.154	-
AUG	2.536	.082	.147	-
SEP	1.535	.051	.075	-
OCT	1.440	.046	.066	-
NOV	1.371	.046	.079	-
DEC	1.458	.043	.067	-
TOTAL	22.550	/////	/////	/////
AVG.	/////	.062	/////	/////
MAX.	/////	/////	.154	-

PROJECT _____

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

REGION 4

SOUTHEASTERN

FLOWS

PROJECT BANCROFT

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	2.046	.066	.072	-
FEB	1.868	.067	.090	-
MAR	2.002	.065	.070	-
APR	1.856	.062	.069	-
MAY	1.980	.064	.073	-
JUN	2.062	.069	.079	-
JUL	2.375	.077	.105	
AUG	2.134	.069	.094	
SEP	2.048	.068	not rec'd	
OCT	2.145	.069	.086	
NOV	2.151	.072	.089	
DEC	2.151	.069	.082	-
TOTAL	24.818	/////	/////	/////
AVG.	/////	.068	/////	/////
MAX.	/////	/////	.105	

PROJECT CHALK RIVER

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	1.325	.043	.167	.300
FEB	.978	.035	.077	.105
MAR	1.047	.034	.035	.144
APR	1.036	.034	.043	.151
MAY	4.002	.129	.299	.500
JUN	2.300	.077	.257	.500
JUL	2.817	.091	.207	.305
AUG	2.684	.087	.250	.350
SEP	1.626	.054	.072	.500
OCT	1.442	.047	.108	
NOV	1.298	.043	.061	-
DEC	1.385	.045	.057	-
TOTAL	21.940	/////	/////	/////
AVG.	/////	.060	/////	/////
MAX.	/////	/////	.299	.500

FLOWS

PROJECT RENFREW

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	31.31	1.01	1.19	
FEB	28.43	1 01	1.13	
MAR	31.37	1.01	1.08	
APR	31 54	1.05	1.17	
MAY	37 32	1.20	1.66	
JUN	39 82	1.33	1.97	
JUL	50.29	1.62	2.50	
AUG	45.68	1 47	1.89	
SEP	32 26	1.08	1.21	
OCT	31.80	1.03	1.31	
NOV	29.22	.97	1.10	
DEC	30.83	.99	1.10	
TOTAL	419.87	/////	/////	/////
AVG.	/////	1.15	/////	/////
MAX.	//////	/////	2.50	

PROJECT ROCKLAND

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN	16.21	.52	67	--
FEB	14.48	.52	.56	
MAR	14 76	.48	.51	
APR	12.94	.43	54	
MAY	18 08	.58	78	-
JUN	19.05	.64	.93	
JUL	22.75	.73	95	
AUG	21.04	68	79	
SEP	16.39	.55	.71	
OCT	15.87	.51	.54	
NOV	13.80	46	.54	
DEC	15.91	.51	.79	
TOTAL	201.28	/////	/////	/////
AVG.	/////	.55	/////	/////
MAX.	/////	/////	.95	

REGION 5

NORTHEASTERN

FLOWS

PROJECT BRUCE MINES

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP	est. .645	.022	-	-
OCT	est. .659	.021	-	-
NOV	.609	.020	.063	-
DEC	.779	.025	.033	-
TOTAL	2.692	/////	/////	/////
AVG.	/////	.022	/////	/////
MAX.	/////	/////	.063	-

PROJECT _____

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

FLOWS

PROJECT CACHE BAY

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.176	.038	.045	-
FEB	1.321	.047	.103	-
MAR	1.503	.048	.061	-
APR	1.510	.050	.064	-
MAY	1.207	.039	.048	
JUN	1.266	.042	.077	-
JUL	1.671	.054	.097	
AUG	1.292	.042	.070	
SEP	1.033	.034	.044	
OCT	.952	.031	.037	
NOV	1.049	.035		
DEC	.941	.030	.038	
TOTAL	14.921	/////	/////	/////
AVG.	/////	.041	/////	/////
MAX.	/////	/////	.103	

PROJECT ESPANOLA

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	12.913	.417	.452	-
FEB	11.784	.421	.459	-
MAR	12.754	.411	.454	-
APR	11.594	.386	.462	-
MAY	19.139	.617	1.021	-
JUN	20.069	.669	1.105	
JUL	29.798	.961	1.224	-
AUG	18.105	.584	.933	
SEP	9.000	.303	.304	
OCT	10.115	.337	.411	
NOV	12.449	.415	.492	
DEC	13.428	.433	.544	
TOTAL	181.148	/////	/////	/////
AVG.	/////	.498	/////	/////
MAX.	/////	/////	1.224	

FLOWS

PROJECT HAILEYBURY

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	14.522	.468	.551	
FEB	13.119	.469	.530	
MAR	13.934	.449	.514	
APR	13.836	.461	.651	
MAY	16.314	.526	.774	
JUN	16.058	.536	.789	
JUL	20.003	.645	1.050	
AUG	17.346	.560	.864	
SEP	13.805	.460	.567	
OCT	14.099	.454	.510	
NOV	13.968	.466	.565	
DEC	15.517	.501	.594	
TOTAL	182.521	/////	/////	/////
AVG.	/////	.500	/////	/////
MAX.	//////	/////	1.050	

PROJECT LATCHFORD

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP	14 days fl. .171	.012	.023	
OCT	.430	.013	.022	
NOV	.581	.019	.034	
DEC	.677	.022	.030	
TOTAL	1.859	/////	/////	/////
AVG.	/////	.018	/////	/////
MAX.	//////	/////	.034	

Started 17/9/

FLOWS

PROJECT MICHIPICOTEN TWP. WAWA

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	42.80	1.38	-	-
FEB	38.92	1.39	1.53	-
MAR	40.29	1.30	1.54	-
APR	48.78	1.63	2.00	-
MAY	58.01	1.87	2.93	
JUN	55.02	1.83	1.93	-
JUL	42.82	1.38	1.98	-
AUG	36.30	1.17	1.45	-
SEP	32.51	1.08	1.40	-
OCT	26.45	.85	1.90	
NOV	est. 25.94	.86	1.68	-
DEC	27.95	.90	1.90	-
TOTAL	476.66	/////	/////	/////
AVG.	/////	1.31	/////	/////
MAX.	/////	/////	2.93	-

PROJECT MOOSONEE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	6.153	.198	.307	-
FEB	*8.688	.310	.344	
MAR	* 10.101	.326	.350	-
APR	5.061	.168	.294	
MAY	4.146	.134	.154	
JUN	3.726	.124	.144	
JUL	3.364	.109	.149	
AUG	3.528	.114	.173	
SEP	3.312	.110	.122	-
OCT	3.336	.108	.132	
NOV	3.689	.123	.154	
DEC	5.433	.175	.210	-
TOTAL	60.537	/////	/////	/////
AVG.	/////	.166	/////	/////
MAX.	/////	/////	.337	-

*High flow problems.

FLOWS

PROJECT SHACKLETON MACHIN TOWNSHIP

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	.906	.029	.039	
FEB	1.283	.046	.081	
MAR	1.669	.054	.064	
APR	1.637	.054	.065	
MAY	1.401	.045	.056	
JUN	.800	.027	.034	
JUL	.856	.028	.064	
AUG	.832	.022	.031	
SEP	.706	.022	.027	
OCT	.787	.026	.043	
NOV	.784	.026	.034	
DEC	1.476	.047	.062	
TOTAL	13.137	/////	/////	/////
AVG.	/////	.036	/////	/////
MAX.	//////	/////	.081	

PROJECT WAHNAPITAE W.S.S.

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	125.8	4.05	4.26	
FEB	113.0	4.03	4.44	
MAR	124.3	4.01	4.78	
APR	115.8	3.86	4.10	
MAY	120.6	3.89	4.12	
JUN	116.8	3.90	4.17	
JUL	123.2	3.98	4.34	
AUG	117.4	3.79	4.19	
SEP	116.2	3.87	4.09	
OCT	118.6	3.83	4.24	
NOV	119.3	3.98	4.31	
DEC	113.4	3.66	4.26	
TOTAL	1424.4	/////	/////	/////
AVG.	/////	3.90	/////	/////
MAX.	//////	/////	4.78	

REGION 6

NORTHWESTERN

FLOWS

PROJECT EAR FALLS

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	4.259	.137	.161	-
FEB	4.152	.148	.174	-
MAR	4.308	.139	.192	-
APR	3.968	.132	.166	-
MAY	3.469	.112	.131	-
JUN	3.442	.114	.148	-
JUL	3.810	.123	.195	-
AUG	3.532	.114	.163	-
SEP	2.665	.089	.124	-
OCT	2.098	.068	.135	-
NOV	2.723	.091	.130	-
DEC	4.217	.136	.158	-
TOTAL	42.643	/////	/////	/////
AVG.	/////	.117	/////	/////
MAX.	/////	/////	.195	-

PROJECT EMO TOWNSHIP

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	1.464	.047	.092	-
FEB	1.267	.045	.055	-
MAR	1.257	.041	.046	-
APR	1.363	.045	.051	-
MAY	1.342	.043	.061	-
JUN	1.252	.042	.048	-
JUL	1.512	.049	.095	-
AUG	1.585	.051	.073	-
SEP	1.266	.042	.060	-
OCT	1.450	.047	.060	-
NOV	1.445	.048	.060	-
DEC	1.349	.043	.059	-
TOTAL	16.552	/////	/////	/////
AVG.	/////	.045	/////	/////
MAX.	/////	/////	.095	

FLOWS

PROJECT GERALDTON

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	14.196	.458	.539	
FEB	14.315	.511	.744	
MAR	13.491	.435	.472	
APR	12.570	.419	.450	-
MAY	14.258	.460		-
JUN	13.306	.443	.539	
JUL	14.671	.473	.574	-
AUG	13.210	.426	.517	
SEP	10.731	.358	.420	-
OCT	0/S			
NOV	0/S			
DEC	0/S			
TOTAL	..	/////	/////	/////
AVG.	/////	.442	/////	/////
MAX.	/////	/////	.744	

PROJECT VERMILION BAY - MACHIN TOWNSHIP

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV	1.569	.052	.076	-
DEC	2.986	.096	.112	-
TOTAL	4.555	/////	/////	/////
AVG.	/////	.075	/////	/////
MAX.	/////	/////	.112	

FLOWS

PROJECT RED LAKE

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D.
JAN	12.990	.419	.486	-
FEB	11.781	.421	.499	-
MAR	13.110	.423	.448	-
APR	12.085	.403	.459	-
MAY	10.734	.346	.389	-
JUN	10.373	.346	.427	
JUL	10.748	.347	.368	-
AUG	10.258	.331	.371	-
SEP	8.610	.287	.367	
OCT	9.532	.308	.410	-
NOV	10.429	.348	.417	-
DEC	13.821	.446	.533	-
TOTAL	134.471	/////	/////	/////
AVG.	/////	.366	/////	/////
MAX.	/////	/////	.533	

PROJECT _____

MONTH	TOTAL FLOW Mil. Gal.	AVG DAY M.G.D.	MAX DAY M.G.D.	PEAK RATE M.G.D
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				
TOTAL		/////	/////	/////
AVG.	/////		/////	/////
MAX.	/////	/////		

TREATMENT DATA:

SURFACE WATER PROJECTS

REGION I

SOUTHWESTERN

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	27.24	.88	.95	2.5	17.4	-	.4	1.8	-		3	4
FEB	25.55	.91	1.01	2.5	13.7	-	.5	3.4	-		3	4
MAR	27.19	.88	1.11	2.5	17.2	-	.3	.9	-		3	4
APR	27.04	.90	1.03	2.5	31.0	-	.5	1.5	-		6	8
MAY	32.31	1.04	1.27	2.5	11.4	-	.3	.6	-		15	18
JUNE	30.92	1.03	1.22	2.5	10.8	-	.5	.9			17	23
JULY	37.21	1.20	1.50	2.5	11.8	-	.5	1.2			24	24
AUG	37.93	1.22	1.54	2.5	13.5	-	.5	1.3			23	24
SEPT	32.56	1.09	1.28	2.5	18.7	-	1.4	3.4			19	23
OCT	28.03	.90	1.04	2.5	14.8	-	1.3	3.8			15	17
NOV	26.33	.88	1.05	2.5	19.5	-	.6	1.7			12	14
DEC	26.42	.85	1.04	2.5	24.7	-	.3	.7			6	9
TOTAL	358.73					-						
AVG.		.98	MAXIMUM 1.54	MAXIMUM 2.5	17.0	-	.6	MAXIMUM 3.8		MAXIMUM	12	MAXIMUM 24

CHLORINATION and DISINFECTION

MONTH	RAW WATER: NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	0	1 - 3	4 - 32	33 - 320	> 320	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE PRE - mg/l	DOSAGE POST - mg/l	RESIDUAL IN PLANT EFFLUENT mg/l
JAN				3	1	4	0	12	0	810			.6
FEB				2	2	4	0	14	0	695			.6
MAR			1	1	2	4	0	12	0	895	2.7	.4	.6
APR				2	3	5	0	15	0	795	2.4	.4	.6
MAY				1	3	4	0	13	1	1100	3.1	.4	.6
JUNE					4	4	0	12	0	1100	3.1	.4	.6
JULY				2	3	5	0	15	0	1185	2.7	.4	.6
AUG				1	3	4	0	12	0	1310	2.9	.4	.6
SEPT				1	3	4	0	14	0	1215	3.0	.4	.6
OCT				2	3	5	0	13	1	845	2.3	.4	.6
NOV					4	4	0	13	0	950	2.9	.4	.6
DEC					5	5	0	15	0	710	2.2	.4	.6
TOTAL			1	15	36	52	0	160	2	11610			
AVG.										32 pounds per day	2.7	.4	.6

TREATMENT DATA

MONTH	CHEMICALS USED							
	ALUM		SODIUM SILICATE		SODIUM BICARBONATE		FLUOSILICIC ACID	
	AMT. USED gallons		AMT. USED gallons	DOSAGE mg/l	AMT. USED pounds	DOSAGE mg/l	AMT. USED pounds	DOSAGE mg/l
JAN	1674	36	239	3.2	0		1516	1.0
FEB	1117	27	189	2.8			1224	1.0
MAR	1319	30	209	2.9			1236	1.0
APR	1202	27	202	2.8			1351	1.0
MAY	1437	28	57	2.6			1541	1.0
JUNE	1463	30	0	-			1593	1.1
JULY	1676	28	0	-			1888	1.0
AUG	1884	30	0	-			1844	.9
SEPT	2182	39	275	3.1			1725	1.0
OCT	1629	35	199	2.4			1480	1.0
NOV	1255	30	180	2.5			1299	1.0
DEC	1106	26	61	2.6			1453	1.0
TOTAL	17944		1611				18150	
AVG.	1495			2.8			1513	1.0

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	22	110	130	96	22	113	152	98	80 – 100
ALKALINITY in mg/l as $CaCO_3$	22	85	96	78	22	72	83	68	30 – 100
IRON in mg/l Fe	22	1.46	5.0	.3	22	.05	.12	.01	Less than 0.3
CHLORIDE in mg/l Cl^-	22	13.6	36.5	6.5	22	16.2	26.5	8.5	Less than 250
pH in pH units	22	8.1	8.6	7.8	22	7.4	7.8	7.1	7.0 – 8.5
FLUORIDE in mg/l F^-	22	<.1	.1	<.1	22	.9	1.8	.2	Less than 1.2

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	11.7	.38	.48	.90	12.8	<5	1.7	3.3	<5	<5	2	3
FEB	10.6	.38	.45	.91	10.6	20	1.6	3.4	<5	<5	1	2
MAR	11.9	.38	.48	.91	13.7	8	.9	2.8	<5	<5	2	2
APR	11.9	.40	.57	1.30	16.5	20	2.4	3.9	<5	<5	4	7
MAY	14.3	.46	.59	1.09	4.7	5	.7	1.4	<5	<5	8	13
JUNE	14.0	.47	.58	.92	5.9	7	1.1	1.8	<5	<5	12	20
JULY	14.6	.47	.69	1.01	4.8	8	.3	.5	<5	<5	16	22
AUG	15.4	.50	.64	1.01	4.9	9	1.2	1.3	<5	<5	18	21
SEPT	13.7	.46	.62	.86	10.7	6	.2	.3	<5	<5	19	20
OCT	12.7	.41	.56	.86	15.0	7	.3	.3	<5	<5	15	17
NOV	12.9	.43	.51	.86	20.7	8	.4	.6	<5	<5	11	13
DEC	13.0	.42	.51	.86	21.5	10	.6	1.0	<5	<5	5	7
TOTAL	156.7											
AVG.		.43	MAXIMUM .69	MAXIMUM 1.30	11.8	9	.9	MAXIMUM 3.3	5	MAXIMUM 5	9	MAXIMUM 22

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	3	0				3	0	6	0	222	1.8		.7
FEB	4	0				4	0	8	0	203	1.8	-	.7
MAR	3	1				4	0	8	0	209	1.8		.7
APR	5	0				5	0	10	0	205	1.7		.7
MAY	4	0				4	0	8	0	259	1.9		.6
JUNE	2	0				4	0	8	0	278	2.3		.6
JULY	5					5	0	10	0	368	2.7		.6
AUG	3	1				4	0	8	0	394	3.0		.6
SEPT	3	2				5	0	10	0	338	2.9		.7
OCT	2	0	1			4	0	8	0	318	2.2		.6
NOV	1	1	0			2	0	4	0	277	2.1		.7
DEC	4	0	1			5	0	10	0	244	1.8		.8
TOTAL	39	5	2			49	0	98	0	3315			
AVG.										9 pounds per day	2.2		.7

TREATMENT DATA

MONTH	CHEMICALS USED							FILTRATION		
	ALUM		SODIUM SILICATE		FLUOSILICIC ACID		SODIUM BICARBONATE	FILTER OPERATION		
	AMOUNT USED gallons	DOSAGE mg/l	AMOUNT USED pounds		AMOUNT USED pounds	DOSAGE mg/l	AMOUNT pounds	BACKWASH WATER mil gal	AVERAGE RUN hours	MINIMUM RUN hours
JAN	590	33	932	8	119	1.2	234	480	12	8.5
FEB	495	30	817	8	113	1.1	205	.475	11	8.7
MAR	647	35	903	8	122	1.0	226	.435	11	8.5
APR	721	39	974	8	119	1.0	244	.335	12	8.0
MAY	566	26	1079	8	145	1.1	270	.555	13	10.0
JUNE	350	16	1022	7	145	1.2	261	.571	13	9.0
JULY	338	13	1232	7	150	1.1	309	.710	15	10.0
AUG	304	12	1114	7	145	1.1	279	.535	14	9.5
SEPT	354	14	1023	6	130	1.1	257	.545	14	10.0
OCT	510	23	1019	7	164	1.1	255	.335	13	9.0
NOV	717	36	1026	8	158	1.2	240	.495	13	10.0
DEC	806	40	978	7	159	1.1	242	.440	12	9.5
TOTAL	6398		12119		1669		3022	5.911		
AVG.	533	25		7	139	1.1	252		13	8.0

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	46	125	148	102	47	126	152	112	80 – 100
ALKALINITY in mg/l as $CaCO_3$	47	93	105	83	47	80	90	69	30 – 100
IRON in mg/l Fe	46	.59	5.6	.05	47	.05	.24	.01	Less than 0.3
CHLORIDE in mg/l Cl^-	46	18.8	22.0	15.0	47	20.8	23 5	17.5	Less than 250
pH in pH units	46	8.1	8.5	7.6	47	7.4	7.8	7.1	7.0 – 8.5
FLUORIDE in mg/l F^-	37	0.1	0.4	0.1	37	8	1.3	.1	Less than 1.2

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	102.0	3.29			63	20	.11	.25	<5	<5	3	5
FEB	100.8	3.60			28	15	.16	.10	<5	<5	3	4
MAR	107.1	3.45			59	50	.21	.17	<5	<5	3	4
APR	119.4	3.98			38	20	.11	.14	<5	<5	4	7
MAY	123.8	3.99			7	5	.12	.25	<5	<5	9	11
JUNE	124.9	4.16			18	5	.10	.30	<5	<5	12	20
JULY	132.2	4.26			20	10	.07	.50	<5	<5	18	20
AUG	127.9	4.12			9	5	.10	.16	<5	<5	19	21
SEPT	121.8	4.06			41	5	.08	.20	<5	<5	20	21
OCT	138.2	4.46			33	10	.07	.15	<5	<5	14	16
NOV	110.4	3.68			65	10	.08	.33	<5	<5	11	13
DEC	110.8	3.57			66	-	.08	.50	<5	<5	5	7
TOTAL	1419.3											
AVG.		3.89	MAXIMUM	MAXIMUM	37	14	.11	MAXIMUM .50	<5	MAXIMUM <5	10	MAXIMUM 21

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	2	4	2	0	0	16	0	15	0	1.6	1.1	.5	.7
FEB	5	3	1	0	0	18	0	19	0	1.8	1.2	.4	.7
MAR	4	2	0	2	0	17	0	14	0	2.0	1.3	.4	.6
APR	7	1	0	0	0	16	0	14	0	2.0	1.2	.3	.7
MAY	9	0	0	0	0	16	0	17	0	2.3	1.3	.4	.7
JUNE	6	3	0	0	0	18	0	16	0	2.6	1.6	.5	.7
JULY	7	2	0	0	0	17	0	15	0	3.0	1.6	.5	.7
AUG	7	1	0	0	0	15	0	13	0	3.2	1.6	.7	.7
SEPT	2	6	0	1	0	17	0	16	0	3.1	1.5	.8	.9
OCT	4	4	1	0	0	17	0	18	0	2.9	1.3	.9	.9
NOV	3	3	1	1	0	17	0	15	0	2.7	1.5	.9	.9
DEC	0	2	3	3	0	14	0	13	0	2.2	1.2	.6	1.0
TOTAL	56	31	8	7	0	198	0	185	0	29.4			
AVG.										80 pounds per day	1.4	.6	.9

TREATMENT DATA

MONTH	FILTER OPERATION					CHEMICALS USED		
						ALUM		SOD. SIL. FLUORIDE
	Min. Run	Av. Run	Avg. Head Loss Ft.	Back Wash Water Mg.	Back Wash Times	lbs. 10^3	Dose mg/l	lbs.10^3
JAN	53	64	3	3.2	18	20.5	20.0	1.3
FEB	50	63	5	5.8	23	14.5	14.3	1.2
MAR	53	66	5	4.6	21	23.5	21.9	1.0
APR	57	66	4	4.1	17	24.2	20.2	1.5
MAY	54	67	4	3.6	18	9.9	8.0	1.5
JUNE	50	64	4	4.0	19	14.3	11.5	1.6
JULY	37	62	4	4.5	22	16.9	12.8	.9
AUG	48	61	5	5.0	24	13.5	10.6	1.7
SEPT	56	67	3	4.0	19	23.4	19.2	1.7
OCT	53	64	4	4.0	19	22.4	16.2	1.7
NOV	48	64	4	4.4	21	25.5	23.1	1.1
DEC	57	66	3	3.3	15	23.0	20.8	1.5
TOTAL				50.5	236	231.6		16.7
AVG.	min. 37	65	4				16.3	

TREATMENT DATA

MONTH	ELGIN AREA WATER					
	ST. THOMAS Mil Gal.	FORD Mil Gal.	PORT BURWELL Mil Gal.	MALAHIDE Mil Gal.	YARMOUTH Mil Gal.	PLANT SERVICE Mil Gal.
JAN	94.76	6.60	.63	-	-	3.50
FEB	82.09	18.16	.56	-	-	3.01
MAR	83.37	22.92	.60	.14	.03	2.65
APR	89.43	29.30	.71	-	-	3.48
MAY	101.89	20.90	.93	.09	-	4.35
JUNE	97.38	26.19	.82	.43	.05	7.08
JULY	108.10	22.83	.98	.28		11.64
AUG	99.71	26.97	.87	.31		15.60
SEPT	90.04	30.63	.55	.51	.04	11.81
OCT	101.58	36.00	.63	0	0	4.44
NOV	83.99	25.98	.45	0	0	7.58
DEC	87.94	21.84	.57	.40	.04	6.24
TOTAL	1120.28	288.32	8.30	2.16	.16	81.38
AVG.						

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	12	130	138	120	12	131	140	124
ALKALINITY in mg/l as $CaCO_3$	12	99	106	93	12	88	95	81
IRON in mg/l Fe	12	1.13	3.00	.05	12	.05	.04	.01
CHLORIDE in mg/l Cl^-	12	20.9	29.5	19.0	12	23.4	41.5	20.0
pH in pH units	12	8.1	8.4	7.7	12	7.6	7.9	7.5
FLUORIDE in mg/l F^-	12	0.1	0.2	0.1	12	.6	1.0	0.1
AMMONIA in mg/l as N	10	.04	.15	.02	10	.01	.01	.01
TOTAL KJELDAHL NITROGEN in mg/l as N	10	.29	.40	.21	10	.13	.18	.07
NITRITE + NITRATE in mg/l as N	10	.23	.77	.05	10	.12	.23	.01
TOTAL PHOSPHORUS in mg/l as P	10	.06	.22	.02	10	.01	.04	.01

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	25.75	.83	.93	1.5	1.1	25	1.0	1.0	5	5	1	2
FEB	24.10	.86	.94	1.5	6.7	5	1.0	1.0	5	5	1	1
MAR	26.29	.85	.93	1.5	15.7	15	1.0	1.0	5	5	1	1
APR	25.28	.84	.91	1.5	42.8	15	1.0	1.0	5	5	4	8
MAY	30.86	1.00	1.41	2.3	6.6	-	1.0	1.0	-	-	11	16
JUNE	30.21	1.01	1.38	2.3	4.5	5	.3	.3	5	5	13	18
JULY	39.09	1.26	1.65	3.0	9.0	20	.4	.6	5	5	16	22
AUG	32.32	1.04	1.53	2.4	10.3	30	.7	2.3	5	5	20	24
SEPT	26.05	.87	.94	1.5	16.8	15	.5	2.0	5	5	16	19
OCT	25.63	.83	.90	1.5	15.5	5	.3	.5	5	5	13	15
NOV	24.20	.81	.94	1.5	21.0	10	.4	.6	5	5	9	12
DEC	24.96	.80	.92	1.6	37.5	20	.8	1.5	5	5	2	6
TOTAL	334.74											
AVG.		.92	MAXIMUM 1.65	MAXIMUM 3.0	19.0	15	.7	MAXIMUM 2.3	5	MAXIMUM 5	9	MAXIMUM 24

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN			1	2		3	0	10	0	362	1.2	.10	1.0
FEB	1	1		2		4	0	16	0	390	1.4	.13	1.0
MAR	2		1	1		4	0	16	0	465	1.6	.14	1.0
APR		1	1	2		4	0	20	0	482	1.6	.15	1.0
MAY	1	1	2			4	0	16	0	511	1.4	.15	1.0
JUNE	3		1	1		5	0	22	0	466	1.2	.17	1.0
JULY		1	1	2		4	0	20	0	608	1.3	.15	1.0
AUG		3		1		4	0	22	0	625	1.5	.19	.6
SEPT	1	0	1	3	0	5	0	26	0	601	1.8	.24	.7
OCT	3	0	0	1	0	4	0	21	0	468	1.4	.16	.6
NOV	1	2	1	0	0	4	0	20	0	431	1.4	.15	.7
DEC	0	0	0	1	3	4	0	21	0	642	2.1	.20	.9
TOTAL	12	9	9	16	3	49	0	230	0	6051			
AVG.										16 pounds per day	1.5	.16	.9

TREATMENT DATA

MONTH	FILTER OPERATION					CHEMICALS USED								
	AVG. APPLIED TURBIDITY FTU	FILTER RATE MAX. gpm/ft²	FILTER RATE AVG. gpm/ft²	AVG. FILTER RUN hours	BACKWASH WATER mil. gal.	ALUM AMT. USED gallons	ALUM DOSE mg/l	SOD. SILICATE AMT. USED gallons	SOD. SILICATE DOSE mg/l	SOD. BICARBONATE AMT. USED pounds	SOD. BICARBONATE DOSE mg/l	SODIUM SILICOFLUORIDE AMT. USED pounds	SODIUM SILICOFLUORIDE FLUORIDE LEVEL MAX. mg/l	SODIUM SILICOFLUORIDE FLUORIDE LEVEL MIN. mg/l
JAN	3.6	1.8	1.2	42	.840	1100	28	84	2.9	294	1.6	328	1.2	1.0
FEB	2.7	1.8	1.2	42	.770	834	23	69	2.3	242	1.2	307	1.2	1.0
MAR	3.1	1.8	1.2	40	.900	580	19	69	2.3	242	1.2	338	1.1	1.0
APR	3.4	1.8	1.2	41	.880	770	20	78	2.3	273	1.2	326	1.1	.9
MAY	2.5	2.8	1.4	38	.990	830	18	69	2.0	242	1.1	377	1.1	1.0
JUNE	1.2	2.8	1.4	37	1.170	770	18	36	1.9	126	1.0	24	1.1	1.0
JULY	1.6	3.6	1.7	33	1.550	935	16	15	1.5	53	.8	35	-	-
AUG	3.8	2.8	1.4	44	1.230	535	11	0	-	0	-	425	1.1	.9
SEPT	5.1	1.8	1.3	43	1.200	605	15	0	-	0	-	342	1.1	1.0
OCT	3.0	1.3	1.2	42	1.280	669	17	0	-	0	-	336	1.1	.9
NOV	4.2	1.8	1.2	42	1.200	643	18	0		0	-	335	1.1	.8
DEC	9.6	1.8	1.2	43	1.290	894	23	54	2.4	189	1.3	176	1.1	1.0
TOTAL					13.300	9165	345 days	474	157 days	1661	157 days	3349	293 days	
AVG.	3.7	max 3.6	1.3	41			19		2.1		1.2		max 1.2	min .8

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	11	117	156	96	21	112	148	98
ALKALINITY in mg/l as $CaCO_3$	11	98	122	81	21	83	107	73
IRON in mg/l Fe	11	1.01	1.17	.14	21	<.05	.12	.01
CHLORIDE in mg/l Cl^-	11	7.2	16.0	4.5	21	8.3	12.0	6.0
pH in pH units	11	8.1	8.4	7.5	21	7.5	7.7	6.9
FLUORIDE in mg/l F^-	9	.1	.2	.1	17	.9	1.0	.7

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	702.1	5.12	33.2	663.8	8.4		.19	.28	-	-	4	6
FEB	693.8	4.40	34.4	654.8	5.2		.36	.70	-	-	4	4
MAR	649.9	4.32	27.6	617.9	5.9		.35	.58	-	-	4	5
APR	755.5	5.47	75.4	674.7	40.4		.47	.98	-	-	5	7
MAY	857.7	8.81	66.0	782.9	6.8		.63	2.00	-	-	10	11
JUNE	892.0	10.43	80.2	801.1	5.3		.70	1.32	-	-	12	16
JULY	1039.3	18.91	56.4	964.2	4.4	10	.83	2.10	5	5	17	22
AUG	900.1	16.32	36.4	847.4	4.4		.81	1.40	-	-	21	23
SEPT	810.1	7.67	49.5	752.8	11.7		1.02	1.25	-	-	16	17
OCT	799.5	6.74	40.8	752.0	8.0	10	1.16	1.40	5	5	15	16
NOV	757.2	5.98	38.6	713.1	13.1		1.24	1.60	-	-	12	14
DEC	752.1	5.45	65.0	681.9	21.3		.84	1.20	-	-	8	10
TOTAL	9609.3	99.62	603.5	8906.6								
AVG.	26.3	.27	MAXIMUM 1.7	MAXIMUM 24.4	11.3	10	.72	MAXIMUM 2.10	5	MAXIMUM 5	11	MAXIMUM 23

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED 10^3 pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	18	0	0	0	0	18	0	94	0	6.7	.9		.5
FEB	15	1	0	0	0	16	0	89	0	6.4	1.0		.5
MAR	17	0	0	0	0	17	0	91	1	7.3	1.0		.5
APR	17	0	0	0	0	17	0	95	0	8.8	1.1		.5
MAY	18	0	0	0	0	18	0	68	0	9.6	1.0		.5
JUNE	15	1	0	0	0	16	0	90	0	11.3	1.3		.5
JULY	16	2	0	0	0	18	0	98	1	12.9	1.1		.5
AUG	16	0	0	0	0	16	0	88	1	15.1	1.5		.7
SEPT	18	0	0	0	0	18	0	98	0	14.8	1.7		1.0
OCT	18	2	0	0	0	18	0	92	0	14.5	1.7		1.0
NOV	15	0	4	0	0	15	0	87	0	15.0	1.7		1.2
DEC	15	0	1	1	0	15	0	83	0	14.4	1.8		1.2
TOTAL	198	6	5	1	0	202	0	1073	3	136.8			
AVG.										375 pounds per day	1.3		.7

LAKE HURON WTP

FLOWS

MONTH	CITY OF LONDON			TOWNSHIP OF BOSANQUET	VILLAGE OF GRAND BEND	TOWN OF PARKHILL	TOWNSHIP OF LONDON (ILDERTON)	VILLAGE OF AILSA CRAIG *	TOWNSHIPS OF STEPHEN AND McGILLIVRAY
	TOTAL mil gal	AVERAGE DAY mil. gal./day	MAXIMUM DAY mil. gal./day	TOTAL mil. gal.	TOTAL mil. gal.	TOTAL mil. gal.	TOTAL mil. gal.	TOTAL mil. gal.	TOTAL mil. gal.
JAN	657.4	21.2	23.6	.518	1.99	2.25	.85	.77	
FEB	649.3	23.2	23.5	.102	1.93	2.10	.72	.69	
MAR	611.6	19.7	24.2	.192	2.02	2.59	.81	.77	
APR	667.2	22.2	29.8	1.606	2.35	2.20	.64	.71	
MAY	770.8	24.9	32.0	3.111	2.61	2.45	.69	.88	2.36
JUNE	787.4	26.3	33.2	3.304	3.02	2.77	.61	.84	3.14
JULY	950.5	30.7	38.6	2.636	3.79	4.60	1.69	1.01	-
AUG	830.9	26.8	38.0	2.708	2.88	3.22	1.24	1.02	5.46
SEPT	735.2	24.5	27.2	1.015	2.73	2.48	.69	.79	9.88
OCT	744.7	24.0	26.6	.320	2.24	2.95	.91	.91	
NOV	703.4	23.5	26.4	.099	2.59	2.83	1.02	.88	2.20
DEC	673.2	21.7	24.4	.190	2.46	3.27	.80	.78	1.21
TOTAL	8781.6			15.801	30.61	33.71	10.67	10.05	24.25
AVG.		24.1	Max. 38.6						

*Includes Craigwood School.

TREATMENT DATA

MONTH	FILTER OPERATION						ALGAE
	ALUM			AVERAGE	AVERAGE HEAD	BACKWASH	TOTAL ALGAE
	AMOUNT USED 10^3 gallons	DOSAGE mg/l	NUMBER OF DAYS USED	FILTER RUN hours	LOSS AT BACKWASH feet	WATER USED million gallons	RAW WATER SAU/ml
JAN	8.1	7.3	31	51	8	33.2	255
FEB	7.0	7.5	28	51	7	34.4	290
MAR	9.1	8.6	31	52	8	27.6	441
APR	18.1	16.4	30	24	7	75.4	182
MAY	7.0	5.8	31	40	7	66.0	444
JUNE	8.3	6.7	30	19	8	80.2	1532
JULY	4.4	10.3	9	38	5	56.4	1006
AUG	0	-	-	56	5	36.4	926
SEPT	0	-	-	38	6	49.5	1037
OCT	0	-	-	56	5	40.8	1129
NOV	0	-		49	5	38.6	1046
DEC	0	-		34	7	65.0	992
TOTAL	62.0		190			603.5	
AVG.		7.8		42	7		773

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	5	101	114	94	5	100	110	94
ALKALINITY in mg/l as $CaCO_3$	5	83	93	78	5	78	80	75
IRON in mg/l Fe	5	.77	1.40	.08	5	<.04	<.05	.03
CHLORIDE in mg/l Cl^-	5	6.5	7.0	6.0	5	6.6	7.0	6.0
pH in pH units	5	8.1	8.2	8.0	5	8.0	8.2	7.5
FLUORIDE in mg/l F^-	2	<0.1	0.1	<0.1	2	<0.1	0.1	<0.1

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	21.77	.70	.82		1.5		.8	5.1			3	3
FEB	20.93	.75	.87		1.0		.5	.5			1	2
MAR	22.77	.73	.86		2.4		1.0	7.3			0	1
APR	24.37	.81	.94		2.9		1.3	7.5			1	4
MAY	27.42	.88	1.19		1.1		.5	1.2			3	6
JUNE	32.70	1.09	1.21		1.0		.5	.5			8	14
JULY	44.63	1.44	1.93		1.1		.5	1.3			17	19
AUG	31.81	1.03	1.50		1.3		.6	2.1			18	19
SEPT	24.52	.82	.95		1.4		.7	3.6			14	17
OCT	25.82	.83	.96		1.4		.7	4.7			12	13
NOV	24.93	.83	.99		1.3		.6	2.3			9	11
DEC	25.36	.82	.94		2.5		1.2	4.3			4	7
TOTAL	327.03											
AVG.		.90	MAXIMUM 1.93	MAXIMUM	1.6		.7	MAXIMUM 7.5		MAXIMUM	8	MAXIMUM 19

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	1	0	1			2	0	4	0	227		1.0	.3
FEB	2	1		1		4	0	8	0	195		.9	.4
MAR	2	1	1			4	0	7	0	216		1.0	.4
APR			2	1	1	4	0	8	0	236		1.0	.4
MAY	4					4	0	8	0	261		1.0	.3
JUNE	3	1				4	0	7	0	315		1.0	.3
JULY	2	1	1	1		5	0	18	0	403		.9	.3
AUG		2	1	1		4	0	16	0	340		1.1	.3
SEPT	3	0	2	0	0	5	0	20	0	279		1.1	.3
OCT	1	0	1	0	0	2	0	8	0	283		1.1	.3
NOV	0	2	2	0	0	4	0	16	0	289		1.2	.4
DEC	1	2	2	0	0	5	0	20	0	287		1.1	.4
TOTAL	19	10	13	4	1	47	0	140	0	3331			
AVG.										51 pounds per day		1.0	.3

MEAFORD WTP

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	6	94	106	88	6	91	96	88	80 - 100
ALKALINITY in mg/l as $CaCO_3$	6	73	74	72	6	72	74	71	30 - 100
IRON in mg/l Fe	6	.06	.10	.01	6	.03	.04	.01	Less than 0.3
CHLORIDE in mg/l Cl^-	6	4.8	5.5	4.5	6	5.3	5.5	5.0	Less than 250
pH in pH units	0	8.2	8.3	8.0	6	8.1	8.3	8.1	7.0 - 8.5
FLUORIDE in mg/l F^-	1	0.1	0.1	0.1	<1	<0.1	<0.1	<0.1	Less than 1.2

PLANT PERFORMANCE

MONTH	FLOWS			RAW WATER		TREATED WATER		FILTER OPERATION			
										DIATOMACEOUS EARTH	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. Units	NUMBER OF DAYS USED	BACKWASH FREQUENCY	AMOUNT USED 10^3 pounds	DOSE mg/l
JAN	12.65	.41	.75	22.0	15	3.4	5			12.5	
FEB	10.16	.36	.39	8.0	7	1.8	5			3.3	
MAR	10.71	.34	.40	4.6	5	2.0	5			1.5	
APR	9.40	.31	.38	39.0	53	18.4	27			7.1	
MAY	13.30	.43	.64	8.1	5	.8	5			2.0	
JUNE	18.46	.62	1.32	2.1	5	1.2	5			.6	
JULY	28.78	.93	1.50	.7	5	.6	5			0	
AUG	18.83	.61	1.11	2.4	5	.8	5			0	
SEPT	10.36	.34	.43	3.3	-	1.5	-			3.5	
OCT	12.73	.41	.62	-	-	-	-			1.0	
NOV	11.22	.37	.92	3.5	5	15	5			2.5	
DEC	11.33	.37	.42	-	-	-	-			13.3	
TOTAL	167.93									47.3	
AVG.		.46	Max. 1.50	9.4	11	3.2	5				

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	4	0	0			10	0	10	0	162	1.3		.7
FEB	4	0	0			10	0	10	0	115	1.1		.8
MAR	5	0	0			17	0	17	0	131	1.2		.8
APR	5	0	0			14	0	14	0	132	1.4		.8
MAY	6	0	2			19	0	19	1	179	1.3		.8
JUNE	4	0	2			24	0	24	0	213	1.2		.8
JULY	3	2	4		1	5	0	43	1	400	1.4		.9
AUG	4	1	1		0	6	0	12	0	249	1.3		.9
SEPT	8	1	1		0	3	0	28	0	144	1.4		.9
OCT	8	1	1	0	2	8	0	32	0	163	1.3		.9
NOV	8	2	2	0	0	10	0	33	0	148	1.2		.9
DEC	4	0	0	2	3	6	0	21	0	167	1.5		.8
TOTAL	63	7	13	2	6	132	0	263	2	2203			
AVG.										6 pounds per day	1.3		.8

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	14	111	130	94	14	114	140	94
ALKALINITY in mg/l as $CaCO_3$	14	82	109	77	14	90	109	76
IRON in mg/l Fe	13	.79	3.20	.16	14	.15	1.60	.05
CHLORIDE in mg/l Cl^-	14	6.0	7.5	5.0	14	6.8	7.5	6.0
pH in pH units	14	8.1	8.6	7.9	14	8.1	8.6	7.9
FLUORIDE in mg/l F^-	14	0.1	0.1	0.1	14	0.1	0.1	0.1
NITRITE + NITRATE in mg/l as N	14	.28	.39	.19	14	.29	.52	.19

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App.units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	123.08	3.97	5.02	7.49	30	-	1.0	1.2			1	1
FEB	99.47	3.55	4.28	6.48	12	10	.8	1.0	<5	< 5	1	1
MAR	104.47	3.37	4.19	6.91	17	5	1.0	2.0	<5	<5	1	2
APR	120.04	4.00	5.15	7.92	25	9	.9	1.0	< 5	< 5	3	6
MAY	168.49	5.43	7.47	10.08	13	5	.8	.9	<5	<5	12	20
JUNE	163.13	5.44	7.85	11.81	18	8	.9	3.3	<5	<5	21	24
JULY	261.84	8.45	10.92	14.40	8	12	.8	1.5	<5	<5	24	27
AUG	218.13	7.04	10.89	13.68	8	10	.8	1.3	<5	<5	23	26
SEPT	162.37	5.41	7.95	10.92	18	7	.8	2.0	<5	<5	21	23
OCT	153.74	5.12	5.84	9.14	22	10	.8	.8	<5	<5	14	17
NOV	140.59	4.69	6.11	8.35	33	10	.8	1.4	<5	<5	10	12
DEC	129.86	4.18	5.25	7.99	34	12	.8	.8	<5	<5	2	3
TOTAL	1845.21											
AVG.		5.06	MAXIMUM 10.92	MAXIMUM 14.40	20	9	.8	MAXIMUM 3.3	<5	MAXIMUM <5	11	MAXIMUM 27

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	0	0	1	1	0	4	0	41	0	1.8	1.1	.4	.5
FEB	1	0	3	0	1	5	0	47	0	1.4	1.1	.4	.5
MAR	0	0	2	0	0	4	0	43	0	1.4	1.0	.3	.5
APR	2	0	1	2	0	5	0	55	0	1.8	1.1	.4	.5
MAY	2	0	2	0	0	4	0	45	0	3.4	1.5	.5	.5
JUNE	3	0	2	1	0	5	0	64	3	6.0	2.8	1.2	.5
JULY	2	0	1	0	0	5	0	55	2	11.7	2.9	.9	.5
AUG	0	0	3	0	0	4	0	42	1	8.9	3.1	1.0	.5
SEPT	0	0	3	1	0	6	0	58	0	6.3	2.9	.9	.5
OCT	0	0	1	1	0	4	0	54	0	4.0	2.1	.7	.5
NOV	0	2	1	2	0	5	0	57	0	3.0	1.5	.7	.5
DEC	3	0	3	5	0	11	0	81	0	2.2	1.3	.4	.5
TOTAL	13	2	23	13	1	62	0	642	6	51.9			.5
AVG.										142 pounds per day	1.9	.7	

TREATMENT DATA

MONTH	FILTER OPERATION		CHEMICALS USED							
	BACKWASH WATER mil. gal.	TOTAL FILTER HOURS	+ A L U M		ACTIVATED CARBON		SODIUM SILICATE		SODIUM BICARBONATE	
			AMOUNT USED 10^3 gallons	DOSAGE mg/l	AMOUNT USED pounds	DOSAGE mg/l	AMOUNT USED pounds	DOSAGE mg/l	AMOUNT USED pounds	DOSAGE mg/l
JAN	1453	1.456	4.7	25	0		1488	4.7	336	1.1
FEB	1183	1.512	4.0	26	0		1674	5.2	378	1.2
MAR	1300	1.792	5.0	31	0		1674	5.5	378	1.3
APR	1377	1.736	5.4	29	0		1674	4.7	378	1.1
MAY	1923	2.576	7.4	29	450	4.1	2232	3.4	504	.8
JUNE	1822	2.352	7.1	29	675	4.1	1860	3.4	420	.8
JULY	2535	4.144	11.9	30	800	2.4	3906	2.2	882	.5
AUG	2279	3.864	8.7	26	818	2.3	3534	2.6	798	.6
SEPT	1822	2.744	7.3	29	358	3.3	2976	3.4	672	.8
OCT	1712	2.352	6.4	27	705	3.4	2232	3.6	504	.8
NOV	1625	2.296	6.1	24	600	3.6	2604	3.3	588	.7
DEC	1505	2.128	6.9	34	208	5.0	3162	4.5	714	1.0
TOTAL	20536	28.952	80.9		4614		29016		6552	
AVG.				28		3.7		3.6		.8

+ Alum Dosage as mg/l $Al_2(SO_4)_3 \cdot 14H_2O$
Liquid Alum taken as 48% $Al_2(SO_4)_3 \cdot 14H_2O$

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	24	116	134	104	24	120	138	106	80 – 100
ALKALINITY in mg/l as $CaCO_3$	24	85	91	72	24	72	89	66	30 – 100
IRON in mg/l Fe	24	.78	2.30	<.05	24	<.05	.20	< 01	Less than 0.3
CHLORIDE in mg/l Cl^-	24	17.8	29.5	13.5	24	20.1	31.0	16.0	Less than 250
pH in pH units	24	8.0	8.4	7.6	24	7.4	8.0	7.1	7.0 – 8.5

REGION 2

WEST CENTRAL

TREATMENT DATA

MONTH	FLOWS			RAW WATER			TREATED WATER					
							TURBIDITY				TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	TOTAL ALGAE ASU/ml	TURBIDITY (AVERAGE) FTU	FILTER-ABILITY INDEX units	AVERAGE FTU	MAXIMUM FTU	FILTER-ABILITY INDEX units	TOTAL ALGAE ASU/ml	AVERAGE ° C	MAXIMUM ° C
JAN	258.61	8.34	9.77	1400		.33	46.0	83.0	.07	-	1	2
FEB	234.25	8.37	10.04	1000		.21	29.0	70.0	.08	-	0	0
MAR	236.12	7.62	9.23	1400		.14	40.0	94.0	.06	-	0	0
APR	219.75	7.33	9.05	1000		.15	25.0	105.0	.07	245	3	7
MAY	283.26	9.14	11.23	1000		.07	6.0	22.0	.04	-	7	9
JUNE	179.69	5.99	10.61	600		.08	9.0	27.0	.03	-	16	21
JULY	168.14	5.42	7.63	-		.07	8.0	15.0	.03	-	19	21
AUG	323.28	10.43	13.43	1000		.04	6.0	23.0	.03	-	21	22
SEPT	357.45	11.91	13.67	1200		.16	13.0	58.0	.05	-	17	20
OCT	239.71	7.73	11.87	1500		.16	12.0	28.0	.06	-	15	16
NOV	254.19	8.47	10.52	1700		.41	38.0	127.0	.10	-	11	13
DEC	297.60	9.60	10.33	1400		1.41	36.0	116.0	.11	-	4	8
TOTAL	3052.05											
AVG.		8.36	Max 13.67	1200		.27	22.0	127.0	.06	245	10	Max 22

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED 10^3 pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	0	0	0	0	0	0	0	0	0	2.8		1.1	.5
FEB	0	0	0	0	0	0	0	0	0	2.7	-	1.1	.5
MAR	0	0	2	0	0	0	0	6	0	2.8	-	1.0	.5
APR	0	0	1	3	0	0	0	15	0	2.5	-	1.1	.5
MAY	0	0	1	1	2	0	0	12	0	3.0		1.0	.5
JUNE	0	0	0	2	2	0	0	12	0	2.1	-	1.5	.5
JULY	0	0	0	3	2	0	0	15	0	1.8	-	1.1	.5
AUG	0	0	0	3	1	0	0	12	0	3.0	-	.9	.5
SEPT	0	0	2	2	1	0	0	15	0	3.9	-	1.1	.5
OCT	0	0	0	3	0	0	0	9	0	2.7	-	1.1	.5
NOV	0	0	0	2	1	0	0	9	0	2.8	-	1.1	.5
DEC	0	0	0	0	6	0	0	18	1	3.3	-	1.1	.5
TOTAL	0	0	6	19	15	0	0	123	1	33.4			
AVG.										91 pounds per day	-	1.1	.5

TREATMENT DATA

MONTH	ALGAE									
	TOTAL		BLUE-GREENS		GREENS		FLAGELLATES		DIATOMS	
	RAW ASU/ml	TREATED ASU/ml	RAW ASU/ml	TREATED ASU/ml	RAW ASU/ml	TREATED ASU/ml	RAW ASU/ml	TREATED ASU/ml	RAW ASU/ml	TREATED ASU/ml
JAN	1400		62		230		5	-	1091	-
FEB	1000	-	42	-	325	-	0	-	678	-
MAR	1400		45	-	101	-	28		1181	-
APR	1000	245	72	8	90	21	81	52	762	164
MAY	1000	-	74	-	75	-	320		552	-
JUNE	600	-	62	-	113	-	127		251	- -
JULY	-	-	-	-	-	-	-	-	-	-
AUG	1000	-	74	-	410	-	314	-	169	-
SEPT	1200		111		863	-	62	-	584	-
OCT	1500	-	89	-	411	-	88	-	896	-
NOV	1700	-	56	-	486	-	61	-	1106	-
DEC	1400	-	57	-	423	-	22	-	886	-
TOTAL										
AVG.	1200	245	68	8	321	21	111	52	741	164

WATER QUALITY

PROPERTY	RAW & TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	9	134	146	126
ALKALINITY in mg/l as $CaCO_3$	9	97	112	88
IRON in mg/l Fe	9	0.63	3.10	.05
CHLORIDE in mg/l Cl^-	9	23	25	21
pH in pH units	9	8.2	8.4	7.8
FLUORIDE in mg/l F^-	6	0.1	0.2	0.1

REGION 3

CENTRAL

PLANT PERFORMANCE

MONTH	FLOWS			RAW WATER		TREATED WATER		FILTER OPERATION					
										DIATOMACEOUS EARTH		ACTIVATED CARBON	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App units	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App units	AVERAGE RUN hours	BACKWASH WATER 1000 gal	USED pounds	DOSAGE mg/l	USED pounds	DOSAGE mg/l
JAN	2.17	.070	.079	1.8	20	.6	15	174	.016	517	23.8	-	-
FEB	2.10	.074	.082	4.6	30	.4	10	93	.032	628	29.9	-	-
MAR	2.34	.076	.081	-	-	-	-	168	.016	603	25.8	-	-
APR	2.34	.078	.096	1.0	15	-	-	139	.020	700	29.9	6	3.8
MAY	2.65	.085	.123	-	-	-	-	65	.065	2200	83.0	100	5.9
JUNE	2.90	.097	.174	2.0	30	.4	10	64	.060	2100	72.4	50	2.6
JULY	4.08	.132	.180	1.1	15	1.2	10	48	.075	2300	56.4	100	2.4
AUG	3.83	.124	.069	3.6	30	1.3	10	33	.115	2700	70.5	100	2.6
SEPT	2.34	.078	.109	2.1	30	.6	5	29	.120	2700	117.4	N/A	
OCT	1.39	.045	.060	-	-	-	-	103	.031	1125	80.4	N/A	
NOV	1.00	.033	.039	2.8	10	.9	10	149	.020	600	5.8	N/A	
DEC	1.00	.032	.056	-	-	-	-	88	.036	700	7.0	N/A	
TOTAL	28.15	-	-	-	-	-	-	-	.606	16873	-	366	-
AVG.	-	.077	MAXIMUM .180	2.4	23	.7	10	96	.051	1406	60.0	-	3.5

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN		1	2	1		4		16		69		3.1	.6
FEB		1	1			2		8		69		3.3	.6
MAR				5		5		20		102		4.4	-
APR	2		1			3		10		97		4.1	.7
MAY	1		2			3		12		102		3.8	.6
JUNE			1	2		3		12		114		3.9	-
JULY				4		4		16		177		4.3	.6
AUG			1	1		2		8		190		5.0	.6
SEPT			4			4		16		86		3.7	.6
OCT			1			1		4		49		3.5	.6
NOV		1	2			3		12		29		2.8	.6
DEC	1		1			2		8		26		2.6	.6
TOTAL	4	3	16	13		36		142		1110			-
AVG.								-		3 pounds per day		4.0	.6

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	8	75	92	52	7	73	84	54
ALKALINITY in mg/l as $CaCO_3$	8	64	77	42	7	57	68	42
IRON in mg/l Fe	8	.21	.35	.05	7	.08	.10	.05
CHLORIDE in mg/l Cl^-	8	5	6	2	7	8	10	6
pH in pH units	8	7.8	8.6	7.3	7	7.5	7.8	7.2
CONDUCTIVITY in μmhos/cm	8	165	198	128	7	163	180	132

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	7.18	.23	.34	.35	2.3	7	.95	.95	2	5	2	3
FEB	6.72	.24	.34	.35	-	7	-	-	0	0	1.5	2
MAR	7.84	.27	.32	.32	1.5	11	.60	.60	5	20	2.5	3
APR	7.26	.24	.34	.34	.9	15	.75	.75	9	20	3	4.5
MAY	6.40	.21	.40	.40	-	20	-	-	12	15	13	18
JUNE	6.14	.20	.68	.68	-	20	-	-	11	20	17	24
JULY	8.13	.26	.36	.47	.4	17	.28	.28	7	15	22	25
AUG	6.82	.22	.27	.39	-	11	-	-	4	10	22	25
SEPT	6.59	.21	.26	.40	-	10	-	-	4	10	16	19
OCT	6.92	.22	.25	.36	.8	4	.55	.55	1	5	13	14
NOV	7.26	.24	.26	.36	-	15	-	-	0	5	8	10
DEC	7.83	.25	.48	1.00	-	5	-	-	0	0	2	4
TOTAL	85.10	-		-	-	-	-	-	-	-	-	
AVG.		.23	MAXIMUM .48	MAXIMUM 1.00	1.2	12	.63	MAXIMUM .95	5	MAXIMUM 20	10	MAXIMUM 25

CHLORINATION and DISINFECTION

MONTH	RAW WATER: NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			FILTER	
	0	1 - 3	4 - 32	33 - 320	> 320	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSE PRE - mg/l	RESIDUAL IN PLANT EFFLUENT mg/l	AVERAGE RUN hours	BACKWASH WATER mil. gal.
JAN			1		1	0	0	25	0	137	1.9	.7	48	.062
FEB						0	0	4	0	130	1.9	.6	48	.056
MAR		1	3			2	1	20	0	136	1.7	.7	48	.062
APR	2	3	1			3	0	32	0	150	2.0	.7	48	.060
MAY		1	1	2		2	0	18	0	167	2.6	.6	48	.064
JUNE	1		2	1		4	0	23	2	172	2.8	.7	46	.062
JULY			6	1	1	5	0	42	1	227	2.8	.8	48	.063
AUG			2	1	3	5	0	36	0	177	2.6	.8	48	.062
SEPT		1	3	2		3	0	40	0	147	2.2	.8	44	.060
OCT			1	1		1	0	7	0	157	2.3	.8	48	.062
NOV			1			2	0	5	0	175	2.4	.7	45	.068
DEC						0	0	0	0	145	1.9	.8	46	.070
TOTAL	3	6	21	8	5	27	1	252	3	1920	-	-	-	.751
AVG.										5 pounds per day	2.2	.7	47	.063

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	5	56	64	46	5	54	60	46	80 - 100
ALKALINITY in mg/l as $CaCO_3$	5	45	56	37	5	39	45	32	30 - 100
IRON in mg/l Fe	5	.23	.75	.10	5	.14	.30	.05	Less than 0.3
CHLORIDE in mg/l Cl^-	5	3	4	3	5	5	6	5	Less than 250
pH in pH units	5	7.6	7.8	7.5	5	7.4	7.5	7.2	7.0 - 8.5

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App.units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	950	31	35		3.7	7	.44	2.0	6	10	4	5
FEB	859	31	34		10.6	8	.51	1.7	6	10	3	5
MAR	940	30	33		21.1	14	.35	.6	6	10	3	5
APR	959	39	39		13.2	9	.34	.9	6	15	4	7
MAY	1194	38	50		4.3	7	.53	.8	6	10	9	14
JUNE	1227	41	54		3.4	6	.45	.7	6	10	12	21
JULY	1503	48	68		2.1	5	.34	.5	5	5	11	22
AUG	1292	42	66		3.4	6	.37	.6	5	5	12	18
SEPT	1042	35	41		4.7	5	.48	.7	5	5	13	18
OCT	1058	34	40		4.4	6	.49	.8	5	15	10	17
NOV	1013	34	38		4.2	5	.43	.8	5	5	8	13
DEC	974	31	36		6.4	5	.41	1.3	5	5	5	6
TOTAL	13011	-	-		-	-	-	-	-	-	-	-
AVG.	1084	36	MAXIMUM 68	MAXIMUM	6.8	7	43	MAXIMUM 2.0	6	MAXIMUM 15	8	MAXIMUM 22

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	2	1	3	2		8		72	1	8667	.66	.25	.5
FEB	1	1	2	3	1	8		74	2	8450	.76	.22	.5
MAR				6	2	4		76	-	11137	1.03	.14	.7
APR	2	2	4			9		81	-	11023	.94	.20	.6
MAY	2	2	4	3		9		72	-	14340	.97	.23	.7
JUNE	4	1	3	1		9		89	-	15268	.99	.25	.6
JULY		2	4	3		9		82	5	18472	.93	.30	.6
AUG		1	2	4	1	9		79	2	14135	.76	.33	.6
SEPT		1	5	2	1	9		99	3	11945	.81	.33	.5
OCT			3	4	2	9		81	-	12007	.83	.34	.6
NOV		1	3	2	2	9	2	81	4	11186	.77	.33	.6
DEC			2	6		8		72	1	9008	.61	.22	.6
TOTAL	11	12	35	36	9	100	2	958	18	145647	-	-	-
AVG.						-	-	-	-	399 pounds per day	.87	.27	.6

SOUTH PEEL -

LAKEVIEW WTP

TREATMENT DATA

MONTH	FILTER		CHEMICALS USED							
	AVERAGE RUN hours	BACKWASH WATER mil. gal.	ALUM		SODIUM CHLORITE		HYDROFLUOSILICIC ACID			
			AMT. USED 10^3 gallons	DOSAGE mg/l	AMT. USED 10^3 pounds	DOSAGE mg/l	AMT. USED 10^3 pounds	RESIDUAL mg/l		
								AVERAGE	MAXIMUM	MINIMUM
JAN	47	24.8	4.9	3.4	2.8	.29	37.0	1.1	1.2	1.0
FEB	48	18.4	9.2	7.0	2.2	.26	32.2	1.0	1.1	.8
MAR	48	24.5	22.4	15.5	1.9	.21	33.1	1.0	1.2	.8
APR	46	20.1	15.7	10.6	2.3	.24	-	-	-	-
MAY	48	25.1	8.5	4.6	3.4	.29	24.1	1.0	1.2	.9
JUNE	39	26.7	11.5	6.1	4.2	.34	43.4	1.0	1.2	.7
JULY	35	31.6	13.3	5.8	6.0	.40	42.3	1.0		.4
AUG	40	28.4	11.8	5.9	6.0	.46	46.2	1.0	1.2	.9
SEPT	47	17.0	6.4	4.0	5.0	.48	38.3	1.0	1.2	.9
OCT	47	19.7	4.5	2.7	4.7	.44	39.8	1.0	1.2	1.0
NOV	39	23.9	6.7	4.3	4.2	.41	37.4	1.0	1.2	.6
DEC	46	22.9	8.7	5.7	2.7	.28	38.7	1.1	1.2	1.0
TOTAL	-	283.1	123.6	-	45.4	-	412.5	-	-	
AVG.	44	23.6	10.3	6.2	3.8	.35	37.5	1.0	Max 1.2	Min .4

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	459	129	154	64	94	124	154	128	80 - 100
ALKALINITY in mg/l as $CaCO_3$	94	96	111	88	94	90	194	80	30 - 100
IRON in mg/l Fe	93	.64	8.4	<.05	93	<.08	1.9	<.05	Less than 0.3
CHLORIDE in mg/l Cl^-	93	32	36	27	94	32	37	28	Less than 250
pH in pH units	459	8.3	8.8	7.2	461	8.0	8.3	6.9	7.0 - 8.5
FLUORIDE in mg/l F^-	43	.2	.2	.1	347	.9	1.5	.4	Less than 1.2
AMMONIA in mg/l as N	458	.3	.98	.01	93	<.1	.3	<.1	Less than 0.5
TOTAL KJELDAHL NITROGEN in mg/l as N	94	.7	4.3	0.1	93	.5	4.3	.2	Less than 1.
NITRITE + NITRATE in mg/l as N	94	<.31	.64	<.08	93	<.36	.64	<.22	
CONDUCTIVITY in umhos/cm	94	355	760	320	94	340	380	315	Less than 10

REGION 4

SOUTHEASTERN

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	2.05	.066	.072									
FEB	1.87	.067	.090									
MAR	2.00	.065	.070									
APR	1.86	.062	.069									
MAY	1.98	.064	.073									
JUNE	2.06	.069	.079									
JULY	2.38	.077	.105									
AUG	2.13	.069	.094									
SEPT	2.05	.068	-									
OCT	2.14	.069	.086									
NOV	2.15	.072	.089									
DEC	2.15	.069	.082									
TOTAL	24.82											
AVG.	2.07	.068	MAXIMUM .105	MAXIMUM				MAXIMUM		MAXIMUM		MAXIMUM

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	1	3	0	0	0	4	0	32	0	58		2.8	.8
FEB	3	0	0	0	0	3	0	27	0	58		3.1	.8
MAR	2	0	0	0	0	5	1	23	0	35		1.8	.8
APR	1	4	0	0	0	5	0	37	1	34		1.8	.8
MAY	5	0	0	0	0	5	0	32	0	47		2.4	.8
JUNE	4	2	0	0	0	4	0	32	0	42		2.0	.8
JULY	1	0	0	0	1	2	0	15	0	64		2.7	.9
AUG	0	0	0	0	0	4	0	20	0	43		2.0	1.0
SEPT	0	0	2	0	0	2	0	23	0	-		-	-
OCT	1	1	0	0	0	2	0	14	0	61		2.9	1.0
NOV	0	0	0	0	0	0	0	0	0	46		2.1	1.0
DEC	1	3	0	0	0	3	0	24	0	37		1.7	1.0
TOTAL	19	10	2	0	1	38	1	279	1	525			
AVG.										1.6 pounds per day		2.3	.9

WATER QUALITY

PROPERTY	RAW WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	5	38	39	36
ALKALINITY in mg/l as $CaCO_3$	6	31	33	28
IRON in mg/l Fe	6	.06	.10	<.05
CHLORIDE in mg/l Cl^-	5	2	3	<1
pH in pH units	6	7.3	7.6	7.1
CONDUCTIVITY in $\mu mhos/cm^3$	6	84	88	80

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) JTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	1.32	.043	.167	.300	-	-	-	-	-	-	-	-
FEB	.98	.035	.077	.105	-	-	-	-	-	-	-	-
MAR	1.05	.034	.035	.144	-	-	-	-	-	-	-	-
APR	1.04	.034	.043	.151	-	-	-	-	-	-	-	-
MAY	4.00	.129	.299	.500	-	-	-	-	-	-	-	-
JUNE	2.30	.077	.257	.500	3.5	10	-	-	-	-	-	-
JULY	2.82	.091	.207	.305	1.4	50	-	-	-	-	-	-
AUG	2.68	.087	.250	.350	-	-	-	-	-	-	-	-
SEPT	1.63	.054	.072	.500	1.4	15	1.8	1.8	10	10	-	-
OCT	1.44	.047	.108	-	-	5	-	-	10	10	-	-
NOV	1.29	.043	.061	-	.7	10	1.8	1.8	5	5	-	-
DEC	1.39	.045	.057	-	-	-	-	-	-	-	-	-
TOTAL	21.94	-	-	-	-	-	-	-	-	-	-	-
AVG.	1.83	.060	MAXIMUM .299	MAXIMUM .500	1.8	18	1.8	MAXIMUM 1.8	8	MAXIMUM 10	-	MAXIMUM -

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	4	0	0	0	0	1	0	15	0	53		4.0	.5
FEB	1	0	0	0	0	3	0	12	0	42		4.3	.5
MAR	0	0	0	0	0	3	0	9	0	44		4.2	.5
APR	1	1	0	0	0	5	0	15	0	45		4.3	.5
MAY	1	0	3	0	0	3	0	13	2	167		4.2	.5
JUNE	0	0	2	3	0	5	0	15	0	160		7.0	.5
JULY	1	1	2	0	0	4	0	12	0	103		3.7	.5
AUG	0	0	0	3	0	2	1	9	3	96		3.6	.5
SEPT	0	0	0	2	0	1	0	6	1	57		3.5	.5
OCT	0	0	0	0	0	0	0	0	0	50		3.5	.5
NOV	0	0	0	0	0	0	0	0	0	54		4.2	.5
DEC	2	0	0	0	0	0	0	5	0	54		3.9	.5
TOTAL	10	2	7	8	0	27	1	111	6	925		-	-
AVG.						-	-	-	-	2.5 pounds per day		4.2	.5

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	5	18	20	12	3	21	22	20	80 – 100
ALKALINITY in mg/l as $CaCO_3$	5	9	13	8	3	9	11	7	30 – 100
IRON in mg/l Fe	5	.25	.35	.10	3	.30	.35	.20	Less than 0.3
CHLORIDE in mg/l Cl^-	5	5	6	4	3	5	6	3	Less than 250
pH in pH units	5	6.8	7.0	6.5	3	6.7	7.1	6.2	7.0 – 8.5
FLUORIDE in mg/l F^-									Less than 1.2
CONDUCTIVITY in μm hos/cm^3	5	51	56	45	3	52	56	50	

PLANT PERFORMANCE

MONTH	FLOWS			ALUM		CHLORINATION			TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	AMOUNT USED pounds	DOSAGE mg/l	SODIUM HYPOCHLORITE USED gallons	DOSAGE mg/l	RESIDUAL IN PLANT EFFLUENT mg/l	AVERAGE °C	MAXIMUM °C
JAN	2.26	.075	.103	75	3.3	53	2.8	.5	-1	4
FEB	1.95	.070	.111	76	3.9	48	2.9	.5	-1	-1
MAR	2.13	.069	.111	76	3.6	54	3.0	.5	-1	1
APR	2.10	.072	.106	77	3.5	55	3.0	.5	1	3
MAY	2.77	.089	.162	114	4.1	82	3.5	.5	11	18
JUNE	3.42	.114	.177	246	7.1	128	4.4	.5	19	22
JULY	2.99	.096	.190	206	6.9	135	5.4	.5	23	24
AUG	3.28	.106	.149	294	4.4	116	2.1	.5	19	23
SEPT	2.31	.077	.098	200	8.7	60	3.1	.5	12	16
OCT	2.51	.090	.187	232	9.3	68	3.3	.6	7	10
NOV	2.27	.076	.112	151	6.6	60	3.2	.5	2	6
DEC	2.46	.079	.129	110	4.5	51	2.5	.5	-1	-1
TOTAL	30.45	-	-	1857	-	910	-	-	-	-
AVG.	2.54	.083	.190	5 lbs per day	5.5	2.5 lbs per day	3.2	.5	8	24

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM	
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS
	0	1 - 3	4 - 32	33 - 320	> 320				
JAN	4	-	-	-	-			16	0
FEB	2	-	-	-	-			8	0
MAR	3	-	-	-	-			12	0
APR	3	-	-	-	-			12	0
MAY	1	-	-	2				9	0
JUNE	3	-	-	-	-			12	0
JULY	1	1	1	-	-			12	0
AUG	4	-	-	-	-			16	0
SEPT	5	-	-	-	-			20	0
OCT	3	-	-	-	-			12	0
NOV	2	-	-	1	-			12	0
DEC	1	-	1	1	-			12	0
TOTAL	32	1	2	4	0	0	0	153	0
AVG.	2					-	-	-	-

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	4	-	-	-	-			16	0				
FEB	2	-	-	-	-			8	0				
MAR	3	-	-	-	-			12	0				
APR	3	-	-	-	-			12	0				
MAY	1	-	-	2	-			9	0				
JUNE	3	-	-	-	-			12	0				
JULY	1	1	1	-	-			12	0				
AUG	4	-	-	-	-			16	0				
SEPT	5	-	-	-	-			20	0				
OCT	3	-	-	-	-			12	0				
NOV	2	-	-	1	-			12	0				
DEC	1	-	1	1	-			12	0				
TOTAL	32	1	2	4	0	0	0	153	0				
AVG.	(NOTE - Average shown is the GEOMETRIC MEAN)					-	-	-	-	pounds per day			

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	9	58	66	46	9	56	66	44
ALKALINITY in mg/l as $CaCO_3$	9	47	54	38	9	43	52	24
IRON in mg/l Fe	9	.14	.50	<.05	9	<.07	.15	<.05
CHLORIDE in mg/l Cl^-	9	11	24	6	9	11	14	7
pH in pH units	9	7.5	8.3	7.1	9	7.2	7.6	6.2
FLUORIDE in mg/l F^-								
TURBIDITY	2	3.3	3.3	3.2	2	2.8	3.2	2.4
COLOUR	3	10	10	10	3	7	10	5
CONDUCTIVITY in $\mu mhos/cm^3$	9	133	172	106	9	134	144	126

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	5.43	.175	.212									
FEB	4.84	.172	.209									
MAR	5.85	.189	.220									
APR	5.66	.189	.226									
MAY	4.56	.146	.239									
JUNE	3.27	.109	.193									
JULY	4.85	.156	.220									
AUG	3.80	.127	.201									
SEPT	2.55	.085	.117									
OCT	2.67	.086	.151									
NOV	2.86	.095	.150									
DEC	3.30	.107	.176									
TOTAL	49.64											
AVG.	4.14	.140	MAXIMUM .239	MAXIMUM				MAXIMUM		MAXIMUM		MAXIMUM

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN			1	3		4	0	8	0	89		1.6	.05
FEB	1		2			3	0	6	0	79		1.6	.05
MAR			3			3	0	6	0	91		1.6	.05
APR	1	1	2			4	0	8	0	89		1.6	.05
MAY	1				1	2	0	4	0	83		1.8	.05
JUNE	1			2	2	5	0	8	2	72		2.2	.05
JULY			1	1	2	4	1	8	0	72		1.5	.05
AUG				3	1	4	0	8	0	82		2.2	.05
SEPT			1	2	1	4	0	7	0	67		2.6	.05
OCT	1			2		3	0	6	0	66		2.5	.05
NOV				1		1	0	2	0	66		2.3	.04
DEC			2			2	0	4	0	70		2.1	.05
TOTAL	5	1	12	14	7	39	1	75	2	926			
AVG.										2.5 pounds per day		1.9	.05

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	31.31	1.01	1.19		-	-	-	-	-	-	-	-
FEB	28.43	1.01	1.13		-	-	-	-	-	-	-	-
MAR	31.37	1.01	1.08		-	-	-	-	-	-	-	-
APR	31.54	1.05	1.17		-	-	-	-	-	-	-	-
MAY	37.32	1.20	1.66		-	-	-	-	-	-	-	-
JUNE	39.82	1.33	1.97		-	-	-	-	-	-	-	-
JULY	50.29	1.62	2.50		-	-	-	-	-	-	-	-
AUG	45.68	1.47	1.89		-	-	-	-	-	-	-	-
SEPT	32.26	1.08	1.21		-	-	-	-	-	-	-	-
OCT	31.80	1.03	1.31		2.8	5	.33	.40	<5	<5	-	-
NOV	29.22	.97	1.10		2.7	19	.30	.25	2	<5	9	11
DEC	30.83	.99	1.10		.5	15	.14	1.00	-	<5	3	5
TOTAL	419.87	-										
AVG.	34.99	1.15	MAXIMUM 2.50	MAXIMUM	2.0	13	.26	MAXIMUM 1.00	<4	MAXIMUM <5	6	MAXIMUM 11

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN													
FEB													
MAR													
APR													
MAY													
JUNE													
JULY													
AUG													
SEPT													
OCT													
NOV	2	0	0	2	0	4	0	8	0	566	1.7	1.9	.5
DEC	2	0	0	1	0	3	0	6	0	541	1.5	1.8	.5
TOTAL	4	0	0	3	0	7	0	14	0	1107			
AVG.										18 pounds per day	1.6	1.8	.5

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	6	78	86	70	6	86	98	78
ALKALINITY in mg/l as $CaCO_3$	6	69	80	62	6	64	76	60
IRON in mg/l Fe	6	.23	.40	.15	6	<.05	<.05	<.05
CHLORIDE in mg/l Cl^-	6	8	10	6	6	9	11	8
pH in pH units	6	7.8	8.3	7.5	6	7.5	8.0	7.2
CONDUCTIVITY in µmhos/cm 3	6	164	185	150	6	195	207	175

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	16.21	.52	.67		2.8	35	10	.15	<5	<5	2	2
FEB	14.48	.52	.56		3.4	40	11	3.00	<7	30	2	2
MAR	14.76	.48	.51		5.1	37	.09	.20	<5	<5	2	2
APR	12.94	.43	.54		14.8	51	.08	.20	<5	<5	2	6
MAY	18.08	.58	.78		4.7	40	.06	.08	<5	<5	13	19
JUNE	19.05	.64	.93		4.3	35	.06	.08	<5	<5	20	24
JULY	22.75	.73	.95		3.0	31	.07	.08	<5	<5	24	25
AUG	21.04	.68	.79		2.2	30	.08	.09	<5	<5	23	24
SEPT	16.39	.55	.71		2.5	30	.11	.15	<5	<5	18	21
OCT	15.87	.51	.54		3.5	30	.12	.16	<5	<5	13	16
NOV	13.80	.46	.64		4.6	35	.10	.12	<5	<5	8	10
DEC	15.91	.51	.79		3.7	36	.16	.80	<5	<5	2	4
TOTAL	201.28											
AVG.	16.77	.55	MAXIMUM .95	MAXIMUM	4.6	36	.10	MAXIMUM .80	<5	MAXIMUM 30	11	MAXIMUM 25

TREATMENT DATA

MONTH	CHEMICALS USED					
	SEPARAN		LIME		ALUM	
	AMOUNT pounds	DOSAGE mg/l	AMOUNT 10^3 pounds	DOSAGE mg/l	AMOUNT pounds	DOSAGE mg/l
JAN	80	.5	3.5	22.0	7.6	47.8
FEB	60	.4	3.2	22.1	6.4	44.1
MAR	60	.4	3.0	20.0	6.6	44.2
APR	60	.4	3.1	22.5	6.5	46.3
MAY	75	.4	4.1	20.8	8.8	48.5
JUNE	85	.4	3.9	18.1	9.0	41.8
JULY	120	.5	5.2	21.0	11.2	45.3
AUG	90	.4	4.7	20.7	9.4	41.4
SEPT	75	.5	3.1	17.6	7.6	43.2
OCT	70	.4	3.9	22.3	6.5	38.1
NOV	65	.5	3.5	22.9	6.1	40.0
DEC	85	.5	3.8	22.2	6.9	40.0
TOTAL	925		45.0		92.6	
AVG.	77	.5		22.4		46.0

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN					4	4	0	8	0	634	2.8	1.2	.5
FEB					3	8	0	16	0	551	2.4	1.4	.6
MAR					4	3	0	8	0	591	2.7	1.3	.5
APR					5	5	0	10	0	524	2.6	1.1	.6
MAY				1	3	4	0	8	0	662	2.4	.9	.5
JUNE				2	2	4	0	8	0	794	2.7	1.0	.5
JULY				1	3	4	0	8	0	952	2.7	1.1	.5
AUG				1	3	4	0	8	0	1007	3.4	1.1	.5
SEPT					5	5	0	11	0	761	3.3	1.0	.5
OCT				1	2	3	0	6	0	704	3.1	1.0	.5
NOV				1	3	4	0	7	0	634	3.1	1.1	.5
DEC					5	5	0	11	0	608	2.5	1.2	.5
TOTAL				7	42	53	0	109	0	8422			
AVG.										23 pounds per day	2.8	1.1	.5

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	365	48	57	42.9				
PH in PH units	365	6.4	6.7	6.2	365	7.2	8.5	6.6

REGION 5

NORTHEASTERN

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN												
FEB												
MAR												
APR												
MAY												
JUNE												
JULY												
AUG												
SEPT												
OCT												
from Nov 14th NOV	1.602	.089	.159	-	5.6	54	1.2	5.3	5	10	3.3	5.5
DEC	2.974	.098	.126	-	5.9	50	1.4	4.5	5	15	2	2
TOTAL	4.576	-		-	-	-	-	-	-	-	-	-
AVG.	-	.093	MAXIMUM .159	MAXIMUM -	5.8	51	1.3	MAXIMUM 5.3	5	MAXIMUM 15	-	MAXIMUM 5.5

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN													
FEB													
MAR													
APR													
MAY													
JUNE													
JULY													
AUG													
SEPT													
OCT													
NOV										31		1.9	
DEC										61		2.0	
TOTAL										92			
AVG.										2 pounds per day		2.0	

TREATMENT DATA

MONTH	CHEMICALS USED								FILTER OPn	
	ALUM		SODA ASH		SODIUM BICARBONATE		SODIUM SILICATE		AVERAGE RUN HOURS	BACKWASH WATER mil. gal.
	AMT. USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT. USED gallons	DOSE mg/l		
JAN										
FEB										
MAR										
APR										
MAY										
JUNE										
JULY										
AUG										
SEPT										
OCT										
NOV	252	15.8	275	17.2	54		15.8			.158
DEC	3207	107.8	1313	43.8	110		31.4			.414
TOTAL	3459	-	1588	-	164		47.2			.572
AVG.	-	75.6	-	34.5						-

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	51	53	66	42	51	56	68	46	80 - 100
ALKALINITY in mg/l as $CaCO_3$	51	17	28	6	51	26	50	6	30 - 100
IRON in mg/l Fe	51	.26	.50	.15	51	.07	.26	.01	Less than 0.3
PH in PH units	51	6.8	7.1	6.6	51	6.8	7.8	5.8	Less than 250
CONDUCTIVITY in $\mu mhos/cm^3$	2	124	126	121	2	196	210	182	7.0 - 8.5
TOTAL PHOSPHORUS in mg/l as P	1	.02	.02	.02	1	<.02	<.02	<.02	Less than 1.2

PLANT PERFORMANCE

MONTH	FLOWS				CHEMICALS USED		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	AMOUNT USED pounds	Na_2SiF_6 DOSE mg/l	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	12.9	.42	.45		252	1.2	.83	.85	8	15		
FEB	11.8	.42	.46		227	1.2	.83	.95	10	15		
MAR	12.8	.41	.45		246	1.2	.58	.60	10	15		
APR	11.6	.39	.46		242	1.3	.70	.85	13	15		
MAY	19.1	.62	1.02		364	1.1	.95	1.10	13	15		
JUNE	20.1	.67	1.10		337	1.0	1.10	1.10	15	15		
JULY	29.8	.96	1.22		467	.9	1.20	1.50	13	15		
AUG	18.1	.58	.93		389	1.2	1.30	1.40	15	15		
SEPT	est 9.0	.30	-		254	1.7	1.08	1.30	5	5		
OCT	10.1	.34	.41		258	2.3	4.80	8.50	10	15		
NOV	12.4	.41	.49		250	2.0	1.20	1.20	20	20		
DEC	13.4	.43	.54		252	1.9	1.40	1.80	10	10		
TOTAL	181.1		-		3538		-	-	-	-		
AVG.	15.1	.50	MAXIMUM 1.22	MAXIMUM	10	1.6	1.33	MAXIMUM 8.50	12	MAXIMUM 20		MAXIMUM

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	1			2	1	4	0	16	0	253		2.0	.6
FEB	3		1			4	0	16	0	226		1.9	.6
MAR	4					4	0	16	0	238		1.9	.5
APR	4				1	5	0	20	1	234		2.0	.5
MAY			4			4	0	16	0	364		1.9	.5
JUNE		1	1	2		3	0	16	0	341		1.7	.5
JULY			1	3		5	0	20	0	467		1.6	.5
AUG			3	1		4	0	12	0	414		2.3	.6
SEPT	1		4			5	0	20	0	255		2.8	.5
OCT		2	1			4	0	16	0	269		2.4	.5
NOV	-	-	-	-	-	-	-	-	-	259		2.1	.5
DEC	3				1	4	0	16	0	261		1.9	.5
TOTAL	16	3	15	8	3	46	-	184	1	3581		-	-
AVG.						-	-	-	-	10 pounds per day		1.6	.5

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	25	30	50	22	25	29	40	22	80 - 100
ALKALINITY in mg/l as $CaCO_3$	25	21	28	15	25	17	22	14	30 - 100
IRON in mg/l Fe	25	.12	.30	.05	25	.11	.20	<.05	Less than 0.3
CHLORIDE in mg/l Cl^-	25	6	10	3	25	7	12	4	Less than 250
pH in pH units	25	7.4	8.1	6.7	25	7.0	7.7	6.0	7.0 - 8.5
FLUORIDE in mg/l F^-	25	<.2	1.0	<.1	289	.8	1.2	<.1	Less than 1.2
AMMONIA in mg/l as N									Less than 0.5
TOTAL KJELDAHL NITROGEN in mg/l as N									Less than 1.
CONDUCTIVITY	25	89	118	78	25	87	105	80	

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	14.5	.47	.55		10	65	4.5	6.7	7	70	1	1
FEB	13.1	.47	.53		4	77	2.8	4.8	5	5	1	1
MAR	13.9	.45	.51		5	71	1.0	1.0	6	10	1	1
APR	13.8	.46	.65		10	74	2.5	6.0	6	15	1	2
MAY	16.3	.53	.77		16	83	.9	1.3	6	15	4	8
JUNE	16.1	.53	.79		11	70	.4	.4	5	5	10	16
JULY	20.0	.65	1.05		7	55	.4	.5	5	5	17	18
AUG	17.3	.56	.86		6	44	1.3	1.8	5	10	18	18
SEPT	13.8	.46	.57		6	45	2.1	3.2	7	15	16	17
OCT	14.1	.45	.51		8	39	.4	.4	5	10	12	16
NOV	14.0	.47	.56		12	39	7.3	10.0	5	20	7	9
DEC	15.5	.50	.59		14	46	2.4	4.8	5	15	3	4
TOTAL	182.5	-			-		-	-	-	-	-	-
AVG.		.50	MAXIMUM 1.05	MAXIMUM	9	73	2.4	MAXIMUM 10.0	5	MAXIMUM 70	8	MAXIMUM 18

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN			3	1		4		2		228		1.6	.5
FEB	1		2	1		1		4		176		1.3	.5
MAR			3	1				4		278		2.0	.7
APR			3	2				5		244		1.8	.7
MAY		1	1	1				3		244		1.5	.7
JUNE	3		1					4		490		3.0	.7
JULY	3	2						5		581		2.9	.8
AUG			1	3				4		538		3.1	.8
SEPT			1	3	1			5		443		3.2	.8
OCT			1					3		441		3.1	.8
NOV		1	1	3				5		435		3.1	.8
DEC	3					2		6		461		2.9	.9
TOTAL	10	4	17	15	1	7		50		4559		2.4	
AVG.						-		-		12 pounds per day			.7

TREATMENT DATA

MONTH	FILTER OPERATN		CHEMICALS USED											
	AVERAGE RUN HOURS	BACKWASH WATER mil. gal.	ALUM		LIME		SODA ASH		POLYMER A-22		SODIUM SILICATE		SODIUM CHLORITE	
			AMT USED 10^3 pounds	DOSE mg/l	AMT USED pounds	DOSE mg/l	AMT USED 10^3 pounds	DOSE mg/l	AMT USED pounds	DOSE mg/l	AMT USED gallons	DOSE mg/l	AMT USED pounds	DOSE mg/l
JAN	79	.240	5.4	37.7	776	5.4	1.0	6.9	-	-	36	3.5	136	.9
FEB	73	.195	6.8	51.9	451	3.4	2.1	15.8	-	-	42	4.5	168	1.3
MAR	88	.225	7.0	50.4	636	4.6	1.3	9.3	-	-	61	6.1	186	1.3
APR	76	.255	6.9	49.8	696	5.0	2.0	14.3	64	.5	8	6.2	24	1.3
MAY	74	.300	8.3	51.0	792	4.9	2.5	15.4	89	.6	-		-	-
JUNE	124	.180	8.0	49.7	659	4.1	-	-	44	.3	-	-		
JULY	91	.225	9.7	48.5	807	4.0	-	-	53	.3	-	-	-	-
AUG	72	.195	8.8	50.8	800	4.6	-		44	.3	-	-	-	-
SEPT	74	.210	6.8	49.0	626	4.5	-	-	56	.4	-	-	-	-
OCT	65	.315	6.8	47.9	644	4.6	.6	4.3	62	.4	-	-	-	-
NOV	50	.360	6.7	48.0	645	4.6	1.2	8.2	80	.6	-	-	-	-
DEC	121	.315	7.5	48.5	887	5.7	1.3	8.9	112	.8	-	-	-	-
TOTAL		3.015	88.7	-	8419		12.0	-	604	-	147	-	514	-
AVG.	82	.251	7.4	48.6	702	4.6	-	6.5	-	.4	-	4.4		1.2

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	23	26	42	14	23	38	51	20
ALKALINITY in mg/l as $CaCO_3$	23	18	26	8	23	20	40	3
IRON in mg/l Fe	23	1.1	2.6	.2	22	.15	.70	.05
CHLORIDE in mg/l Cl^-	23	4	28	1	21	4	6	1
pH in pH units	23	7.4	8.2	6.9	23	8.0	9.3	5.3
FLUORIDE in mg/l F^-	23	<.1	.2	<.1	22	<0.1	1.0	<0.1
AMMONIA in mg/l as N	14	.55	2.20	.14	19	.38	.51	.02
TOTAL PHOSPHORUS in mg/l as P	16	.03	.08	<.02	16	.02	.04	<.02
CONDUCTIVITY in umhos/cm	21	69	110	43	21	110	195	57

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE ℃	MAXIMUM °C
JAN												
FEB												
MAR												
APR												
MAY												
JUNE												
JULY												
AUG												
SEPT	.171	.012	.023		1.3	17	1.3	1.4	5	10	15	14
OCT	.430	.013	.022		1.0	22	.4	1.7	5	10	12	14
NOV	.581	.019	.034		.9	24	.2	.9	5	20	4	10
DEC	.677	.022	.030		.7	20	.2	1.0	5	5	2	3
TOTAL	1.859				-	-		-	-	-	-	-
AVG.		.018	MAXIMUM .034	MAXIMUM	1.0	21	.5	MAXIMUM 1.4	5	MAXIMUM 20	8	MAXIMUM 14

106 days

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN													
FEB													
MAR													
APR													
MAY													
JUNE													
JULY													
AUG													
SEPT	2	-	-	-	-	3	-	9	-	14	8.2		.5
OCT	2	-	-	-	-	2	-	-	-	31	7.2		.6
NOV	3	-	-	-	-	3	-	-	-	28	4.8		.7
DEC	2	2	1	-	-	5	-	4	-	31	4.6		.7
TOTAL	9	2	1	-	-	13	-	13	-	104			
AVG.										.98 pounds per day	5.6		.6

TREATMENT DATA

MONTH	CHEMICALS USED								FILTER OPn.	
	ALUM		SODA ASH		SODIUM BICARBONATE		SODIUM SILICATE		AVERAGE RUN HOURS	BACKWASH WATER mil gal
	AMT. USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l		
JAN										
FEB										
MAR										
APR										
MAY										
JUNE										
JULY										
AUG										
SEPT	184	107.6	18	10.5	11.98	7.1	34.37	20.1		
OCT	416	96.7	41	9.5	27.18	6.3	77.94	18.1	4.7	.054
NOV	537	92.4	52	8.9	35.31	6.0	101.27	17.4	6.1	.070
DEC	541	79.9	53	7.8	35.13	5.2	100.74	14.9	6.1	.038
TOTAL	1678	-	164		109.60	-	314.32	-	-	.162
AVG.	-	90.3		8.8		5.9		16.9	5.6	

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	7	36	46	28	7	35	44	30
ALKALINITY in mg/l as $CaCO_3$	7	29	33	27	7	28	49	15
IRON in mg/l Fe	7	.12	.20	.05	7	.07	.15	.05
CHLORIDE in mg/l Cl^-	7	3	8	1	7	4	7	2
pH in pH units	112	7.8	8.2	7.2	7	7.6	9.1	6.4
FLUORIDE in mg/l F^-	7	0.1	0.2	<0.1	6	.1	.1	<.1
ALUMINIUM	4	.07	.10	.06	4	.04	.30	<.05
CONDUCTIVITY in µmhos/cm	7	90	104	78	6	122	165	99
TOTAL PHOSPHORUS in mg/l as P	7	.02	.02	.02	7	.02	.02	<.02

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	6.15	.20	.31		2.8	90	2.1	2.1	21	80	.5	.5
FEB	8.69	.31	.34		2.4	61	2.4	2.4	60	80	.5	.5
MAR	10.10	.33	.34		2.7	31	2.9	2.9	31	50	0	0
APR	5.06	.17	.29		2.6	41	4.2	4.2	22	30	0	0
MAY	4.15	.13	.15		2.5	114	.9	.9	6	30	4.5	11
JUNE	3.73	.12	.14		3.7	160	.6	.6	5	10	11.5	15
JULY	3.36	.11	.15		3.2	164	2.1	2.1	7	20	14	17
AUG	3.53	.11	.17		3.8	195	1.6	1.6	7	15	14	19
SEPT	3.31	.11	.12		4.6	154	1.2	1.2	5	15	8	10
OCT	3.34	.11	.13		2.1	140	.6	.6	5	15	4	7
NOV	3.69	.12	.15		2.0	134	3.4	5.0	8	40	.6	3
DEC	5.43	.18	.21		1.8	102	4.6	4.6	13	70	0	1
TOTAL	60.54				-	-	-	-	-	-	-	-
AVG.	5.05	.17	MAXIMUM .34	MAXIMUM	2.9	116	2.2	MAXIMUM 4.2	16	MAXIMUM 80	-	MAXIMUM 19

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF NaOCl gallons	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	1			1		1		5		95		1.8	.6
FEB		1				1		4		160		2.2	.6
MAR	1		1			2		4		160		1.1	.6
APR			2			2		4		95		2.0	.5
MAY	1		1			2		2		85		2.3	.5
JUNE	1		1			2		3	1	80		2.7	.5
JULY			1	1		2		4		85		3.1	.5
AUG	1					1		2		157		5.4	.5
SEPT	1		1			2		4		150		5.4	.5
OCT	1					1		4		100		3.6	.5
NOV	1	1				2		4		90		2.9	.5
DEC	3					3		2		155		3.4	.5
TOTAL	11	2	7	2	-	21	-	42	1	1412		-	-
AVG.						-	-	-	-	4 pounds per day		2.3	.5

TREATMENT DATA

MONTH	CHEMICALS USED										FILTER OPn	
	ALUM		ACTIVATED SILICA		SODA ASH		FLUOSILICIC ACID		A-22		AVERAGE RUN hours	BACKWASH WATER mil. gal
	AMT. USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT. USED gallons	DOSE mg/l	AMT. USED pounds	DOSE mg/l		
JAN	3.2	51.6	34	.88	-	-	31	1.8	-	-	16	.037
FEB	-	-	-	-	-	-	39	1.6	-	-	-	-
MAR	-	-	-	-	-	-	41	1.4	-	-	-	-
APR	1.3	59.0	13	.6	700	32.2	26	1.8	-	-	16	.022
MAY	3.2	78.0	31	.74	1600	38.6	30	2.6	-	-	16	.050
JUNE	3.4	91.9	25	.7	1600	42.0	28	2.6	-	-	16	.048
JULY	3.8	115.1	24	.7	1500	44.6	27	2.8	-	-	16	.050
AUG	4.7	134.2	21	.95	1700	48.2	27	2.7	570	41.6	16	.050
SEPT	5.6	169.7	-	-	1800	54.3	26	2.7	1305	39.4	16	.048
OCT	5.2	157.6	-	-	1500	45.0	28	3.0	1200	35.9	16	.050
NOV	5.9	159.4	-	-	2000	54.2	29	2.7	1137	30.8	16	.048
DEC	6.8	125.9	9	.6	2300	42.3	36	2.3	1118	29.1	16	.050
TOTAL	43.1	-	157	-	14700	-	368	-	5330	-	-	.453
AVG.	-	114.2	-	.7	-	44.7	-	2.1	-	35.4	16	-

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	18	145	344	29	17	149	344	30
ALKALINITY in mg/l as $CaCO_3$	18	129	302	25	17	145	302	42
IRON in mg/l Fe	18	1.1	3.1	.5	17	.21	.60	.07
CHLORIDE in mg/l Cl^-	18	116	339	8	16	129	336	20
pH in pH units	18	7.7	8.1	73	17	7.7	8.4	7.1
FLUORIDE in mg/l F^-	383	.2	.5	<.1	382	.9	1.4	.3
CONDUCTIVITY in μmhos/cm	18	618	1650	76	17	831	1650	204

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	.91	.029	.039		-	-	-	-	-	-	-	-
FEB	1.28	.046	.081		.75	60	2.60	2.6	15	15	-	-
MAR	1.67	.054	.064		-	-	-	-	-	-	-	-
APR	1.64	.054	.065		1.25	63	3.90	6.3	28	40	-	-
MAY	1.40	.045	.056		1.18	125	7.60	11.0	58	85	-	-
JUNE	.80	.027	.034		1.43	113	.96	8.9	45	60	16	22
JULY	.86	.028	.064		3.80	70	.43	2.1	20	30	21	23
AUG	.83	.022	.031		4.20	45	1.15	1.9	5	15	-	-
SEPT	.71	.022	.027		5.10	48	.54	1.0	5	5	13	17
OCT	.79	.026	.043		4.10	73	.60	1.0	6	10	9	11
NOV	.78	.026	.034		4.10	93	1.90	5.0	13	30	3	7
DEC	1.48	.047	.062		3.30	75	1.62	7.0	13	40	0	1
TOTAL	13.14	-	-		-			-	-	-	-	-
AVG.	-	.036	MAXIMUM .081	MAXIMUM	3.90	71	1.12	MAXIMUM 11.0	10	MAXIMUM 85	-	MAXIMUM 23

CHLORINATION and DISINFECTION

MONTH	RAW WATER: NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	0	1 - 3	4 - 32	33 - 320	> 320	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF NaOCl USED gallons	DOSAGE PRE - mg/l	DOSAGE POST - mg/l	RESIDUAL IN PLANT EFFLUENT mg/l
JAN	2					2		4		55		7.3	-
FEB	1	1				2		4		55		5.1	-
MAR			1			4		4		60		4.2	-
APR		1	1	1		3		8	2	65		4.8	-
MAY	2		1	1		4		4		75		6.4	-
JUNE			2	1		4		4		34		5.1	0.7
JULY			2	2		4		3		44		5.9	0.7
AUG	1	1	2			3		4		44		6.6	0.4
SEPT	1		3			4		4	1	53		9.1	0.4
OCT			2			2		2		52		7.7	-
NOV			1			2		1		71		10.6	.5
DEC	2					3		3		80		6.4	.5
TOTAL	9	3	15	5		37	-	45	3	688		-	-
AVG.						-	-	-	-	2 pounds per day		6.3	.5

TREATMENT DATA

MONTH	CHEMICALS USED										FILTER OPn	
	ALUM		LIME		SODA ASH		POLYMER				AVERAGE RUN	BACKWASH WATER
	AMT. USED 10^3 pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT USED gallons	DOSE mg/l	AMT. USED pounds	DOSE mg/l	hours	mil gal
JAN	3.2		-		600		-				N/A	.086
FEB	.6		-		550		6				-	.078
MAR	.8		-		650		7				-	.086
APR	.8		68		350		6				-	.084
MAY	.8		193		-		6				-	.086
JUNE	.6		148		-		4				-	.084
JULY	.6		138		-		3				-	.086
AUG	.6		86		90		4				-	.086
SEPT	.6		-		205		4				-	.132
OCT	.8		5		500		10				-	.021
NOV	1.2		-		360		11				-	N/A
DEC	1.6		-		799		18				-	N/A
TOTAL	12.2		638		4104		79				-	-
AVG	-		-		-		-				-	.083

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	114	82	120	48	161	91	120	48
ALKALINITY in mg/l as $CaCO_3$	53	55	73	32	178	63	102	14
IRON in mg/l Fe	19	.39	1.30	.05	19	<.16	1.20	<05
CHLORIDE in mg/l Cl^-	19	4	31	<1	19	8	31	2
pH in pH units	193	7.9	8.5	7.1	233	7.6	8.5	6.4
CONDUCTIVITY in µmhos/cm	19	131	175	92	19	214	306	133

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	126	4.1	4.3		2.2	15	.23	.40	<5	5	3	3
FEB	113	4.0	4.4		1.3	12	.20	.40	5	5	3	4
MAR	124	4.0	4.8		1.8	12	.18	.28	<5	<5	4	4
APR	116	3.9	4.1		7.4	20	.60	2.00	<5	10	4	6
MAY	121	3.9	4.1		4.2	23	.22	.45	<5	5	13	16
JUNE	117	3.9	4.2		3.0	16	.16	.31	<5	5	17	22
JULY	123	4.0	4.3		4.4	18	.14	.20	<5	<5	22	24
AUG	117	3.7	4.2		4.5	25	.15	.22	<5	5	22	25
SEPT	116	3.9	4.1		3.0	30	.19	.46	5	10	16	19
OCT	119	3.8	4.2		2.9	20	.29	1.40	6	40	12	15
NOV	119	4.0	4.3		3.6	22	.20	.46	<5	<5	7	11
DEC	113	3.7	4.3		3.3	23	.26	.85	<5	5	2	3
TOTAL	1424		-		-	-	-	-	-	-	-	-
AVG.	119	3.9	MAXIMUM 4.8	MAXIMUM	3.5	20	.24	MAXIMUM 2.00	5	MAXIMUM 40	-	MAXIMUM 25

CHLORINATION and DISINFECTION

MONTH	RAW WATER: NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					PLANT EFFLUENT		FILTER OPERATION		CHLORINATION			
	0	1 - 3	4 - 32	33 - 320	> 320	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	AVERAGE RUN HOURS	BACKWASH WATER M.G.	TOTAL AMOUNT OF CHLORINE USED 10^3 pounds	DOSAGE PRE - mg/l	DOSAGE POST - mg/l	RESIDUAL IN PLANT EFFLUENT mg/l
JAN	1	1				2		34	4.3	2.6	1.5	0.5	.5
FEB	4					4		36	3.6	2.4	1.6	0.5	.5
MAR	3	1				4		50	2.5	3.0	1.7	0.6	.5
APR	3	1	1			5		51	2.3	2.4	1.4	0.5	.5
MAY		1	1	2		4		60	2.1	4.0	2.3	0.8	.5
JUNE			4			4		69	1.7	4.4	2.7	0.9	.5
JULY			3	2		5		83	1.5	5.4	3.0	1.1	.6
AUG	1		1	2		4		74	1.7	5.5	3.2	1.2	.5
SEPT			2	2		4		58	2.1	4.3	2.6	0.9	.5
OCT			4	1		5		57	2.2	4.0	2.4	0.8	.5
NOV		2	2			4		32	3.7	3.1	1.9	0.6	.5
DEC	2	2	1			5		36	3.4	2.4	1.5	0.5	.5
TOTAL	14	8	19	9		50		-	31.0	43.5	-	-	-
AVG.								53	2.6	119 pounds per day	2.2	0.7	.5

TREATMENT DATA

MONTH	CHEMICALS USED											
	ALUM		LIME		SODA ASH		SODIUM SILICOFLUORIDE		SODIUM CHLORITE		POLYELECTROLYTE	
	AMT. USED 10^3 gallons	DOSE mg/l	AMT USED 10^3 pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT. USED 10^3 pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l	AMT. USED pounds	DOSE mg/l
JAN	5.8	30.1	14.1	11.2	-	-	1.4	1.1	713	.6	167	.1
FEB	5.3	30.7	13.1	11.5	-	-	1.8	1.6	644	.6	209	.2
MAR	6.0	31.3	15.8	12.7	-	-	1.9	1.5	713	.6	201	2
APR	5.8	32.6	13.7	11.8	832	5.4	1.7	1.5	706	.6	169	.1
MAY	6.4	34.5	17.2	14.3	314	.58	1.6	1.4	963	.8	144	.1
JUNE	5.7	31.8	16.7	14.3	-	-	1.6	1.4	690	.6	163	.2
JULY	6.1	32.5	18.0	14 6	-	-	1.9	1.6	713	.6	187	2
AUG	5.9	32.6	18.9	16.1	-	-	1.9	1.6	713	.6	198	.2
SEPT	4 6	25.5	14.6	12.6	296	2.5	1.6	1.4	650	.6	207	.2
OCT	4.9	26 8	14.4	12.1			1.8	1.5	676	.6	295	.2
NOV	3.4	18.3	9.7	8.1	161	2.0	1.7	1.4	690	.6	230	.2
DEC	3.4	19.4	11.7	9.4			1.5	1.3	713	.6	189	.2
TOTAL	63.3	-	177.9	-	1603	-	20.4	-	8584	-	2359	-
AVG.	5.3	28.8	14.8	12.5	-	1.8	1.7	1.4	715	.6	197	.2

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	374	37	78	18	374	53	83	41	80 - 100
ALKALINITY in mg/l as $CaCO_3$	374	15.2	22	7	343	15	24	9	30 - 100
IRON in mg/l Fe	343	.21	1.30	.05	343	.08	.21	01	Less than 0.3
CHLORIDE in mg/l Cl^-	9	2	5	1	9	4	6	3	Less than 250
pH in pH units	374	7.1	8.3	6.3	374	7.3	9.6	6.6	7.0 - 8.5
FLUORIDE in mg/l F^-					374	1.0	1.4	.3	Less than 1.2
AMMONIA in mg/l as N	4	.1	.1	.1	4	.2	.3	.1	Less than 0.5
TOTAL KJELDAHL NITROGEN in mg/l as N	4	.3	.4	.1	4	.3	.6	.1	Less than 1.
NITRITE + NITRATE in mg/l as N	4	.37	.82	.22	4	.22	.22	.22	
CONDUCTIVITY in µmhos/cm 3	9	100	195	71	9	137	155	120	Less than 10
TOTAL PHOSPHORUS in mg/l as P	4	.03	.06	.02	4	.02	.02	.02	

REGION 6

NORTHWESTERN

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	4.26	.137	.161		3.7	30	4.0	4.0	20	20		
FEB	4.15	.148	.174		3.0	20	3.0	3.0	15	15		
MAR	4.31	.139	.192		2.2	20	2.3	2.3	20	20		
APR	3.97	.132	.166		2.2	30	2.1	2.1	40	40		
MAY	3.47	.112	.131		2.7	70	3.2	3.2	50	50		
JUNE	3.44	.114	.148		5.3	70	5.2	5.2	70	70		
JULY	3.81	.123	.195		4.9	40	5.0	5.0	40	40		
AUG	3.53	.114	.163		-	-	-	-	-	-		
SEPT	2.67	.089	.124		-	-	-	-	-	-		
OCT	2.10	.068	.135		-	-	-	-	-	-		
NOV	2.72	.091	.130		13.0	60	13.0	13.0	40	40		
DEC	4.22	.136	.158		-	-	-					
TOTAL	42.65											
AVG.	3.55	.117	MAXIMUM .195	MAXIMUM	4.6	43	4.7	MAXIMUM 5.2	37	MAXIMUM 70		MAXIMUM

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	3	1	0	0	0	0	0	4	0	-			.5
FEB	4	0	0	0	0	0	0	4	0	-			.5
MAR	4	0	0	0	0	0	0	4	0	-			.5
APR	3	0	1	0	0	0	0	4	0	-			.5
MAY	0	0	0	0	0	0	0	0	0	*40			.6
JUNE	0	0	1	0	3	0	0	21	0	145			.8
JULY	0	0	2	2	0	0	0	13	4	140			.7
AUG	0	1	1	2	0	0	0	9	2	157			.8
SEPT	0	0	6	1	0	0	0	8	1	112			.8
OCT	0	0	0	0	0	0	0	0	0	78			.8
NOV	0	0	0	0	0	0	0	0	0	82			.7
DEC	0	0	0	0	0	0	0	0	0	86			.7
TOTAL	14	2	11	5	3	0	0	67	7	840			
AVG.										4 pounds per day			.7

8 days chl.

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	8	36	42	32	8	36	43	30
ALKALINITY in mg/l as $CaCO_3$	8	34	42	26	8	36	42	30
IRON in mg/l Fe	8	.38	.65	.10	8	.33	.70	.05
CHLORIDE in mg/l Cl^-	8	<1	<1	1	8	3	4	2
pH in pH units	8	6.6	7.0	6.3	8	6.8	7.0	6.3
CONDUCTIVITY in umhos/cm^3	8	71	75	65	8	81	84	78

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	1.46	.047	.092		2.2	20	1.1	3.3	5	5	5	5
FEB	1.27	.045	.055		2.3	30	1.3	2.5	5	5	5	5
MAR	1.26	.041	.046		2.6	30	1.1	1.5	5	5	5	5
APR	1.36	.045	.051		15.9	40	1.7	4.5	5	5	6	6
MAY	1.34	.043	.061		5.3	60	2.4	4.5	5	5	6	7
JUNE	1.25	.042	.048		4.6	70	1.5	2.5	5	5	8	12
JULY	1.51	.049	.095		6.2	70	1.7	2.5	5	5	15	16
AUG	1.59	.051	.073		-	-	1.6	2.0	-	-	21	22
SEPT	1.27	.042	.060		5.3	50	1.2	2.0	10	10	21	23
OCT	1.45	.047	.060		-	-	1.7	2.2	-	-	15	16
NOV	1.44	.048	.060		-	-	1.5	2.0	-	-	5	5
DEC	1.35	.043	.059		3.3	20	1.9	2.5	5	5	5	5
TOTAL	16.55											
AVG.	1.38	.045	MAXIMUM .095	MAXIMUM	5.3	43	1.6	MAXIMUM 2.7	6	MAXIMUM 10	10	MAXIMUM 23

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	0	0	0	0	2	2	0	8	0	79	-	5.4	.8
FEB	0	0	1	0	3	4	0	23	0	74	-	5.8	.9
MAR	0	0	0	0	0	0	0	3	0	76	-	6.0	.7
APR	0	0	0	0	4	4	0	20	0	90	-	6.6	.8
MAY	0	0	0	0	2	2	0	8	0	104	-	7.7	.8
JUNE	0	0	0	0	1	0	0	5	0	101	-	8.1	.7
JULY	0	0	0	0	2	0	0	17	0	178	-	11.8	.9
AUG	0	0	0	0	2	0	0	10	0	122	-	7.7	.8
SEPT	0	0	0	0	3	0	0	15	0	95	-	7.5	.8
OCT	0	0	0	0	2	0	0	12	0	90	-	6.2	.8
NOV	0	0	0	0	2	0	0	10	0	78	-	5.5	.8
DEC	0	0	0	3	1	0	0	20	0	80	-	5.9	.9
TOTAL	0	0	1	3	24	12	0	151	0	1167		-	
AVG.										97 pounds per day	-	7.1	.8

TREATMENT DATA

MONTH	FILTER OPERATION		CHEMICALS USED					
	No. B/WASHES	BACKWASH WATER mil. gal.	ALUM		POLYMER		SODA ASH	
			AMOUNT USED gallons	DOSAGE mg/l	AMOUNT USED pounds	DOSAGE mg/l	AMOUNT USED pounds	DOSAGE mg/l
JAN	118	.212	273	121.2	4	.3	900	61.5
FEB	108	.194	218	118.8	4	.3	800	63.1
MAR	143	.257	200	103.4	5	.4	1000	79.6
APR	179	.322	260	124.0	6	.4	1300	95.4
MAY	159	.286	254	123.0	5	.4	1000	74.5
JUNE	104	.187	180	93.5	6	.5	1100	87.9
JULY	109	.196	295	126.9	9	.6	2000	132.3
AUG	64	.115	235	96.4	7	.4	1100	69.4
SEPT	48	.086	185	94.9	7	.6	900	71.1
OCT	66	.118	200	89.7	10	.7	1000	69.0
NOV	95	.170	215	96.7	9	.4	1100	76.1
DEC	108	.100	215	103.6	7	.5	1000	74.1
TOTAL	1301	2.243	2730		79		13200	
AVG.	108	.187	228	7	7	.5	1100	79.8

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	9	29	34	22	9	30	36	26
ALKALINITY in mg/l as $CaCO_3$	9	25	31	20	9	51	64	25
IRON in mg/l Fe	9	.15	.60	.10	9	.08	.22	.05
CHLORIDE in mg/l Cl^-	9	1	3	1	9	7	11	.05
pH in pH units	9	6.4	7.0	6.1	9	6.8	7.2	6.0

PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App.units	MAXIMUM App. units	AVERAGE °C	MAXIMUM °C
JAN	12.99	.42	.49		.4	30	.6	.6	15	15	-	-
FEB	11.78	.42	.50		.3	15	.3	.3	15	15	-	-
MAR	13.11	.42	.45		.3	30	.3	.3	30	30	-	-
APR	12.09	.40	.46		.2	40	.4	.4	15	15	-	-
MAY	10.73	.35	.39		.4	15	.5	.5	40	40	-	-
JUNE	10.37	.35	.43		.7	30	.7	.7	30	30	-	-
JULY	10.75	.35	.37		.6	30	.7	.7	30	30	-	-
AUG	10.26	.33	.37		-	-	-	-	-	-	-	-
SEPT	8.61	.29	.37		-	-	-	-	-	-	-	-
OCT	9.53	.31	.41		-	-	-	-	-	-	-	-
NOV	10.43	.35	.42		-	-	-	-	-	-	-	-
DEC	13.82	.45	.53		-	-	-	-	-	-	-	-
TOTAL	134.47											
AVG.		.37	MAXIMUM .53	MAXIMUM,	.4	27	.5	MAXIMUM .7	25	MAXIMUM 40	-	MAXIMUM -

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	2	1	0	1	0	4	0	4	0	308	2.4		.7
FEB	3	0	0	0	0	3	0	3	0	285	2.4		.7
MAR	5	0	0	0	0	5	0	5	0	289	2.2		.7
APR	12	3	1	0	0	4	0	4	0	312	2.6		.7
MAY	0	0	4	0	0	3	0	5	0	291	2.7		.8
JUNE	1	0	4	0	0	5	0	5	0	308	3.0		.8
JULY	0	1	3	0	0	4	0	3	0	317	2.9		.7
AUG	1	0	3	0	0	5	0	2	1	299	2.9		.7
SEPT	0	0	5	0	0	5	0	4	1	300	3.5		.8
OCT	0	0	3	1	0	4	0	4	0	298	3.1		.7
NOV	0	0	4	0	0	4	0	9	0	302	2.9		.8
DEC	3	1	1	0	0	4	0	8	0	328	2.4		.7
TOTAL	18	3	28	2	0	50	0	56	2	3637			
AVG.										10 pounds per day	2.7		.7

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER			
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM
HARDNESS in mg/l as $CaCO_3$	7	25	26	24	7	24	26	22
ALKALINITY in mg/l as $CaCO_3$	7	22	24	19	7	19	21	17
IRON in mg/l Fe	7	.15	.35	<.05	6	.14	25	<.05
CHLORIDE in mg/l Cl^-	7	<1	3	<1	7	2	3	1
pH in pH units	7	6.6	7.2	6.1	7	6.4	6.7	6.1
CONDUCTIVITY in $\mu mhos/cm^3$	7	54	56	53	7	55	57	53

TD
209
W38
1975